APPENDIX B

RADIATION DATA DEFINITIONS AND COMPILATION
FOR EQUIPMENT QUALIFICATION DATA BANK

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Table B-1

DEFINITIONS FOR EQUIPMENT QUALIFICATION DATA BANK

PARTICLES

B = Beta rays
E = Electrons
G = Gamma rays
N = Neutrons
P = Protons

PHYSICAL PROPERTIES

AB = Absorptivity
CL = Color
OC = Optical change
OG = Outgassing
SW = Swelling
TC = Thermal conductivity
VS = Viscosity
WC = Weight change

ELECTRICAL PROPERTIES

BV = Breakdown voltage
DE = Dielectric strength
EC = Electrical conductivity

MECHANICAL PROPERTIES

BR = Brittleness (cracking or flaking on coatings)
CS = Compression set, or permanent set
DC = Ductility
EL = Elongation
EM = Elastic modulus
FS = Flexure Strength
HD = Hardness
IS = Impact strength
SB = Set at break
SS = Shear strength
TS = Tensile strength
YS = Yield strength

OTHER PROPERTIES

CS = Chain scission
CX = Crosslinking

DOSE DEFINITIONS

LTD = Lowest threshold dose
LTDR = Dose rate corresponding to LTD above
25CD = Dose for a 25% change in specified material property
25CDR = Dose rate corresponding to the 25% data above
_CD = Dose for a __% change in specified material property
_CDR = Dose rate corresponding to the __ % change in the material property above

CLASS: INSULATOR

Material: Acetal

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS	4E8			(C)/In Air/Kamen, R.E., Radiation Effects on HS-350 Materials, Vol.1, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April, 1974, p. 6-9.

Material: Acetal resin

TS	6E5	1.5E6	-50%,2.5E6	Van de Voorde, M. and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, European Organization for Nuclear Research Report No. CERU 72-7, 1972.
EL	6E5	1E6	-20%,0.9E6	Ibid.
EL			-50%,2E6	Ibid.
EL			-90%,3E6	Ibid.
TS			-20%,3E6	Parkinson, W. W. and Sisman, O., The Use of Plastics and Elastomers in Nuclear Radiation, Nucl. Engr. and Design, Vol. 17, p. 247, 1971.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Acetal resin - Delrin

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
EL			-60%,2.2E6	Van de Voorde, M.H., Selection Guide..., CERN 72-7, May 17, 1972, p. 43.
TS			-60%,3E6	Ibid.

Material: Acrylic resin

TS		1.1E7		(C)/In Air/Kamen, R. E., et al, Radiation Effects on HS-350 Materials, Vol.1, Natural Space Radiation, Report p. 74-87, Hughes Aircraft Co., April,1974, p. 6-9.
EL		1.1E7		Ibid.
EL	7E5	1E7	-50%,2E7	Kircher, J. F., and Bowman, R. E., (ed), Effects of Radiation on Materials and Components, Reinhold Publ. Corp., 1964.
TS	7E5	1E7	-50%,2E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Allyl diglycol carbonate resin

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS			-20%,3.5E8	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 257
TS			-50%,2E9	Ibid.
EL			-20%,2E9	Ibid.
HD			-20%,2E9	Ibid.
Material: Aniline formaldehyde				
HD	6.7E5	+ 1.3E7	-50%,1.2E8	Impact strength of Cibanite increased above threshold dose with a 25% increase at 1.3E7 but 50% loss at 1.2E8 rads/ King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
TS	9.1E7	2.4E9	-50%, 3.6E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Aniline formaldehyde

Property	Radiation Data				Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))		
IS	6.7E5				King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum 1964.
TS		2.4E9			Ibid.
TS			-20%,4E9		Parkinson, W. W., Nucl. Engr. and Design, Vol.17, 1971, p. 253.
TS			-50%,6E9		Ibid.
EL			-20%,4E9		Ibid.
EL			-50%,6E9		Ibid.
HD			-20%, >5E9		Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Aniline formaldehyde-unfilled

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
TS	1E8	3E9	-50%,4E9	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 59.
TS			-75%,4.5E9	Ibid.
EL	1E8	3E9	-50%,4E9	Ibid.
EL			-75%,4.5E9	Ibid.
EM	4E9			No change up to 4E9.
SS	1E8	3E9	-50%,4E9	Ibid.
SS			-75%,4.5E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Aramid

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
EL	7E6		-55%,1.4E7	King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute, Radation Effects Information Center Report REIC 21, 1961, and Addendum 1964.
EL			-55%,1.4E7	500°F/Ibid.

Material: Bakelite

Unstated	1E8			Baur, J. F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981, p. 7.

Material: Casein resin

TS			-20%,7E7	Parkinson, W. W., Nucl. Engr.and Design, Vol.17, 1971, p. 256.
EL			-20%,7E7	Ibid.
HD			-20%,4E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Cellulose

Property	Radiation Data: LTD (LTDR (rads/hr))	25CD (25CDR (rads/hr))	CD (CDR (rads/hr))	Other Information*
TS	1E5		-23%,4.4E6	Bolt, R.O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, 1963.

Material: Cellulose acetate

TS			-20%,5E7	Parkinson,W.W., Nucl. Engr. and Design, Vol. 17, 1971, p.254.
TS			-50%,2E8	Ibid.
EL			-20%,4E7	Ibid.
HD			-20%,4E7	Ibid.
TS	8E5			Bolt, R. O. and Carroll, J.G., Radiation Effects on Organic Materials, Academic Press, 1963.
IS		2E7		Rads(C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June, 1970, p. 32.
SS		2E6	-50%,3E7	King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Cellulose acetate - film

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
TS	4E6	3E7	-75%,1E8	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 44.
SS	4E6	3E7	-75%,1E8	Ibid.
EM	3E6		-5%,1E7	Ibid.
EM			+10%,3E7	Ibid.
EL	3E6		-10%,1E7	Ibid.
EL			-20%,2E7	Ibid.
EL			-75%,3E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Cellulose acetate butyrate

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EM			+20%,3.2E7	Parkinson, W. W., and Sisman, O., The Use of Plastics and Elastomers in Nuclear Radiation, Nucl. Engr. and Design, Vol. 17, p. 247, 1971.
TS			-20%,4E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 254.
EL			-20%,4E7	Ibid.
HD			-20%,1E7	Ibid.

Material: Cellulose acetate butyrate - film

EM	1E6		+10%,1E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 45.
EM			+20%,3E7	Ibid.
TS	2E6	2E7	-10%,1E7	Ibid.
TS			-50%,3E7	Ibid.
EL	2E6	2E7	-10%,1E7	Ibid.
EL			-50%,3E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Cellulose acetate butyrate - film

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
SS	2E6	2E7	-10%,1E7	Ibid.
SS			-50%,3E7	Ibid.

Material: Cellulose nitrate

TS			-20%,5E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 254.
EL			-20%,8E6	Ibid.
HD			-20%,5E7	Ibid.

Material: Cellulose nitrate film

TS	1E6	2E7	+8%,1E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 45.
TS			-50%,3E7	Ibid.
SS	1E6	2E7	+8%,1E7	Ibid.
SS			-50%,3E7	Ibid.
EM	1E6	3E7	+20%,1E7	Ibid.
EL	5E5	4E6	-50%,9E6	Ibid.
EL			-75%,2E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Cellulose propionate

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
IR	3E5	4.4E6	-50%,1E7	King, R. W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
TS			-20%,6E6	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 253.
EL			-20%,6E6	Ibid.
HD			-20%,6E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Cellulose, Rayon

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
Unstated		1.6E7		Baur, J. F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981, p. 9.

Material: Coil insulation,"prepres," glass reinforced epoxy Novolac

FS	3E8		+10%,1E9	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 67.
FS			+15%,3E9	Ibid.
FS			+10%,3E9	Ibid.
FS			+5%,6E9	Ibid.
EM	1E9	7E9	-10%,3E9	Ibid.
EM			-20%,6E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Coil insulation, resin, glycidyl ether/epoxy Novolac

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
FS	1E8	1.5E9		Van de Voorde and Restat, , Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 67.
FS			+5%,6E8	Ibid.
FS			-1%,1E9	Ibid.
FS			-50%,3E9	Ibid.
FS			-70%,3.5E9	Ibid.
HD	2E8	2.5E9	+3%,3E8	Shore D/Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 67.
HD			+3%,6E8	Ibid.
HD			+0%,1E9	Ibid.
HD			-40%,3.5E9	Ibid.

Material: Diallyl phthalate

TS	1.8E9			Glass filled/Hanks, C. L., NASA CR 1787, 1971.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Diallyl phthalate,glass-filled

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	1.8E9			Minor changes to 1E10/ Hanks,C.L.,and Hamman, D.J., Electrical Insulating Materials and Capacitors,Radiation Effects Design Handbook,NASA CR-1781, 1971
Material: Epoxy				
Unstated	1E4			Baur, J.F.,Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981,p.7.
TS	1E7		-20%,1E9	(C)/Kamen,R.E.,Radiation Effects on HS-350 Materials, Vol.I., Natural Space Radiation,Report 74-87, Hughes Aircraft Co., April, 1974,p.6-9.
TS			-100%,1E10	Ibid.
BV			-30%,1E7	Ibid.
BV			-70%,1E9	Ibid.
FS			-20%,1E8	(C)/Aromatic Curing Agent/ Nuclear and Space Radiation Effects on Materials,NASA SP-8053, June.1970,p.30.
FS			-50%,1E9	Ibid.
FS			-50%,1E8	(C)/Aliphatic Curing Agent/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Epoxy

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
FS			-90%, 1E9	Ibid.

Material: Epoxy polymer, acid anahydride cured

FS			-20%, 4E8	Parkinson, W. W., Nuclear Engr. and Design, Vol. 17, 1971, p. 253.

Material: Epoxy polymer, aliphatic amine cured

FS			-20%, 2E8	Ibid.

Material: Epoxy, aromatic amine cured

FS			-20%, >1E9	Ibid.

Material: Epoxy, glass reinforced, Araldite F + DDM

FS	4E7	4E9	+3%, 1E8	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 70.
FS			+3%, 4E8	Ibid.
FS			+0%, 8E8	Ibid.
FS			-50%, 1E10	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Epoxy,glass-filled,X33-1020 + Hy906

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
FS	5E5		+2%,1E6	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 69.
			+8%,1E7	Ibid.
			+12%,1E8	Ibid.
			+18%,1E9	Ibid.
			+18%,3E9	Ibid.
			+0%,8E9	Ibid.
			-15%,1E10	Ibid.
EM	5E6	7E9	+2%,1E7	Ibid.
			+5%,1E8	Ibid.
			+9%,1E9	Ibid.
			+0%,5E9	Ibid.
			-35%,1E10	Ibid.

Material: Epoxy Novolac + HY906 - glass laminate

FS	1E9	6E9	-10%,2E9	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 68.
FS			-40%,8E9	Ibid.
EM	1E9	4.5E9	-10%,3E9	Ibid.
EM			-50%,8E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethyl cellulose - film

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	3E6	1E7	-50%,2E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 46.
TS			-75%,3E7	Ibid.
EL	2E6	5E6	-50%,6E7	Ibid.
EL			-75%,2E7	Ibid.
EM	1E6	+1E8	+18%,1E7	Ibid.
EM			+20%,5E7	Ibid.
SS	3E6	1.5E7	-20%,1E7	Ibid.
SS			-50%,3E7	Ibid.
SS			-75%,1E8	Ibid.
IS	1.5E6	5E6	-50%,1E7	King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
TS			-20%,1E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 253.
EL			-20%,6E6	Ibid.
HD			-20%,8E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
TS		3.8E7	-4%,1.4E6	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796RV, August 1981, p. 14.
		(1.6E3)	(1.6E3)	
TS			-28%,4.1E7	Ibid.
			(1.6E3)	
TS			-38%,5.1E7	Ibid.
			(1.6E3)	
EL		1.4E7	-10%,4.5E6	Ibid.
		(1.6E3)	(1.6E3)	
EL			-55%,3.4E7	Ibid.
			(1.6E3)	
EL			-72%,5.1E7	Ibid.
			(1.6E3)	

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
TS		6.4E7 (5.2E4)	-8%,1.7E7 (5.2E4)	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796RV, August 1981, p. 14.
TS			-15%,3.8E7 (5.2E4)	Ibid.
TS			-28%,7.2E7 (5.2E4)	Ibid.
TS			-43%,1.4E8 (5.2E4)	Ibid.
EL		1.5E7 (5.2E4)	-28%,1.9E7 (5.2E4)	Ibid.
EL			-46%,3.5E7 (5.2E4)	Ibid.
EL			-58%,7.2E7 (5.2E4)	Ibid.
EL			-75%,1.38E8 (5.2E4)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
TS	2E7 (8.7E4)		-2%,3E7 (8.7E4)	G/In Nitrogen/Gillen, K. T., and Clough, R. L., Occurrence and Implications of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, August 1981, p. 14.
TS			-4%,4.5E7 (8.7E4)	Ibid.
TS			-2%,1.2E8 (8.7E4)	Ibid.
TS			+1%,1.7E8 (8.7E4)	Ibid.
EL	1E6 (8.7E4)	1.2E7 (8.7E4)	-40%,3E7 (8.7E4)	Ibid.
EL			-50%,4.5E7 (8.7E4)	Ibid.
EL			-65%,1.2E8 (8.7E4)	Ibid.
EL			-72%,1.7E8 (8.7E4)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS		9.5E7	-27%,1.7E8	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796RV, August 1981, p. 14.
		(1.2E6)	(1.2E6)	
TS			-12%,2E7	Ibid.
			(1.2E6)	
TS			-21%,5.8E7	Ibid.
			(1.2E6)	
			-27%,1.7E8	Ibid.
			(1.2E6)	
EL		1.5E7	-37%,2E7	Ibid.
		(1.2E6)	(1.2E6)	
EL			-50%,5.8E7	Ibid.
			(1.2E6)	
EL			-57%,9.5E7	Ibid.
			(1.2E6)	
EL			-72%,1.7E8	Ibid.
			(1.2E6)	

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene: Supplier; Alfacavi

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
EL	<1E6 (1E7)	2.1E7 (1E7)	-36%,3.4E7 (1E7)	G/In Air/Insulator/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 55.
EL			-60%,1.1E8 (1E7)	Ibid.
HD	1E6 (1E7)		-6%,3.4E7 (1E7)	Ibid.
HD			-7%,9.8E7 (1E7)	Ibid.
TS	1E6 (1E7)		+9%,3.1E7 (1E7)	Ibid.
TS			+13%,1.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	25CD (rads) (25CDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ $\left(\frac{\text{rads}}{\text{hr}}\right)$)	
CS	5E6	9E6	-28.6%,1E7	Blodgett, R.B. and Fisher, R.G., "Insulations and Jackets for Control and Power Cables in Thermal Reactor Nuclear Generating Stations," IEEE Trans. Power Apparatus and Systems, Vol. PAS-88, No. 5, p. 529, 1969.
EL	5E6		-52%,5E7	EDPM/Ibid.
EL			-63%,1E8	Ibid.
EL			-19%,5E6	EDM/Ibid.
EL			-59%,5E7	EDM/Ibid.
EL			-74%,1E8	EPM/Ibid.
TS			-20%,5E8	Parkinson, W.W., Nucl. Engr. and Design, Vol. 17, 1971, p. 272.
EL			-20%,2.5E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene F234

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
TS	1E5	2E6	-50%,2E8	Van de Voorde,M., Restat, C., Selection Guide to Orgabic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 80.
TS			-60%,1E9	Ibid.
TS			-75%,3E9	Ibid.
EL	1E5	7E6	-10%,2E5	Ibid.
EL			-20%,1E6	Ibid.
EL			-50%,2.5E7	Ibid.
EL			-75%,2E8	Ibid.
HD	3E7	+5E7	+10%,1E8	Durometer Hardness/ Van de Voorde,M.,and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 80.
HD			+35%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier: Pirelli

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
EL	1E6 (1E7)	2E7 (1E7)	-36%,2.8E7 (1E7)	G/In Air/Medium Voltage Insulator/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 36.
EL			-68%,6.2E7 (1E7)	Ibid.
EL			-85%,1.4E8 (1E7)	Ibid.
EL			-93%,2.7E8 (1E7)	Ibid.
EL			-98%,5.0E8 (1E7)	Ibid.
TS	1E7 (1E7)	3.7 E7 (1E7)	-18%,2.7E7 (1E7)	Ibid.
TS			-47%,8.5E7 (1E7)	Ibid.
TS			-46%,1.8E8 (1E7)	Ibid.
TS			-38%,5.1E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer ; Supplier: Draka

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
EL	1E6 (1E7)	1.5E7 (1E7)	-29%, 1.7E7 (1E7)	G/In Air; Supplier; Draka /Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 70-04, 18 June 1979, p. 35.
EL			-56%, 5.1E7 (1E7)	Ibid.
EL			-69%, 1.4E8 (1E7)	Ibid.
EL			-90%, 5.1E8 (1E7)	Ibid.
TS	2E6 (1E7)	+4E7 (1E7)	+28%, 6 E7 (1E7)	Ibid.
TS			+53%, 1.5E8 (1E7)	Ibid.
TS			+63%, 1.9E8 (1E7)	Ibid.
TS			+106%, 4.9E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier; Pirelli

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
EL		2E7 (1E7)	-26%,2.1E7 (1E7)	G/In Air/Low Voltage Insulator/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part 1, CERN 79-04, 18 June 1979, p. 36.
EL			-49%,4.0E7 (1E7)	Ibid.
EL			-75%,9.0E7 (1E7)	Ibid.
EL			-91%,2.0E8 (1E7)	Ibid.
EL			-98%,4.9E8 (1E7)	Ibid.
TS		1.6E7 (1E7)	-41%,2.2E7 (1E7)	Ibid.
TS			-55%,4.8E7 (1E7)	Ibid.
TS			-14%,9.3E7 (1E7)	Ibid.
TS			-27%,2.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier:Datwyler

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
EL		4.5E7 (1E7)	-20%,2.7E7 (1E7)	G/In Air/Insulator/ Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p.37.
EL			-44%,7.9E7 (1E7)	Ibid.
EL			-64%,2.0E8 (1E7)	Ibid.
EL			-80%,5.1E8 (1E7)	Ibid.
HD			+1.2%,1.2E8 (1E7)	Ibid.
HD			+1.4%,5.0E8 (1E7)	Ibid.
TS	3E7 (1E7)	4E8 (1E7)	-3%,1.0E8 (1E7)	Ibid.
TS			-34%,4.9E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer:Supplier:Dolder

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
EL		1.5E7 (1E7)	-53%,3.0E7 (1E7)	G/In Air/Nordel/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 37.
EL			-64%,1.1E8 (1E7)	Ibid.
EL			-78%,2.5E8 (1E7)	Ibid.
EL			-87%,5.2E8 (1E7)	Ibid.
HD		+6E7 (1E7)	+18%,4.2E7 (1E7)	Ibid.
HD			+40%,1.5E8 (1E7)	Ibid.
HD			+66%,5.0E8 (1E7)	Ibid.
TS	1.5E7 (1E7)		-4%,3.4E7 (1E7)	Ibid.
TS			-4%,1.4E8 (1E7)	Ibid.
TS			-8%,5.1E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier - Dolder.

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL		2.1E7 (1E7)	-43%,3.8E7 (1E7)	G/In Air/Nordel Insulating Compnd./Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 38.
EL			-80%,1.5E8 (1E7)	Ibid.
EL			-91%,4.9E8 (1E7)	Ibid.
HD	1E7 (1E7)		+0.6%,3.6E7 (1E7)	Ibid.
HD			-2%,1.4E8 (1E7)	Ibid.
HD			+2%,5.1E8 (1E7)	Ibid.
TS		1E8 (1E7)	-7%,4.3E7 (1E7)	Ibid.
TS			-33%,1.6E8 (1E7)	Ibid.
TS			-48%,5.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier; Dolder.

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CD}$R (rads/hr))	
EL		4E7 (1E7)	-18%,3.1E7 (1E7)	G/In Air/Nordel, Flame Retardant, Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 38.
EL			-51%,8.1E7 (1E7)	Ibid.
EL			-77%,1.9E8 (1E7)	Ibid.
EL			-84%,4.9E8 (1E7)	Ibid.
HD	1E9 (1E7)	2.2E8 (1E7)	+19%,2.1E8 (1E7)	Ibid.
HD			+54%,4.9E8 (1E7)	Ibid.
TS	1E7 (1E7)		-12%,4.2E7 (1E7)	Ibid.
TS			-16%,1.6E8 (1E7)	Ibid.
TS			-18%,4.9E8 (LE7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier; Dolder

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
EL		3.3E7 (1E7)	-24%,3.1E7 (1E7)	G/In Air/Nordel, Flame Retardant/ Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 39.
EL			-57%,9.0E7 (1E7)	Ibid.
EL			-82%,5.1E8 (1E7)	Ibid.
HD			8%.4.2E7 (1E7)	Ibid.
HD			14%,1.6E8 (1E7)	Ibid.
HD			42%,5.2E8 (1E7)	Ibid.
TS			-13%,4.1E7 (1E7)	Ibid.
TS		1.4E8 (1E7)		Ibid.
TS			-32%,5.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier; Datwyler.

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL		1.6E7 (1E7)	-45%,3.2E7 (1E7)	G/In Air/Basis EPDM-PE,Jacket/ Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 39.
EL			-61%,1.0E8 (1E7)	Ibid.
EL			-79%,5.3E8 (1E7)	Ibid.
HD		+1.2E8 (1E7)	+10%,3.3E7 (1E7)	Ibid.
HD			+22%,1.1E8 (1E7)	Ibid.
HD			+43%,4.4E8 (1E7)	Ibid.
TS		+3E7 (1E7)	+28%,3.1E7 (1E7)	Ibid.
TS			+70%,1.2E8 (1E7)	Ibid.
TS			+140%,5.1E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier - Datwyler.

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
EL		3.5E7 (1E7)	-31%,3.8E7 (1E7)	G/In Air/Pyrofil, Insulator/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 40.
EL			-59%,1.5E8 (1E7)	Ibid.
EL			-77%,4.9E8 (1E7)	Ibid.
HD			+15%,4.2E7 (1E7)	Ibid.
HD			+19%,1.7E8 (1E7)	Ibid.
HD			+23%,4.9E8 (1E7)	Ibid.
TS	4E7 (1E7)		-13%,1.5E8 (1E7)	Ibid.
TS			-21%,5.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene propylene diene monomer; Supplier - Datwyler.

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL		3.2E7 (1E7)	-30%, 4.5 (1E7)	G/In Air/Pyrofil, Jacket/ Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 40.
EL			-62%,1.5E8 (1E7)	Ibid.
EL			-80%,5.0E8 (1E7)	Ibid.
HD			+ 5%,3.8E7 (1E7)	Ibid.
HD			+ 7%,1.3E8 (1E7)	Ibid.
HD			+ 16%,5.2E8 (1E7)	Ibid.
TS	2E7 (1E7)		+ 8%,3.9E7 (1E7)	Ibid.
TS			-6%,1.1E8 (1E7)	Ibid.
TS			-12%,5.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene-propylene-diene with Con-BACN

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))	
TS			-27%,1E8 (5E5)	G, Cobalt-60/Room Temp./ Morita, Y, et. al., Protect. Effects on Con-BACN on Radiation Deteriation of EPR J. Appl. Poly. Sci., Vol. 27, No. 9, September 1982, pp. 3569-3576.
TS			-6.6,2E8 (5E5)	Ibid.
TS			+6.6,4E8 (5E5)	Ibid.
TS			+0%,6E8 (5E5)	Ibid.
TS			+33%,8E8 (5E5)	Ibid.
TS			+46%,1E9 (5E5)	Ibid.
EL		4.4E7 (5E5)	-70%,1E8 (5E5)	Ibid.
EL			-73%,2E8 (5E5)	Ibid.
EL			-83%,4E8 (5E5)	Ibid.
EL			-90%,8E8 (5E5)	Ibid.
EL			-92%,1E9 (5E5)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene vinyl acetate: Supplier; Kabel-Metall

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
EL	1E7 (1E7)	2.5E7 (1E7)	-48%,5.0E7 (1E7)	G/In Air/Insulator, Kabel-Metall/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 61.
EL			-82%,1.9E8 (1E7)	Ibid.
EL			-93%,5.0E8 (1E7)	Ibid.
HD	4E7	+1.8E8 (1E7)	+2%,4.8E7 (1E7)	Ibid.
HD			+21%,1.6E8 (1E7)	Ibid.
HD			+61%,5.0E8 (1E7)	Ibid.
TS	1.5E7		-12%,3.9E7 (1E7)	Ibid.
TS			-16%,1.4E8 (1E7)	Ibid.
TS			+14%,4.9E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Ethylene vinyl acetate: Supplier; AEG-Telefunken

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
EL	1E7 (1E7)	2.3E7 (1E7)	-42%,4.1E7 (1E7)	G/In Air/46J-1,AEG-Telefunken/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 61.
EL			-76%,1.5E8 (1E7)	Ibid
EL			-96%,5.1E8 (1E7)	Ibid.
HD	3E7 (1E7)	+6E8 (1E7)	+12%,8.2E7 (1E7)	Ibid.
HD			+23%,5 E8 (1E7)	Ibid.
TS	7E7 (1E7)	2E8 (1E7)	-11%,6.9E7 (1E7)	Ibid.
TS			-43%,5.1E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Furan resin, Duralon

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	Other Information*
TS	3E8	3E9		Kircher, J. F., and Bowman, R. E., (ed.), Effects of Radiation on Materials and Components, Reinhold Publ. Corp., 1964.
EL	3E8	3E9		Ibid.

Material: Furan resin - graphite filled

TS			-20%, >2E9	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 258.
EL			-20%, >2E9	Ibid.
HD			-20%, >2E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Melamine formaldehyde

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	6.7E6	6.6E7	-50%,1.6E8	King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
EL	6.7E6			Ibid.
SS	6.7E6			Ibid.

Material: Melamine formaldehyde, cellulose filled

TS			-20%,5E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 259.
EL			-20%,5E7	Ibid.
HD			-20%,2.2E9	Notch Impact Test/ Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Melamine formaldehyde, cellulose filled

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS	3E6	7E7	-50%,1.6E8	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 59.
TS			-75%,5E8	Ibid.
TS			-90%,2E9	Ibid.
EL	3E6	7E7	-50%,1.6E8	Ibid.
EL			-75%,5E8	Ibid.
EL			-90%,2E9	Ibid.
EM	3E8	2E10	-20%,1.5E9	Ibid.
SS	5E6	4.5E8	-10%,1E8	Ibid.
SS			-50%,1E9	Ibid.
SS			-75%,2E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Parylene

Property	Radiation Data				Other Information*
	LTD (LTDR (rads/hr))	25CD (25CDR (rads/hr))	CD (CDR (rads/hr))		
OC	8E7				E, 2 Mev/In Air/Technology Letter, Union Carbide, January, 1974, p. 9.
FS	2E10				Fast Electrons/In Argon/Ibid.
FS	2E10				Fast Electrons/In Air/Ibid.

Material: Parylene N

TS	1E8				G/In Argon/Technology Letter, Union Carbide, January, 1974, p. 9.
	(1.6E6)				
EM	1E9				G/In Vacuum/Ibid.
	(1.6E6)				No significant change.
EL	1E9				G/In Vacuum/Ibid.
	(1.6E6)				No significant change.
DE	1E8				G/In Argon/Ibid.
	(1.6E6)				No significant change.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Phenol formaldehyde with asbestos filled

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	25CD (rads) (25CDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	$\bar{}$CD (rads) ($\bar{}$CDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	
TS		3.9E9		Rads (C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June, 1970, p. 30.

Material: Phenol formaldehyde - asbestos laminate filled

TS	1E8	3E9	-10%,1E9	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 71.
EL	3E7	8E8	-10%,1E8	Ibid.
EM	>8E8			Ibid.
SS	1E8	3E9	-10%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Phenol formaldehyde - linen laminate filled

Property	Radiation Data			Other Information*
	LTD (LTDR (rads/hr))	25CD (25CDR (rads/hr))	CD (CDR (rads/hr))	
TS	7E5	1.8E7	-2%,1E6	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 72.
TS			-50%,1E8	Ibid.
TS			-75%,7E8	Ibid.
TS			-90%,3E9	Ibid.
EL	4E5	3E6	-50%,8E6	Ibid.
EL			-75%,3E7	Ibid.
EL			-85%,1E8	Ibid.
EL			-90%,1E9	Ibid.
EL			-95%,4E9	Ibid.
EM	7E5	4E8	+5%,3E6	Ibid.
EM			+2%,1E7	Ibid.
EM			+0%,1.5E7	Ibid.
EM			-10%,4E7	Ibid.
EM			-20%,1E8	Ibid.
EM			-50%,1.5E9	Ibid.
EM			-75%,2.5E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Phenol formaldehyde - paper filled

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
TS	5E5	3E7	-15%,1E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 72.
TS			-50%,1E8	Ibid.
TS			-75%,4E8	Ibid.
TS			-90%,1E9	Ibid.
EL	4E6	3E7	-15%,1E7	Ibid.
EL			-50%,1E8	Ibid.
EL			-75%,4E8	Ibid.
EL			-90%,1E9	Ibid.
EM	5E5	3.5E8	+20%,1E7	Ibid.
EM			+0%,7E7	Ibid.
EM			-50%,8E8	Ibid.
SS	5E5	3E7	-15%,1E7	Ibid.
SS			-50%,1E8	Ibid.
SS			-75%,4E8	Ibid.
SS			-90%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Phenol formaldehyde - unfilled

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))	
TS	3E6	2.5E9	-2%,1E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 71.
TS			-10%,4E7	Ibid.
TS			-20%,1E8	Ibid.
TS			-50%,4.5E9	Ibid.
TS			-75%,7E9	Ibid.
TS			-90%,8E9	Ibid.
EL	2.5E6	6E8	+25%,7E6	Ibid.
EL			+30%,1E7	Ibid.
EL			+100%,5E7	Ibid.
EL			+110%,1.5E8	Ibid.
EL			+100%,2.3E8	Ibid.
EL			+50%,4E8	Ibid.
EL			+0%,5E8	Ibid.
EL			-50%,7E8	Ibid.
EM	3E6	2.5E9	-2%,1E7	Ibid.
EM			-10%,4E7	Ibid.
EM			-20%,1E8	Ibid.
EM			-50%,4.5E9	Ibid.
EM			-75%,7E9	Ibid.
EM			-90%,8E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Phenolic

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL	3E5			Hanks, C. L. and Hamman, D. J., Radiation Effects Design Handbook, Section 3, NASA Report CR-1787, 1971 and King, R. W., et al, Battelle (Columbus) REIC Report 21, 1961 and Addendum, 1964.
TS	2E7 (2.2E3)	3E8 (2.2E3)	-50%,5E8 (2.2E3)	P/In Vacuo/Rowe, W., JPL Internal Report, 1982, p. 3-12.
TS	5E7		-50%,3E8	Rads(C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June 1970, p. 30.
IS	5E7		-50%,3E8	Ibid.
TS			-10%,1E7	(C)/Vacuum/Kamen, R.E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April, 1974, p. 6-11.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Phenolic, cast

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	Radiation Data: 25CD (rads) (25CDR (rads/hr))	Radiation Data: CD (rads) (CDR (rads/hr))	Other Information*
TS			-20%, 2E8	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 257.
EL			-20%, 8E8	Ibid.
HD			-20%, 2E8	Ibid.

Material: Phenolic, filled asbestos fabric

TS			-20%, >1E9	Ibid.
EL			-20% 4E8	Ibid.
HD			-20%, 4E8	Ibid.

Material: Phenolic, linen fabric filled

TS			-20%, 1E7	Ibid.
TS			-50%, 2E8	Ibid.
EL			-20%, 4E6	Ibid.
EL			-50%, 1E7	Ibid.
HD			-20%, 4E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyacrylonitrile

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
TS	1E6			Dole, M., The Radiation Chemistry of Macromolecules, I IVol. II, Academic Press, 1973.
TS			>-50%, 8E6	Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, 1963.

Material: Poly-alpha-methylchloroacrylate

TS	5E4	3E6	+5%, 5E5	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 44.
TS			-75%, 5E6	Ibid.
EL	5E4	2E6	+2%, 5E5	Ibid.
EL			-75%, 5E6	Ibid.

Material: Poly alpha-methyl styrene

SS			-20%, 4E7	Parkinson, W. W., Nuclear Engineering and Design, Vol. 17, 1971, p. 252.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyamide

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
TS	5E5	1E7	-50%,4E7	Van de Voorde, M.H., and stat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 49.
TS			-65%,1E8	Ibid.
EL	5E5	1E7	-50%,4E7	Ibid.
EL			-65%,1E8	Ibid.
EM	1E7		+7%,1E8	Ibid.
EM			+10%,2E8	Ibid.
SS	1E7		+5%,1E8	Ibid.
SS			+6%,2E8	Ibid.
EL	8E5	4E6		(C)/Kamen, R. E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April, 1974, p. 6-12.
IS	8E5	4E6		Ibid.
Unstated	2E4			G/Bussard, R.W., and DeLauer, R. D., Fund. of Nuclear Flight, McGraw-Hill Co., 1965, p.341.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyamide, Nylon

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS			-20%,>1E10	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 256.
EL			-20%,7E6	Ibid.
HD			-20%,4E6	Ibid.
WC	3E7			E,2 Mev/In Vac./ Bouquet, F.L., and Phillips, A., Radiation Test of Materials for Galileo Spacecraft, JPL Report D380, November 18, 1982, p. 15.

Material: Polyamide, Nylon (6,6)

TS	1.3E8	+5E9		Goetzel, C. G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January, 1962, p. 335.
EL	8E5	8.3E6	-50%,5E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyamide, aliphatic - Nylon

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
BS	8.7E4		-15%,8.7E6	King, R.W., et. al., The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
Material: Polycarbonate				
EL	5E5	3.5E7	+10%,2E6	Van de Voorde, M. and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, European Organization for Nuclear Research Report No. CERN 72-7, 1972, p. 49.
EL			+0%, 7E6	Ibid.
EL			-5%, 1E7	Ibid.
EL			-20%, 3E7	Ibid.
EL			-40%, 5E7	Ibid.
EL			-50%, 7E7	Ibid.
EL			-60%, 1E8	Ibid.
EL			-65%, 1.2E8	Ibid.
EL			-70%,1.5E8	Ibid.
EL			-75%, 2E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polycarbonate - film

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS	2E6	1.5E8	+5%, 4E6	Van de Boorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, European Organization for Nuclear Research, CERN 72-7, May 17, 1972, p. 49.
TS			+10%, 1E7	Ibid.
TS			+5%, 2.5E7	Ibid.
TS			+0%, 4E7	Ibid.
TS			-5%, 6E7	Ibid.
TS			-10%, 8E7	Ibid.
TS			-15%, 1E8	Ibid.
TS			-20%, 1.2E8	Ibid.

Material: Polycarbonate - Macrofol

TS			-20%, >1E8	Parkinson, W.W., Nucl. Engr. and Design, Vol. 17, 1971, p. 253.
EL			-20%, 7E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polychlorotrifluoroethylene, Kel-F

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	25CD (rads) (25CDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	$\bar{C}D$ (rads) ($\bar{C}DR$ $\left(\frac{\text{rads}}{\text{hr}}\right)$)	
TS	4E7	7E7	-40%,1E8	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 47.
TS			-50%,1.5E8	Ibid.
TS			-75%,2E8	Ibid.
EL	4E6	2E7	-15%,1E7	Ibid.
EL			-50%,4E7	Ibid.
EL			-75%,7E7	Ibid.
EM	4E6	+1E8	+5%,1E7	Ibid.
SS	4E6	1.5E8	+10%,4E7	Ibid.
SS			-2%,1E8	Ibid.
SS			-50%,2E8	Ibid.
SS			-75%,3E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polychlorotrifluoroethylene - Kel - F

Property	Radiation Data			Other Information*
	LTD (LTDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	25CD (rads) (25CDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ $\left(\frac{\text{rads}}{\text{hr}}\right)$)	
EL			-47%,2E7	(C)/Kamen, R. E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., Apri, 1974, p. 6-12.
IS			-16%,2E7	Ibid.
TS	4E7	9E7	-50%,1.2E8	Goetzel, C.G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 335.
EL	4E6	2E7	-50%,4.5E7	Ibid.
TS			-20%,1.5E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 255.
EL			-20%,1.4E6	Ibid.
HD			-20%,1.4E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polychlorotrifluoroethylene

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
SS	1.2E6			Kircher, J. F. and Bowman, R. E., (ed), Effects of Radiation on Materials and Components, Reinhold Publ. Corp., 1964.
EL			-50%,1E7	Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, 1963.
EL			-47%,2.4E7	Hanks, C. L. and Hamman, D. J., Electrical Insulating Materials and Capacitors, Radiation Effects Design Handbook, Section 3, NASA CR-1787, 1971.
TS	>2.4E7			Ibid.

Material: Polyester, carbon filled

WC	>2.8E10			P, 480 Kev/In Vac./ Bouquet, F. L., and Phillips, A., Radiation Test of Materials for Galileo Spacecraft, JPL Report D380, November 18, 1982, p.15.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyester, cast-Selectron 5038

Property	Radiation Data				Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))		
TS			-20%, 4E9		Parkinson, W.W., and Sisman, O., The Use of Plastics and Elastomers in Nuclear Radiation, Nuclear Engineering and Design, Vol. 17, 1971, p. 257.
TS			-50%, 5E9		Ibid.
TS			-90%, 7E9		Ibid.
EL			-20%, 8E6		Ibid.
EL			-50%, 8E6		Ibid.
EL			-90%, 1E9		Ibid.
HD			-20%, 9E7		Ibid.
HD			-50%, 1E9		Ibid.
HD			-90%, 6E9		Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyester, flexible

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	5E5	2.8E9	+10%,1E6	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p.73.
TS			+100%,3.5E6	Ibid.
TS			+200%,6E6	Ibid.
TS			+260%,1E7	Ibid.
TS			+300%,2E7	Ibid.
TS			+325%,5E7	Ibid.
TS			+300%,1.8E8	Ibid.
TS			+50%,1E9	Ibid.
TS			-50%,3E9	Ibid.
EL	5E5	5E6	-5%,1E6	Ibid.
EL			-50%,3E7	Ibid.
EL			-75%,1E8	Ibid.
EM	5E5	+25%,1.1E6	+100%,2.5E6	Ibid.
EM			+200%,4E6	Ibid.
EM			+300%,5E6	Ibid.
EM			+360%,1E7	Ibid.
EM			+400%,2.3E7	Ibid.
EM			+450%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyester, flexible

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
SS	5E5	2.5E9	+10%,1E6	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 73.
SS			+100%,5E6	Ibid.
SS			+120%,3E7	Ibid.
SS			+100%,1E8	Ibid.
SS			+50%,1E9	Ibid.
SS			-50%,3E9	Ibid.
SS			-75%,3.5E9	Ibid.

Material: Polyester, glass reinforced

TS	8.3E8			Goetzel, C.G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January, 1962, p. 423.
TS			-3.2%,2.5E9	Ibid.
TS			+0.6%,8.3E9	Ibid.
TS	>4E8			Kitemaur, R. L., et al, Irradiation Crosslinking of Polyethylene: Relative Efficiency in Crystalline and Amorphous States, Jour. of Applied Polymer Science: Polymer Letters, Vol. 1, p. 511, 1964.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyester,Hytrel; Supplier; Dolder

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL	1.5E7 (1E7)	3.4E7 (1E7)	-29%,4.4E7 (1E7)	G/In Air/Flame Retardent, Dolder/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 87.
EL			-61%,9.6E7 (1E7)	Ibid.
EL			-90%,2.0E8 (1E7)	Ibid.
EL			-97%,5.0E8 (1E7)	Ibid.
HD	1.5E7 (1E7)		-11%,6.9E7 (1E7)	Ibid.
HD			-23%,5.0E8 (1E7)	Ibid.
TS	1E7 (1E7)	1.4E7 (1E7)	-58%,2.8E7 (1E7)	Ibid.
TS			-78%,6.9E7 (1E7)	Ibid.
TS			-82%,1.6E8 (1E7)	Ibid.
TS			-83%,5.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Material: Polyester, mineral filled

Property	Radiation Data			Other Information*
	LTD (LTDR (rads/hr))	25CD (25CDR (rads/hr))	CD (CDR (rads/hr))	
TS	7.9E7	3.5E9		Kircher, J.F., and Bowman, R. E. (ed.), Effects of Radiation on Materials and Components, Reinhold Publ. Corp., 1964.
TS	5E8	4E9	-5%,1E9	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 73.
TS			-30%,5E9	Ibid.
EL	5E8	4E9	-5%.1E9	Ibid.
EL			-30%.5E9	Ibid.
EM	5E8	4E9	-5%.1E9	Ibid.
EM			-30%.5E9	Ibid.
SS	5E8	4E9	-5%.1E9	Ibid.
SS			-30%.5E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyester- Alkyd,mineral filled,Plaskon

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS			-20%,2E9	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 257.
EL			-20%,2E9	Ibid.
HD			-20%,2E9	Ibid.
SS	7.9E7	3.5E9		King, R.W., et al., The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
IS	7.9E7			Ibid.

Material: Polyester. resin

EL	1E5-1E6			Kircher. J. F. and Bowman. R.E.. (ed.). Effects of Radiation on Materials and Components. Reinhold Publ. Corp.. 1964.
EL			-20%.8E6	No filler. Selectron 5038/Ibid.
EL			-50%.1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	1E8 (2E5)	4.5E6 (2E5)		In Air/Makhlis, F. A., Radiation Physics and Chemistry of Polymers, Wiley, New York, 1975, p. 152.
TS			-10%,1E6 (2E5)	Ibid.
TS			-40%,1E7 (2E5)	Ibid.
TS			-10%,0.5E6 (4.35E3)	Ibid.
TS		1.8E6 (4.35E3)	-20%,1.3E6 (4.35E3)	Ibid.
TS			-50%,3.5E6 (4.35E3)	Ibid.
TS			-10%,0.4E6 (3.8E2)	Ibid.
TS		1E6 (3.8E2)	-20%,0.8E6 (3.8E2)	Ibid.
TS			-50%,2.2E6 (3.8E2)	Ibid.
TS	2E7		-50%,9E7	Rads(C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June 1970, p.31
EL	3.8E5			Chapiro,A., Radiation Chemistry of Polymeric Systems, Vol. XV,Interscience Publ., 1962.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene; Supplier; Kabel-Metall

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
EL	1E7 (1E7)	2.7E8 (1E7)	-37%,3.8E7 (1E7)	G/In Air/Lupolen/ Schonbacher,H., and Stolarz-Izycka,A., Compilation of Radiation Damage Test Data, Part I, CERN-79-04,18 June 1979, p.111.
EL			-80%,1E8 (1E7)	Ibid.
EL			-94%,2E8 (1E7)	Ibid.
EL			-98%,5E8 (1E7)	Ibid.
TS	1E7 (1E7)	3E8 (1E7)	+33%,3.4E7 (1E7)	Ibid.
TS			-15%,1.4E8 (1E7)	Ibid.
TS			-27%,5E8 (1E7)	Ibid

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene Supplier: Kabel-Metall

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
EL	1E7 (1E7)	4E7 (1E7)	-31%,5.0E7 (1E7)	G/In Air/Stabilized/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 111.
EL			-73%,9.6E7 (1E7)	Ibid.
EL			-93%,2.0E8 (1E7)	Ibid.
EL			-98%,4.9E8 (1E7)	Ibid.
TS	2E7 (1E7)	5.5E7 (1E7)	-13%,3.7E7 (1E7)	Ibid.
TS			-46%,1.0E8 (1E7)	Ibid.
TS			-43%,5.0E8 (1E7)	Ibid.
EL	3.8E5			Chapiro, A., Radiation Chemistry of Polymeric Systems, Vol. XV, Interscience Publ., 1962.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene - cable

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
TS	5E5	8E7	+15%,1E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 50.
TS			+1%,3E7	Ibid.
EL	2E6	2.5E7	-15%,1E7	Ibid.
EL			-50%,4E7	Ibid.
EL			-75%,7E7	Ibid.
EM	2E7	+1.5E8	+10%,6E7	Ibid.
EM			+20%,1E8	Ibid.
SS	2E7	+5E7	+10%,1E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, chlorosulfonated

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
TS		6E7 (1.5E3)	-2%,4.5E6 (1.5E3)	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796RV, August 1981, p. 16.
TS			-8%,1.3E7 (1.5E3)	Ibid.
TS			-15%,3E7 (1.5E3)	Ibid.
TS			-20%,4.8E7 (1.5E3)	Ibid.
EL		3E7 (1.5E3)	-3%,4.5E6 (1.5E3)	Ibid.
EL			-5%,1.3E7 (1.5E3)	Ibid.
EL			-40%,4.8E7 (1.5E3)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, chlorosulfonated

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS			-1%,1.8E7 (4.9E4)	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796RV, August 1981, p. 16.
TS			-4%,4.5E7 (4.9E4)	Ibid.
TS			-6%,7.2E7 (4.9E4)	Ibid.
TS			-9%,9.5E7 (4.9E4)	Ibid.
TS			-12%,1.3E8 (4.9E4)	Ibid.
EL		4.5E7 (4.9E4)	-5%,1.8E7 (4.9E4)	Ibid.
EL			-37%,7E7 (4.9E4)	Ibid.
EL			-69%,1.3E8 (4.9E4)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene.chlorosulfonated

Property	Radiation Data			Other Information*
	LTD (LTDR (rads/hr))	25CD (25CDR (rads/hr))	CD (CDR (rads/hr))	
TS			+5%,1.8E7 (9.6E5)	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796 RV, August 1981, p. 16.
TS			+8%,4.5E7 (9.6E5)	Ibid.
TS			+10%,7.2E7 (9.6E5)	Ibid.
TS			+7%,9.5E7 (9.6E5)	Ibid.
TS			+2%,1.7E8 (9.6E5)	Ibid.
EL		4.5E7 (9.6E5)	-10%,1.8E7 (9.6E5)	Ibid.
			-39%,7.2E7 (9.6E5)	Ibid.
			-50%,9.5E7 (9.6E5)	Ibid.
			-72%,1.7E8 (9.6E5)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene,chlorosulfonated,Hypalon

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
EL		1.5E7 (1E7)	-64%,4.8E7 (1E7)	G/In Air/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 79.
EL			-89%,1.6E8 (1E7)	Ibid.
EL			-96%,5.1E8 (1E7)	Ibid.
TS		4.8E7 (1E7)	-26%,4.9E7 (1E7)	Ibid.
TS			-36%,1.5E8 (1E7)	Ibid.
TS			-35%,5.1E8 (1E7)	Ibid.
EL	< 5E5		-11%,5E5	Blodgett,R.B., and Fisher,R.G.,IEEE Trans. Power Apparatus and Systems, Vol.PAS -88,No.5,p.529,1969
			-60%,1.5E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene,chlorosulfonated,Hypalon

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
EL		2E7 (1E7)	-57%,5.0E7 (1E7)	G/In Air/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 79.
EL			-85%,1.6E8 (1E7)	Ibid.
EL			-97%,5.1E8 (1E7)	Ibid.
TS		4.2E7 (1E7)	-10%,3.9E7 (1E7)	Ibid.
TS			-40%,1.3E8 (1E7)	Ibid.
TS			-71%,5.3E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene,chlorosulfonated,Hypalon,cable insulation

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	1E7	2E8	-20%,1.1E8	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 82.
TS			-40%,4E8	Ibid.
TS			-60%,5.5E8	Ibid.
EL	1E7	2.5E7	-10%,1.5E7	Ibid.
EL			-30%,3E7	Ibid.
EL			-50%,5E7	Ibid.
EL			-60%,8E7	Ibid.
EL			-80%,3E8	Ibid.
EL			-90%,6E8	Ibid.
HD		+1.5E8	+10%,3E7	Ibid.
HD			+20%,6E7	Ibid.
HD			+30%,6E8	Ibid.
TS			-20%,1.5E8	Parkinson,W.W., Nucl.Engr. and Deign Vol.17,1971,p.273.
EL			-20%,5E6	Ibid.
Material: Polyethylene, chlorosulfonated, Hypalon S-2				
EL			-50%,1E8	In Helium,Bopp,C.D., and Sisman,O.,Radia-Stability of Plastics and Elastomers,Nucl. Vol.13,,No. 3,July 1955,p.28.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
TS		1.5E7 (1E4)	-10%,5E6 (1E4)	In Oxygen Pressure, 1 kg/cm^2/Machi, S., Radiation Degradation of Polymeric Materials Used in Nuclear Reactor, Radiat. Phys. Chem. Vol. 18, No. 1-2, 1981, p. 130.
TS			-43%,2.5E7 (1E4)	Ibid.
TS			-66%,3.3E7 (1E4)	Ibid.
EL		8E6 (1E4)	-12%,5E6 (1E4)	In Oxygen Pressure, 1 kg/cm^2/Machi, S., Radiation Degradation of Polymeric Materials Used in Nuclear Reactor, Radiat. Phys. Chem. Vol. 18, No. 1-2, 1981, p. 130.
EL			-50%,1.3E7 (1E4)	Ibid.
EL			-75%,1.5E7 (1E4)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
TS		2.2E7 (1E5)	-10%,8E6 (1E5)	In Oxygen Pressure, 5 kg/cm^2/Machi, S., Radiation Degradation of Polymeric Materials Used in Nuclear Reactor, Radiat. Phys. Chem. Vol. 18, No. 1-2, 1981, p. 130.
TS			-38%,3.5E7 (1E5)	Ibid.
TS			-68%,4.5E7 (1E5)	Ibid.
TS			-72%,7.3E7 (1E5)	Ibid.
EL		2.5E7 (1E5)	-12%,1E7 (1E5)	In Oxygen Pressure, 5 kg/cm^2/Machi, S., Radiation Degradation of Polymeric Materials Used in Nuclear Reactor, Radiat. Phys. Chem. Vol. 18, No.1-2, 1981, p. 130.
EL			-50%,3.9E7 (1E5)	Ibid.
EL			-75%,5E7 (1E5)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, crosslinked ; Supplier; Pirelli

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL		2.8E7 (1E7)	-53%,4.2E7 (1E7)	G/In Air/High Voltage Insulator/ Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 216.
EL			-68%,1.1E8 (1E7)	Ibid.
EL			-88%,2.3E8 (1E7)	Ibid.
EL			-99%,4.9E8 (1E7)	Ibid.
TS		5E7 (1E7)	-35%,7.4E7 (1E7)	Ibid.
TS			-69%,5.0E7 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
EL		3.2E7 (1E7)	-35%,4.8E7 (1E7)	G/In Air/Low Voltage Insulator/ Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 215.
EL			-82%,2.0E8 (1E7)	Ibid.
EL			-99%,5.0E8 (1E7)	Ibid.
HD	5E7 (1E7)			Ibid.
HD			-5%,5.3E8 (1E7)	Ibid.
TS		1.3E8 (1E7)	-18%,8.0E7 (1E7)	Ibid.
TS			-64%,4.9E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS		2.8E7 (1E6)	-10%, 1E7 (1E6)	In Oxygen Pressure, 5 Kg/cm^2/Machi, S., Radiation Degradation of Polymeric Materials Used in Nuclear Reactor, Radiat. Phys. Chem. Vol. 18, No. 1-2, 1981, p. 130.
TS			-40%, 4.8E7 (1E6)	Ibid.
TS			-65%, 7.5E7 (1E6)	Ibid.
TS			-75%, 1E8 (1E6)	Ibid.
EL		2.5E7 (1E5)	-12%, 1E7 (1E5)	Ibid.
EL			-50%, 3.9E7 (1E5)	Ibid.
EL			-75%, 5E7 (1E5)	Ibid.
Material: Polyethylene, Estane				
Unstated	1E9			Baur, J. F., Radiation Limit for Diagnostic Components, General Atomic Co., July, 1981, p. 7.
Material: Polyethylene, low density				
TC		+1.3E9		20°C/Makhlis, F. A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 242.
TC			+40%, 2E9	150°C/Ibid.
TC		1.6E9	-10%, 3E8	20°C/Ibid.
TC			-40%, 3E9	20°C/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, low density

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
TS	1.9E7	8E9		Goetzel, C. G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 335.
EL	2.3E7	9.3E7	-50%,18E8	Ibid.
TC		+1.3E9		20°C/Makhlis, F. A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 242.
TC			+30%, 1E9	150°C/Ibid.
TC			+40%, 2E9	150°C/Ibid.
TC		1.6E9	-10%, 3E8	20°C/Ibid.
TC			-40%, 3E9	20°C/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, low density, Alathon

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) ($\dot{D}$CDR (rads/hr))	Other Information*
TS			-20%, >1E9	Parkinson, W. W., Nuclear Engr. and Design, Vol. 17, 1971, p. 251.
EL			-20%, 7E7	Ibid.
IS			-20%, 8E7	Ibid.

Material: Polyethylene, Low density, Alathon 3

TS			-20%, 5E7	Parkinson, W. W., Nuclear Engr. and Design, Vol. 17, 1971, p. 25.
EL			-20%, 1.5E7	Ibid.

Material: Polyethylene, low density, Alathon 10

TS			-20%, 7E8	Ibid.
EL			-20%, 2E7	Ibid.

Material: Polyethylene, low density, Irrathene 101

TS			-20%, 1E7	Ibid.
EL			-20%, 2E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, high density

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
TS	3E6		+10%, 9E7	Goetzel, C.G. and Singletary, J.B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 335.
EL	3E6	3.2E7		Ibid.
EL			-20%, 2E7	Super Dylan/Parkinson, W.W., and Sisman, O., The Use of Plastics and Elastomers in Nuclear Radiation, Nuclear Engineering and Design, Vol. 17, 1971, p. 251.
EL			-50%, 3E7	Ibid.
EL			-90%, 5E8	Ibid.
TS			-20%, >1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, high density, Marlex-50

Property	Radiation Data: LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	Other Information*
TS			-20%, 7E6	Parkinson, W.W., Nucl. Engr. and Design, Vol. 17, 1971, p. 251.
TS			-50%, 2E7	Ibid.
EL			-20%, 1.5E6	Ibid.
EL			-50%, 2.5E6	Ibid.
EL			-90%, 5E6	Ibid.

Material: Polyethylene oxide

TS	5E4	4E9	+2%, 1E5	Van de Voorde, M.H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 52.
TS			+5%, 1E6	Ibid.
TS			+6%, 1E7	Ibid.
TS			+5%, 1E8	Ibid.
TS			+1%, 7E8	Ibid.
TS			-2%, 1E9	Ibid.
TS			-50%, 8E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene, terephthalate

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	25CD (rads) (25CDR $\left(\frac{\text{rads}}{\text{hr}}\right)$)	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ $\left(\frac{\text{rads}}{\text{hr}}\right)$)	
TS			-20%, 8E7	Parkinson, W. W., Nuclear Engr. and Design, Vol. 17, 1971, p. 253.
TS			-20%, 3E8	Ibid.
TS			-50%, 7E8	Ibid.
EL			-20%, 3E7	Ibid.
EL			-20%, 2E8	Ibid.
EL			-50%, 4E8	Ibid.
EL	4.4E6		-50%, 3E8	Bolt, R. O., and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, 1963.
TS	4.4E6		-50%, 6E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyethylene terephthalate - film

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	4E7	2E8	-50%,4E8	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 52.
TS			-75%,5E8	Ibid.
EL	3E7	1.5E8	-20%,1E8	Ibid.
EL			-50%,2E8	Ibid.
EL			-75%,5E8	Ibid.
EL			-90%,1E9	Ibid.
EM	1E8	3E8	-50%,7E8	Ibid.

Material: Polyethylene terephthalate - Mylar film

TS	2.5E7	1E8	-40%,2.4E8	G/In Vacuum/Proc. of Charged Particle Radiation Effects, NASA-TM-X-67335, March 19, 1964,p.122.
TS			-46%,2.6E8	Ibid.
EL	1E7	1E8	+10%,0.75E7	Ibid.
EL			-40%,1.25E8	Ibid.
EL			-96%,1.5E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyformaldehyde - Delrin

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS			-20%,2.5E6	Parkinson, W. W., Nucl. Engr., and Design, Vol. 17, 1971, p. 252
EL			-20%,1E6	Ibid.

Material: Polyimide

WC			-6.5%,1.6E15	P, protons-cm^2/In Vacuum Plus 16 Suns/Fogdall,L.B. and Cannaday, S.S., Simulation of Space Radiation Effects on Polyimide Film Materials for High Temperature Applications,Nov., 1977.

Material: Polyimide, Ciba Geigy, B-100

EL		6E10	-23%,5E10	P,1.3 Kev/In Vac./ Bouquet, F.L. and Koprowski,E.F., Jupiter Radiation Effects on Spacecraft Materials, 19th IEEE Annual Conf. on Nucl. and Space Radiation Effects, Las Vegas, NV, July 21, 1982, p. 4.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyimide - film

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
TS	1E7	+4E7	+50%, 1E8	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 74.
			+60%, 2E8	Ibid.
			+20%, 1E9	Ibid.
			+20%, 2E9	Ibid.
EL	1E7	3E8	-2%, 2E7	Ibid.
			-20%, 1E8	Ibid.
Material: Polyimide - H film				
EL	4E8		-50%, 3E9	Parkinson, W. W., and Kirkland, "The Effects of Radiation on Organic Polymers", Annual Progress Report 4229, 1967.
TS	1E7		>-50%, 1E9	Ibid.
EL			-20%, 1.5E9	Parkinson, W. W., Nuclear Engineering and Design, Vol. 17, 1971, p. 259.
TS			-20%, 3E9	Ibid.
TS			+10%, 6E8	G/In Vacuum/Proc. of Charged Particle Radiation Effects, NASA-TM-X-67335, March 19, 1964, p. 122.
TS		+1.2E9	+23%, 1E9	Ibid.
TS			+30%, 2E9	Ibid.
EL			+40%, 6E8	Ibid.
EL			+50%, 1E9	Ibid.
EL			+55%, 1.5E9	Est. Ibid.
EL			+47%. 2E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyimide - Kapton

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (−CDR (rads/hr))	Other Information*
TS	1E8	1E9	-90%,2E10	(C)/In Air/Kamen, R.E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April, 1974, p. 6-12.
TS	2E9			(C)/Vacuum/Kamen, R.E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April, 1974, p.6-12.
EL	1E8		-47%,1E9	(C)/In Air/Kamen, R.E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April, 1974,p. 6-12.
EL			-90%,2E10	Ibid, p. 6-13.
DE	>1E9			1 KiloHertz/Ibid.
CL	5E9			Darkening, Ibid.
EL			-8%,5E10	P,1.3 Kev/In Vac./ Bouquet, F.L. and Koprowski,E.F., Jupiter Radiation Effects on Spacecraft Materials, 19th IEEE Annual Conf. on Nucl. and Space Radiation Effects, Las Vegas, NV, July 21, 1982, p. 4.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR.

Material: Polyimide, Upjohn 2080

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL			-23%,5E10	P,1.3 Kev/In Vac./ Bouquet, F.L. and Koprowski, E.F., Jupiter Radiation Effects on Spacecraft Materials,19th IEEE Annual Conf. on Nucl. and Space Radiation Effects, Las Vegas, NV, July 21, 1982, p. 4.

Material: Polyimide,Vespel

WC	>2.8E10			P, 480 kev/In Vac./Bouquet, F. L. and Koprowski, E. F., Radiation Effects on Spacecraft Materials for Jupiter and Near-Earth Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-29, No. 6, December 1982, p. 1631.
EC	1E9			E,2 Mev/DuPont Vespel Design Handbook,1970, p.27.
TS	1E9			Ibid.
EL	1E9			Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polymethyl methacrylate - Lucite

Property	Radiation Data			Other Information*
	LTD (LTDR (rads/hr))	25CD (25CDR (rads/hr))	$\overline{\text{CD}}$ ($\overline{\text{CDR}}$ (rads/hr))	
TS			-20%,4E6	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 253
EL			-20%,4E6	Ibid.
HD			-20%,3E6	Ibid.
US	1E6	1E7		Rads(C)/Notch Impact Test/Nuclear and Space Radiation Effects on Materials,NASA SP-8053, June 1970,p. 32.
TS	5E6	1E7	-50%,3E7	Van de Voorde, M.H., Selection Guide, CERN 72-7, May 17, 1972, p. 43.
EL	5E6	1E7	-50%,3E7	Ibid.
EM	1E7		+10%,4E7	Ibid.
SS	1E7	3E7	-50%,5E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyolefin,crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS	1E6 (1.6E3)		-9%,1.4E7 (1.6E3)	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796 RV, August 1981, p. 13.
TS			-12%,2.8E7 (1.6E3)	Ibid.
TS			-15%,5.1E7 (1.6E3)	Ibid.
EL	1E6 (1.6E3)	1.5E7 (1.6E3)	-18%,1.4E7 (1.6E3)	Ibid.
EL			-60%,2.8E7 (1.6E3)	Ibid.
EL			-80%,5.1E7 (1.6E3)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

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CLASS: INSULATOR

Material: Polyolefin,crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
TS	1E6 (9.5E3)	1.1E8 (9.5E3)	-3%,2.7E7 (9.5E3)	G/InAir/Gillen, K. T., and Clough,R.L. Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796 RV, August, 1981, p. 13.
TS			-10%,5.4E7 (9.5E3)	Ibid.
TS			-30%,2E8 (9.5E3)	Ibid.
EL	1E6 (9.5E3)	2.5E7 (9.5E3)	-50%,4.5E7 (9.5E3)	Ibid.
EL			-65%,5.4E7 (9.5E3)	Ibid.
EL			-97%,1.2E8 (9.5E3)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyolefin,crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS		+2E7 (8.1E4)	+40%,4E7 (8.1E4)	G/In Nitrogen/Gillen, K. T., and Clough, R. L., Occurrence and Implications of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, August 1981, p. 13.
TS			+46%,6.4E7 (8.1E4)	Ibid.
TS			+46%,1.1E8 (8.1E4)	Ibid.
TS			+41%,1.6E8 (8.1E4)	Ibid.
EL		2.0E7 (8.1E4)	-45%,2E7 (8.1E4)	Ibid.
EL			-64%,5E7 (8.1E4)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyolefin,crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
TS	1E6 (2.2E5)	+1.5E8 (2.2E5)	+8%,3E7 (2.2E5)	G/In Nitrogen/ Gillen, K.T., and Clough, R.L., Occurrence and Implications of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, August, 1981, p. 13.
TS			+19%,5.2E7 (2.2E5)	Ibid.
TS			+21%,9.5E7 (2.2E5)	Ibid.
EL	1E6 (2.2E5)	1.8E7 (2.2E5)	-40%,3E7 (2.2E5)	Ibid.
EL			-65%,5.2E7 (2.2E5)	Ibid.
EL			-75%,9.5E7 (2.2E5)	Ibid.
EL			-85%,1.5E8 (2.2E5)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyolefin,crosslinked

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
TS		+6.5E7 (1.2E6)	+18%,3E7 (1.2E6)	G/In Nitrogen/Gillen, K. T., and Clough, R. L., Occurrence and Implications of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, August 1981, p. 13.
TS			+21%,6E7 (1.2E6)	Ibid.
TS			+30%,9.6E7 (1.2E6)	Ibid.
TS			+28%,1.75E8 (1.2E6)	Ibid.
EL		2.5E7 (1.2E6)	-45%,3E7 (1.2E6)	Ibid.
EL			-65%,6E7 (1.2E6)	Ibid.
EL			-75%,9.6E7 (1.2E6)	Ibid.
EL			-88%,1.75E8 (1.2E6)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyolefin, ionomer resin

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))	
EL	1E6	4E7	-5%, 5E6	Van de Voorde, M., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, European Organization for Nuclear Research Report No. CERN 72-7 1972, p. 51.
EL			-10%, 8E6	Ibid.
EL			-15%, 1.5E7	Ibid.
EL			-20%, 2.2E7	Ibid.
EL			-30%, 5E7	Ibid.
EL			-40%, 7E7	Ibid.
EL			-50%, 8E7	Ibid.
EL			-75%, 1.5E8	Ibid.
TS	1E6	6E8	+5%, 5E6	Ibid.
TS			+10%, 2E7	Ibid.
TS			+5%, 7E7	Ibid.
TS			+2%, 1E8	Ibid.
TS			-5%, 1.5E8	Ibid.
TS			-10%, 2E8	Ibid.
TS			-15%, 3E8	Ibid.
TS			-20%, 5E8	Ibid.
TS			-30%, 8E8	Ibid.
TS			-35%, 1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

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CLASS: INSULATOR

Material: Polyolefin,Radox 110,Supplier;Huber and Suhner

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))	
EL	<1E7 (1E7)	1.8E7 (1E7)	-67%,6.8E7 (1E7)	G/In Air/Radox 110/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 187.
EL			-92%,5.4E8 (1E7)	Ibid.
HD	3E7 (1E7)		+7%,6.1E7 (1E7)	Ibid.
HD	3E7 (1E7)		+12%,5.1E8 (1E7)	Ibid.
TS	<1.5E7 (1E7)		-12%,6.2E9 (1E7)	Ibid.
TS			+16%,5.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyolefin, Radox 130; Supplier: Huber and Suhner

Property	Radiation Data LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	Other Information*
EL		1.5E7 (1E7)	-84%,8.1E7 (1E7)	G/In Air/Radox 130/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 187.
EL			-94%,4.8E8 (1E7)	Ibid.
HD		+2.5E8 (1E7)	+19%,6.2E7 (1E7)	Ibid.
HD			+39%,4.9E8 (1E7)	Ibid.
TS		9E7 (1E7)	-9%,4.2E7 (1E7)	Ibid.
TS			-30%,1.1E8 (1E7)	Ibid.
TS			-19%,4.8E8 (1E7)	Ibid.
Material: Polyphenylene Oxide				
TS	1E5	4E9	-50%,9E9	Van de Voorde, M., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, European Organization for Nuclear Research Report No. CERN 72-7, 1972, p.52.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polypropylene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	1E5	5E6	+5%,1E6	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 51.
TS			+1%,4E6	Ibid.
TS			-45%,1E7	Ibid.
TS			-75%,4E7	Ibid.
EL	1E5	1E6	-50%,3E6	Ibid.
EL			-75%,5E6	Ibid.
EL			-85%,1E7	Ibid.
DE			-3%,5E7	(C)/In Air/Kamen, R.E., Radiation Effects on HS-350 Materials, Vol.I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April, 1974, p.6-13.
EC			<+10%,5E7	Ibid.
IS			-7%,6E6	Rads(C)/Nuclear and Space Radiation on Materials, NASA SP-8053,June,1970, p. 32.
IS			-50%,1E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polypropylene

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS	1E7		-60%,5E7	(C)/Vacuum/Kamen, R. E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April 1974, p. 6-13.
IS	>1E7		-75%,5E7	Ibid.

Material: Polypropylene - ethylene polyallmer

TS	1E6	1E7	-40%,2E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 51.
TS			-50%,3E7	Ibid.
EL	1E6	3E6	-50%,5E6	Ibid.
EL			-80%,1E7	Ibid.
TS	1E6		-50%,4E7	King, R.W.,et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials,Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
EL	1E6		-50%,7E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polypropylene -Profax

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
TS			-20%,7E6	Parkinson,W.W., Nucl. Engr. and Design, Vol.17, p.252.
EL			-20%,7E5	Ibid.

Material: Polystyrene

EC	5E5 (4E4)	2E6 (4E4)	-60%,5E6 (4E4)	G/In Air/Bowen,J. H.Jr., and Rosato, D.V.,Radiation, Chapter 7,Environmental Effects on Polymeric Materials, Vol. I,Environments, Interscience,N.Y., 1968,p.602.
Unstated		> 5E9		Baur,J.F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981.
TS	2E7		-50%,1E8	G/30°F/ 3mm film/ Bowner, T.N.et al., Degradation of Polystyrene...,Jour. Appl. Polymer Sci., Vol. 24, 1979, p. 425.
TS			-75%,2E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polystyrene, clear

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS			-20%, >1E10	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 252
EL			-20%, >1E10	Ibid.
TS			-10%,5E9	Rads(C)/Nuclear and Space Radiation Effects on Materials,NASA SP-8053, June 1970, p.32.
EL			-10%,5E9	Ibid.

Material: Polystyrene, high impact

TS			-20%,>7E9	Parkinson,W.W., Nucl. Engr. and Design, Vol. 17, 1971,p.252.
EL			-20%,2E6	Ibid.
HD			-20%,5E6	Ibid.

Material: Polysulfone

VS			-11%,2E8 (5E5)	G/In Air,30°F/ Brown,J.R.,and O'Donnell, J.H., Effects of Gamma Radiation on Two Aromatic Polysulfones, J.Appl. Polymer Sci., Vol. 19,1975,p.405.
VS			-16%,4E8 (5E5)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyurethane

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
CS		4.3E7		Rads(c)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053,June 1970 p.33.
TS			-60%,1.2E7	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 85.
TS			-70%,3E7	Ibid.
TS			-80%,1E8	Ibid.
TS			-90%,8E8	Ibid.
EL		4E7	-10%,1.5E7	Ibid.
EL			-40%,1E8	Ibid.
EL			-75%,3.5E8	Ibid.
HD		+2E8	+5%,1E7	Ibid.
HD			+15%,4E7	Ibid.
HD			+35%,5E8	Ibid.
HD			+45%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyurethane

Property	Radiation Data LTD (LTDR (rads/hr))	25CD (25CDR (rads/hr))	CD (CDR (rads/hr))	Other Information*
TS	1E7			King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum 1964.
TS			-59%,1.8E9	Ibid.
FS	>1E9			G,Rads(C)/Foam/ Nuclear and Space Radiation Effects on Materials, NASA SP-8053,June,1970, p. 30.

Material: Polyurethane - Genthane

TS			-20%, 2E7	Parkinson, W.W., Nucl. Engr. and Design, Vol. 17, 1971, p. 273.
TS			-50%, 7E7	Ibid.
EL			-20%, 2E7	Ibid.
EL			-50%, 7E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl butyral

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
TS	5E6	2E7	-50%,6E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 54.
TS			-75%,3E8	Ibid.
EL	3E7	1E8	-50%,3E8	Ibid.
EL			-75%,5E8	Ibid.
TS			-20%,2.2E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 252
EL			-20%,1E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl·carbazole

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	>1E9			Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 55.
EL	>1E9			Ibid.
EM	>1E9			Ibid.
SS	>1E9			Ibid.
IS	8.8E7			King, R.W., REIC Report No. 21, 1961.
TS	8.8E7	4.4E9		Ibid.
TS			-20%,>1E10	Parkinson, W.W., Nucl. Engr. and Design, Vol. 17, 1971, p. 256.
EL			-20%,>1E10	Ibid.
HD			-20%,>1E10	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS			-5.1%,4.4E6	Thickness, 0.5mm/Makhlis, F. A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 244.
TS			-4.1%,8.7E6	Ibid.
TS			-32.0%,4.4E7	Ibid.
EL			-5.3%,4.4E6	Ibid.
EL			-2.2%,8.7E6	Ibid.
TS			-20%,1E9	In Air/Parkinson, W.W., and Sisman, O., Nucl. Engr. and Design, Vol.17,1971, p.247.
IS			-20%,1E9	Ibid.
Unstated	1E5			Baur,J.F.,Radiation Damage Limit for Diagnostic Components, General Atomic Co., July 1981,p.7.
Unstated		1.2E8		Ibid.,p. 9.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
EL	8E5 (4E3)	9E6 (4E3)	-10%,3.5E6 (4E3)	G/In Air, 25°C/Clough, R. L. and Gillen, K. T., Radiation-Thermal Degradation of PE and PVC, Radiat. Phys. Chem., Vol. 18, No. 3-4, 1981, p. 663.
EL			-15%,5E6 (4E3)	Ibid.
EL			-20%,7E6 (4E3)	Ibid.
EL		4E6 (3.5E3)	-10%,2E6 (3.5E3)	G/In Air,60°/Clough, R.L., and Gillen, K.T., Radiation-Thermal Degradation of PE and PVC, Radiat.Phys. Chem. Vol.18,No.3-4,1981, p. 664.
EL			-20%,3E6 (3.5E3)	Ibid.
EL			-30%,5E6 (3.5E3)	Ibid.
EL			-50%,7E6 (3.5E3)	Ibid.
EL			-70%,9E6 (3.5E3)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
EL		1.3E6 (4E3)	-21%,1E6 (4E3)	G/In Air, 80°C/Clough, R. L. and Gillen, K. T., Radiation-Thermal Degradation of PE and PVC, Radiat. Phys. Chem., Vol. 18, No. 3-4, 1981, p. 663.
EL			-30%,1.8E6 (4E3)	Ibid.
EL			-40%,2.5E6 (4E3)	Ibid.
EL			-50%,3.5E6 (4E3)	Ibid.
EL			-60%,4E6 (4E3)	Ibid.
EL			-75%,5E6 (4E3)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
EL	7.5E5 (4.4E3)		-5%,2E6 (4.4E3)	G/25°C, In Air/Bonzon, L. L., et. al., The Qual. Testing Eval. QTE Program for Safety-Related Equipment, IAEA-CN-39/104, SAND80-0544C, October 24, 1980, p. 15.
EL			-10%,3.6E6 (4.4E3)	Ibid.
EL			-23%,1E7 (4.4E3)	Ibid.
EL	7.5E5 (4.5E3)	2.9E6 (4.5E3)	-5%,1.4E6 (4.5E3)	G/80°C, In Air/Bonzon, L. L., et. al., The Qual. Testing Eval. QTE Program for Safety-Related Equipment, IAEA-CN-39/104, SAND80-0544C, October 24, 1980, p. 15.
EL			-10%,2.2E6 (4.5E3)	Ibid.
EL			-40%,3.5E6 (4.5E3)	Ibid.
EL			-50%,4.2E6 (4.5E3)	Ibid.
EL			-75%,1E7 (4.5E3)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
EL		6E6 (1.76E4)	-15%,4E6 (1.76E4)	G/In Air, 60°C/Clough, R. L., and Gillen, K. T., Radiation-Thermal Degradation of PE and PVC, Radiat. Phys. Chem., Vol. 18, No. 3-4, 1981, p. 664.
EL			-35%,8E6 (1.76E4)	Ibid.
EL			-59%,1.2E7 (1.76E4)	Ibid.
EL			-68%,1.4E7 (1.76E4)	Ibid.
EL			-72%,1.6E7 (1.76E4)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL		9E6 (7.1E4)	-18%,8E6 (7.1E4)	G/In Air, 60°C/Clough, R. L., and Gillen, K. T., Radiation-Thermal Degradation of PE and PVC, Radiat. Phys. Chem., Vol. 18, No. 3-4, 1981, p. 664.
EL			-40%,1.2E7 (7.1E4)	Ibid.
EL			-47%,1.4E7 (7.1E4)	Ibid.
EL			-58%,1.75E7 (7.1E4)	Ibid.
EL			-72%,2.5E7 (7.1E4)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
EL		1.2E7 (3.6E5)		G/In Air, 60°C/Clough, R. L., and Gillen, K. T., Radiation-Thermal Degradation of PE and PVC, Radiat. Phys. Chem., Vol. 18, No. 3-4, 1981, p. 664.
EL			-12%,6E6 (3.6E5)	Ibid.
EL			-29%,1.4E7 (3.6E5)	Ibid.
EL			-43%,2E7 (3.6E5)	Ibid.
EL			-50%,2.3E7 (3.6E5)	Ibid.
EL			-62%,3E7 (3.6E5)	Ibid.
EL			-67%,3.4E7 (3.6E5)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride

Property	Radiation Data				Other Information*
	LTD (rads) (LTDR $\frac{\text{rads}}{\text{hr}}$)	25CD (rads) (25CDR $\frac{\text{rads}}{\text{hr}}$)	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ $\frac{\text{rads}}{\text{hr}}$)		
EL		1.4E7 (9.4E5)			G/In Air, 60°C/Clough, R. L., and Gillen, K. T., Radiation-Thermal Degradation of PE and PVC, Radiat. Phys. Chem., Vol. 18, No. 3-4, 1981, p. 664.
EL			-12%,8E6 (9.4E5)		Ibid.
EL			-20%,1.2E7 (9.4E5)		Ibid.
EL			-35%,2E7 (9.4E5)		Ibid.
EL			-48%,3E7 (9.4E5)		Ibid.
EL			-48%,3E7 (9.4E5)		Ibid.
EL			-56%,4E7 (9.4E5)		Ibid.
EL			-60%,4.8E7 (9.4E5)		Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride;Supplier;Draka

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL	1E7 (1E7)	2.7E7 (1E7)	-38%,4.3E7 (1E7)	G/In Air/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 147.
EL			-77%,1.0E8 (1E7)	Ibid.
EL			-95%,5.0E8 (1E7)	Ibid.
HD			±11%,5.1E8 (1E7)	Ibid.
TS	1E7 (1E7)		-18%,3.7E7 (1E7)	Ibid.
TS			±16%,1.2E 8 (1E7)	Ibid.
TS			±21%,5.0E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride; Supplier; Draka

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL		6.5E7 (1E7)	-17%,4.6E7 (1E7)	G/In Air/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 147.
EL			-79%,1.7E8 (1E7)	Ibid.
EL			-97%,5.1E8 (1E7)	Ibid.
TS		+1.6E8 (1E7)	+8%,1.5E8 (1E7)	Ibid.
TS			+62%,4.8E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride acetate

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS			-20%,6E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 255
EL			-20%,2.5E8	Ibid.
EL	1.4E6		-50%,3E7	King,R.W.,et al., REIC 21, 1961 and Addendum,1964.
SS	5E7			Ibid.
TS	5E8			Ibid.
IS	4E9			Ibid.

Material: Polyvinyl chloride cable

TS			-5%,2E6	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 46.
TS			-15%,1E8	Ibid.
TS			-20%,2E8	Ibid.
EL		1E7	-15%,2E6	Ibid.
EL			-50%,7E7	Ibid.
EL			-70%,2E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride - Geon 2046

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) (CDR ($\frac{rads}{hr}$))	
TS	4.5E8	1.9E9	-50%,3E9	Goetzel, C. G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 335.
EL	1.9E7	1.1E8	-50%,3.5E8	Ibid.
Material: Polyvinyl chloride- Geon 8630				
TS			-20%,6E6	Parkinson, W.W., Nucl. Engr. and Design, Vol.17 1971,p.254.
EL			-20%,1E7	Ibid.
Material: Polyvinyl chloride - Geon 8640				
TS			-20%,6E6	Ibid.
EL			-20%,1.5E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinyl chloride with antirads : Supplier;Thomson-Brandt

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
EL	1E7 (1E7)	2.5E7 (1E7)	-34%,3.5E7 (1E7)	G/In Air/Antirad/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 169.
EL			-40%,1.0E8 (1E7)	Ibid.
TS	1E7 (1E7)		+23%,3.3E7 (1E7)	Ibid.
TS			+5%,1.1E8 (1E7)	Ibid.

Material; Polyvinyl fluoride

TS			-20%,1E8	Parkinson,W.W.. Nucl. Engr. and Design, Vol.17, p.255.
EL			-20%,2E7	Ibid.
EL			-50%,5E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

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CLASS: INSULATOR

Material: Polyvinylformal

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	4E7	3E8	-10%,1E8	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 54.
TS			-50%,1.5E9	Ibid.
EL	4E7	+9E7	+40%,1E8	Ibid.
EL			+50%,8E8	Ibid.
EL			+0%,1E9	Ibid.
EL		1.5E9	-50%,2E9	Ibid.
EL			-75%,3E9	Ibid.
EM	2E7	1E8	-50%,3E8	Ibid.
EM			-70%,8E8	Ibid.
TS	2E7	1E8		Rads(C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June 1970, p. 31.
TS			-20%,4E8	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 252
EL			-20%,9E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinylidene chloride

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{}$CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
TS	1E7	2E8	-50%,7E8	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 47.
TS			-75%,3E9	Ibid.
EL	5E6	4E7	-50%,2E8	Ibid.
EL			-75%,5E9	Ibid.
EM	1E6	7E8	+15%,1E8	Ibid.
			+0%,3E8	Ibid.
			-30%,1E9	Ibid.
			-50%,2E9	Ibid.
			-75%,2.5E9	Ibid.
SS	5E7	5E8	-40%,1E9	Ibid.
			-50%,1.5E9	Ibid.
			-75%,3E9	Ibid.
EL	3.7E6	4.1E7		Kircher,J.F.,and Bowman,R.E.,Effects of Radiation on Materials and Components, Reinhold, 1964.
TS	3.7E6	1.6E8		Ibid.
SS	+4.1E7			Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Polyvinylidene fluoride, Kynar

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS	1E8			(C)/In Air/Kamen, R. E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April 1974, p. 6-14.
DE	2E8			Ibid.

Material: Pyrrone, polyimidazopyrrolone

FS	1E8		+2%,1E9	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 75.
			+3%,1E10	Ibid.
EM	1E8		+2%,1E9	Ibid.
			+10%,1E10	Ibid.
EL	1E8			Ibid.

Material: Silicone,glass-filled

TS	1E8		+6%,5E8	Ibid,p. 76
			+12%,1E9	Ibid.
TS	1E8	2E8	-12%,1E8	Ibid.
SS			-50%,4E8	Ibid.
SS			-75%,1E9	Ibid.
SS				

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Silicone treated glass fiber

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) (CDR ($\frac{rads}{hr}$))	
Unstated	1E7			Baur, J. F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981, p. 7.

Material: Silicone,unfilled

TS	7E6	4E7	-5%,1E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17,1972,p.75.
TS			-50%,7E7	Ibid.
TS			-75%,2E8	Ibid.

Material: Styrene- acrylonitrile

TS			-20%,>1E10	Parkinson,W.W., Nucl.Engr. and Design, Vol.17, 1971,p.256.
EL			-20%,4E8	Ibid.

Material: Triallyl cyanurate

SS			-20%, 5E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Urea formaldehyde

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
TS	5E6	3.5E7	-50%,8E8	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 60.
TS			-75%,2.5E8	Ibid.
TS			-90%,4E8	Ibid.
EL	5E6	3.5E7	-50%,8E8	Ibid.
EL			-75%,2.5E8	Ibid.
EL			-90%,4E8	Ibid.
EM	5E7		-4%,1E8	Ibid.
EM			-10%,4E8	Ibid.
SS	5E6	3.5E7	-50%,8E8	Ibid.
SS			-75%,2.5E8	Ibid.
SS			-90%,4E8	Ibid.
EL	8.3E6	5.1E7		Rads(C)/Kircher, J.F., and Bowman, R.E., Effects of Radiation on Materials and Components, Reinhold, 1964, p. 101. LTD is surface dose only.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: INSULATOR

Material: Urea formaldehyde

Property	Radiation Data: LTD (LTDR (rads/hr))	25CD (25CDR (rads/hr))	CD (CDR (rads/hr))	Other Information*
TS	7.5E6	3E7		Plaskon Urea/ King, R.W., et al.,REIC Report 21, 1961 and Addendum,1964.
EL	7.5E6			Ibid.
EM	3.2E7			Ibid.
IS	3.2E7			Ibid.

Material: Urea formaldehyde, cellulose filled

TS			-20%,3E7	Parkinson,W.W.,Nucl. Engr. and Design, Vol.17,1971,p.253.
TS			-50%,1E8	Ibid.
EL			-20%,3E7	Ibid.
EL			-50%,1E8	Ibid.

Material: Vinyl chloride-vinylidene chloride copolymer

TS			-20%,4.5E6	Ibid.
EL			-20%,1E6	Ibid.
HD			-20%,1E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Adduct Rubber, 92% Saturation

Property	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	Other Information*
TS			-20%,5E8	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 273.
EL			-20%, 2E7	Ibid.
EL	4E6		-20%,1.9E7	Bolt, R.O. and Carroll, J.G., Radiation Effects on Organic Materials, Academic Press, 1963.
TS	4E6			Ibid.

Material: Acrylic butadiene styrene

TS	1E7	5E8	+10%,3E7	Van de Voorde M.H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p.53.
TS			+30%,1E8	Ibid.
TS			+29%,2E8	Ibid.
TS			+0%,4E8	Ibid.
TS			-40%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Butadiene, styrene

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))	Other Information*
TS	8E7	3E8	-50%,5E8	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 85.
TS			-10%,1.8E8	Ibid.
EL	3E6	2.2E7	-10%,1E7	Ibid.
EL			-50%,4.5E7	Ibid.
EL			-70%,1E8	Ibid.
SB	3E6	2.2E7	-10%,1E7	Ibid.
SB			-50%,4.5E7	Ibid.
SB			-70%,1E8	Ibid.
SB			-90%,3E8	Ibid.
CS	2E6	1E7	-50%,5E7	Ibid.
CS			-75%,3E8	Ibid.
HD	1E7	+3E8	+20%,2E8	Durometer Hardness/Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 85.
HD			+50%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Butadiene styrene

Property	Radiation Data LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) (CDR ($\frac{rads}{hr}$))	Other Information*
TS			-20%,2.2E8	Parkinson, W.W., Nucl. Engr. and Design, Vol. 17, 1971, p. 272.
EL			-20%,2.5E7	Ibid.
CS			-20%,6E6	Ibid.
CS	1E6		-30%,1.7E8	King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
TS			-30%,1.7E8	Filler/Ibid.
EL			-69%,1.7E8	Filler/Ibid.
HD	7E6			No filler/Ibid
EL	2E6	1E7		No filler/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Butadiene styrene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS			+3%,5E7	G/Makhlis, F.A., Rad. Phys. and Chem. of Polymers, Wiley, 1974,p.240.
TS			+0%,2E8	Ibid.
TS			+1%,5E8	Ibid.
CS		1E7		Rads (C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June, 1970, p. 33.
CS	1.8E6			Kircher, J.F., Effects of Radiation on Materials and Compoents, Reinhold Publ. Co., 1964.
TS			-20%,>1E10	Parkinson,W.W., Nucl. Engr. and Design, Vol.17, 1971,p.252.
EL			-20%,2E8	Ibid.
HD			-20%,2E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Butyl

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))	
TS			-20%,3E7	Parkinson, W.; Nucl. Engr. and Design, 17,1971, p. 272. Rads (C); NASA SP-8053, June, 1970, p. 33.
TS		7E5	-50%,3E6	King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Effects Information Center Report REIC 21, 1961, and Addendum, 1964.
EL		5E6	-50%,7E6	Ibid.
EL		4E7		Ibid.
TS		2E7		Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Butyl

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
TS	>7E6	2.3E7	-50%,4.2E7	Goetzel, C. G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 335.
EL	>7E6	+5.5E7		Ibid.
TS	<3E6	1E7	-50%,2E7	G/Makhlis, F. A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 240.
TS			-75%,3.2E7	Ibid.
TS			-100%,5E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Butyl

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
TS	1E6	2E6	-50%,7E6	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 80.
TS			-60%,1E7	Ibid.
TS			-75%,2.5E7	Ibid.
TS			-90%,4.5E7	Ibid.
EL	1E6	3E7	-10%,4E6	Ibid.
EL			-20%,2E7	Ibid.
EL			-20%,5E7	Ibid.
EL			-10%,6E7	Ibid.
HD	1E6	5E7	-10%,1E7	Durometer Hardness/ Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 80.
HD			-35%,6E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Butyl

Property	Radiation Data: LTD (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (CDR (rads/hr))	Other Information*
TS	2E7	1.2E8		Neutrons, k = 4E-9/ Sisman, O., ASTM Symp. on Radiation Effects on Materials, - Vol. 1, 1956, p. 124.
CS		4E6		Rads(C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June, 1970, p. 33.
EL			-50%, 1E8	In Air/Bopp, C.D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, July, 1955, p. 28.

Material: Butyl, GR-5

EL			-50%, 1E8	In Air/Bopp, C.D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, July, 1955, p. 28.

Material: Butyl, GR-150

TS			-20%, 4E7	Parkinson, W.W., Nucl. Engr. and Design, Vol. 17, 1971, p. 272.
EL			-20%, 5E7	Ibid.
CS			-20%, 1E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon, fluorinated ethylene propylene Teflon FEP

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
TS	1E6		-50%,1E8	(C)/Vacuum/Kamen, R. E., et al, Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report p. 74-87, Hughes Aircraft Co., April, 1974, p. 6-9.
TS			-60%,8E9	Ibid.
EL	7E6		-13%,1E7	(C)/Vacuum/10 mils thick/Kamen, R. E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report p. 74-87, Hughes Aircraft Co., April, 1974, p. 6-10.
EL			-55%,2E7	Ibid.
EL			-78%,3E7	Ibid.
EL			-91%,4E7	Ibid
EL			-100%,8E7	Ibid.
DE			>15%,1E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon, Teflon - FEP

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS	1E4	2E5	-50%, 2.5E5	Van de Voorde, M.H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 48.
TS			-75%, 3E5	Ibid.
EL	1E4	5E4	-50%, 3E5	Ibid.
EL			-60%, 2E6	Ibid.

Material: Fluorocarbon, Teflon 100 FEP

TS			-5.7%, 2.6E6	E, 2Mev/In Nitrogen, 250°C/Bowers, G.H., and Lovejoy, E.R., Crosslinking of Teflon 100 FEB Fluorcarbon Resin by Radiation, IEEC Product R & D, Vol. 1, June, 1962, p. 90.
TS			+12.5%,6.5E6	Ibid.
TS			+13%, 1.3E7	Ibid.
TS			+78%, 1.3E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon, Kel-F

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
TS	1E6	4.5E7	-10%,1E7	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 81.
TS			-35%,1E8	Ibid.
TS			-50%,3E8	Ibid.
TS			-75%,7E8	Ibid.
EL	3E6	2E7	-12%,1E7	Ibid.
EL			-50%,6E7	Ibid.
EL			-60%,1E8	Ibid.
EL			-75%,3.5E8	Ibid.
EL			-80%,5E8	Ibid.
HD	1E6	+1.5E8	+5%,1E7	Ibid.
HD			+20%,1E8	Ibid.
HD			+30%,2E8	Ibid.
HD			+40%,5E8	Ibid.
Unstated		1.7E7		Baur, J. F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981, p. 13.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon - polytetrafluoroethylene, Teflon TFE

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS			-50%,1E7	(C)Kamen, R.E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April, 1974, p. 6-14.
TS			-60%,8E8	Ibid.
TS	3E4	2E5	-30%,3E5	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering CERN 72-7, May 17, 1972, p. 48.
TS			-50%,5E6	Ibid.
EL	2E4	3E4	-50%,5E4	Ibid.
EL			-75%,2E5	Ibid.
EM	1E6		+2%,8E6	Ibid.
SS	2E5	4E5	-50%,2E6	Ibid.
SS			-51%,8E6	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon, Teflon TFE

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS			-50%,7E7	Bopp, C. D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, Vol. 13, No. 7, July 1955, p. 28.
EL			-50%,3E6	Ibid.
SS			-50%,1E8	Ibid.
IS			-50%,1E8	Ibid.
BR			-98%,3.8E6	In Air/Bouquet, F. L., Summary of the Mechanical Properties of Teflon (PTFE) in Nuclear Radiation, JPL Unpublished Data, July 30, 1975.
BR			-99%,6.6E6	Ibid.
CS		1E6		Rads (C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June, 1970, p. 33.
CS	1E5			American Society for Testing and Materials, "Space Radiation Effects on Materials," ASTM Special Technical Publ.No. 330,1962.Also No. 363,1964;Bouquet, F.L., Price, W.E. and Newell,D.M.,"Designers' Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans.Nucl.Sci. Vol.NS-26,No.4,August, 1979. p. 4660-4669.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon,polytetrafluoroethylene,Teflon

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
TS			-90% ,8E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 256.
EL			-50%,2E5	Ibid.
Unstated	1E4			Baur, J. F., Radiation Damage Limit for Diagnostic Components, General Atomic Corp., July, 1981, p. 7.
Unstated	2E4			G/Bussard, R. W. and DeLauer, R. D., Fund. of Nuclear Flight, McGraw Hill,1965,p. 341.
OC			1E13	E, 3 Mev, Electron Fluence/Bouquet,F.L. and Koprowski, E.F., Jupiter Radiation Effects on Spacecraft Materials, 19th. IEEE Annual Conf. on Nucl. and Space Radiation Effects, Las Vegas,NV, July 21, 1982, p. 3. Surface flaking observed.
TS	2E4	4E4		Rads(C)in Air/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June, 1970, p. 31.
TS	4E5			In Vac./Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon, polytetrafluoroethylene, Teflon TFE

Property	Radiation Data				Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{CD}$ (rads) ($\overline{CDR}$ (rads/hr))		
TS			-37%,1E5		In Air/Makhlis, F.A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 247.
TS			-49%,5E5		Ibid.
TS			-54%,1E6		Ibid.
TS			-56%,5E6		Ibid.
TS			-17%,1E6		In Vac./Ibid.
TS			-34%,5E6		Ibid.
TS			-51%,5.1E7		Ibid.
EL			-8%,1E5		In Air/Ibid.
EL			-78%,5E5		Ibid.
EL			-87%,1E6		Ibid.
EL			-44%,1E6		In Vac./Ibid.
EL			-56%,5E6		Ibid.
EL			-77%,5.1E7		Ibid.
EL			-90%,1.5E8		Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon, polytetrafluoroethylene/Teflon-TFE

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
EL	1.7E4	3.4E4		Rads(C)/Kircher, J. F., Effects of Radiation on Materials and Components, Reinhold Publ. Co., 1964, p. 105.
TS	2.1E4	1.2E5		Rads(C)3400 psi/Ibid, p. 95.
EL	1.5E4	3.4E4		Rads(C)/250%, Ibid, p. 95.
EM	1.8E5	2.3E7		Rads(C)1.0E5 psi/ Ibid, p. 95.
TS	2.3E4	1.3E5	-50%,1E6	Goetzel, C. G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January, 1962, p. 335.
EL	1.7E4	3.7E4	-50%,8.0E4	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon,Tefzel

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
EL		2.5E7	-20%,5E6	E/In Air, Room Temp./ DuPont Tefzel Fluoropolymer Design Handbook, p. 21.
EL			-64%,4.5E7	Ibid.
EL			-85%,1.5E8	Ibid.
EL			-92%,2E8	Ibid.
EL		2E7	-50%,3E7	Gillen, K.T. and Salazar,"Aging of Nuclear Power Plant Safety Cables,"Sandia Laboratories Report No. 78-0344, 1978; "Model for Combined Environment Accelerate Aging Applied to a Neoprene Cabling Jacking Material, SAND 78-0559C,1978.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon,Viton: Supplier:Gummi Maag

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL	1E5 (1E7)	1.6E6 (1E7)	-69%,4.1E7 (1E7)	G/In Air/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 209.
EL			-95%,8.0E7 (1E7)	Ibid.
EL			-99%,1.0E8 (1E7)	Ibid.
TS		+3.5E7	+28%,3.9E7 (1E7)	Ibid.
TS			+151%,1.1E8 (1E7)	Ibid.
TS			+37%,5.3E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon, Viton A

Property	Radiation Data			Other Information*
	LTD (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS			-20%, >1E8	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 273
EL			-20%,7E6	Ibid.
TS	4.4E6		-10%,1.7E7	Kircher, J.F.,and Bowman, R.E.,(ed.), Effects of Radiation on Materials and Components, Reinhold Publ.Corp., 1964.
EL			-40%,1.7E7	Ibid.
TS	5E7	+6E7		Goetzel,C.G. and Singletary,J.B., Space Materials Handbook,Lockheed Missiles and Space Corp.,January,1962, p. 335.
EL		5E6	-50%,1E7	Ibid.
EL			+172%,2E6	In Argon/Makhlis, F. A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 245
EL			+63%,5E6	Ibid.
EL			+208%,8.7E5	In Hydraulic Oil/Ibid.
EL			+211%,4.4E6	Ibid.
EL			+117%,1.7E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorocarbon - Viton A

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) ($\pm$CDR ($\frac{rads}{hr}$))	
TS	5E6		+5%,5E7	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 82.
TS			+2%,1E8	Ibid.
TS			-10%,3E8	Ibid.
TS			-20%,6E8	Ibid.
EL	5E6	2.2E7	-10%,1E7	Ibid.
EL			-20%,1.8E7	Ibid.
EL			-40%,3.5E7	Ibid.
EL			-50%,5E7	Ibid.
EL			-75%,1.5E8	Ibid.
EL			-80%,3E8	Ibid.
HD	5E6	+6E8	+5%,1E7	Ibid.
HD			+15%,1E8	Ibid.
HD			+20%,3E8	Ibid.
OC	>1E13			E, 3 Mev, Electron Fluence/ In Air/Bouquet, F. L., and Koprowski, E. F., Jupiter Radiation Effects on Space-craft Materials, 19th IEEE Annual Conf. on Nucl. and Space Radiation Effects, Las Vegas, VN, July 21, 1982, p. 3.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluoropolymer,Halar: Supplier; Allied Chemical

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
EL	1E7 (1E7)	1.5E7 (1E7)	-63%,4.7E7 (1E7)	G/In Air/E-CTFE, Allied Chemical/ Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 73.
EL			-65%,1.2E8 (1E7)	Ibid.
EL			-73%,1.9E8 (1E7)	Ibid.
EL			-95%,5.4E8 (1E7)	Ibid.
HD	2E7 (1E7)		-15%,7.9E7 (1E7)	Ibid.
HD			-17%,5.3E8 (1E7)	Ibid.
TS	1E7 (1E7)	1.5E7 (1E7)	-46%,2.7E7 (1E7)	Ibid.
TS			-60%,5.5E7 (1E7)	Ibid.
TS			-59%,1.7E8 (1E7)	Ibid.
TS			-57%,5.4E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Fluorosilicone

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))	Other Information*
TS	1E6	1.8E6	-50%,5E6	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p.81.
TS			-75%,3E7	Ibid.
TS			-80%,8E7	Ibid.
EL	1E6	4E6	-45%,1E7	Ibid.
EL			-75%,4E7	Ibid.
EL			-90%,7E7	Ibid.
HD	1E6	+3E7	+5%,4E6	Durometer Hardness/Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 81.
HD			+10%,1E7	Ibid.
HD			+50%,7E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Nitrile elastomer Buna N

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{\text{rads}}{\text{hr}}$))	25CD (rads) (25CDR ($\frac{\text{rads}}{\text{hr}}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{\text{rads}}{\text{hr}}$))	
TS	3E7	7E8	+10%, 6E7	Van de Voorde, M.H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, European Organization for Nuclear Research, CERN 72-7, May 17, 1972, p. 84.
TS			+20%, 1E8	Ibid.
TS			+45%, 3.5E8	Ibid.
TS			+10%, 5E8	Ibid.
TS			-20%, 6E8	Ibid.
EL	3E6	2E7	-30%, 3E7	Ibid.
EL			-50%, 6E7	Ibid.
EL			-60%, 1E8	Ibid.
EL			-75%, 2E8	Ibid.
EL			-85%, 3E8	Ibid.
SB	3E6	2E7	-10%, 1E7	Ibid.
SB			-20%, 1.8E7	Ibid.
SB			-50%, 6E7	Ibid.
SB			-60%, 1E8	Ibid.
SB			-70%, 1.5E8	Ibid.
SB			-75%, 2E8	Ibid.
SB			-80%, 2.5E8	Ibid.
SB			-85%, 3E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Nitrile elastomer Buna N

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
CS	2E6	6E6	-10%, 3E6	Van de Voorde, M. and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, European Organization for Nuclear Research Report No. CERN 72-7, 1972, p. 84.
CS			-20%, 4E6	Ibid.
CS			-30%, 7E6	Ibid.
CS			-40%, 1E7	Ibid.
CS			-50%, 1.5 E7	Ibid.
CS			-75%, 1E8	Ibid.
CS			-85%, 3E9	Ibid.
HD	4E7	+2.5E8	+15%, 1E8	Ibid.
HD			+30%, 3E8	Ibid.
HD			+40%, 1E9	Ibid.
CS		7E6		Rads(C)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June 1970, p. 33.
EL	2E6		-50%, 7E7	Ibid.
Unstated		4E6		Baur, J.F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July 1981, p. 13.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Nitrile, Hycar OR-15

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{_}$CD (rads) ($\overline{_}$CDR ($\frac{rads}{hr}$))	
TS	3E7	+1.6E8	+50%,3.5E8	Goetzel, C. G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962.
EL	2.3E6	1.6E7	-50%,6.4E7	Ibid.
CS	1.5E6	7E6	-50%,1.7E7	Ibid.
TS			-20%,7E8	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 272
EL			-20%,1E7	Ibid.
HD			-20%, 1E10	Ibid.
CS			-20%,1E7	Ibid.
EL			-50%,1E8	In Helium/Bopp, C. D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, Vol. 13, No. 3, July 1955, p. 28.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Nitrile rubber, NBR

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))	Other Information*
CS	1E6			King, R.W., et al, The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials, Battelle Memorial Institute Radiation Radiation Effects Information Center Report REIC 21, 1961, and Addendum 1964.
Material: Polyacrylate				
HD	1E7	+2E8	+12%,1E8	Van de Voorde and Restat,C.,Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p.79.
			+50%,1E9	Ibid.
SB	1E6			King,R.W., REIC 21, 1961 and Addendum, 1964
Material: Polyacrylate ACM				
SB	1E6	3E6		Bolt, R.O. and Carroll, J.G., Radiation Effects on Organic Materials, Academic Press, 1963.
CS	1.5E6	1E7		Ibid.
TS	4.E6			Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polyacrylic

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS	5E6	5E7	-5%,1E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 79.
TS			-40%,1E8	Ibid.
TS			-50%,1.5E8	Ibid.
TS			-60%,2E8	Ibid.
EL	3E 6	2E7	-50%,4E7	Ibid.
EL			-75%,1E8	Ibid.
EL			-90%,5E8	Ibid.
SB	1.5E6	+3.8E6		Ibid.
SB			+45%,6E6	Ibid.
SB			+40%,1E7	Ibid.
SB		3.2E7	+0%,3E7	Ibid.
SB			-75%,3.5E7	Ibid.
SB			-90%,4E7	Ibid.
CS	3E6	+1E7		Ibid.
CS			+30%,3E7	Ibid.
CS		4.5E7	+5%,3.5E7	Ibid.
CS			-50%,1E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polyacrylic Hycar PA-21

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS			-20%,6E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 272
EL			-20%,2.2E7	Ibid.
CS			-20%,8E6	Ibid.
EL			-50%,1E8	In Air/Bopp, C. D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, July, 1955, p. 28.

Material: Polybutadiene

TS			-20%,8E8	Parkinson,W.W., Nucl. Engr. and Design, Vol.17,1971,p.272.
EL			-20%,1E8	Ibid.
TS			-30%,1.7E8	Filler/ Kircher,J.F., Effects of Radaiation on Materials and Components,Reinhold,1964.
EL			-69%,1.7E8	Filler/Ibid.
CS	1E6			Ibid.
EL			-50%,1E8	In Helium/Bopp,C.D., and Sisman,O.,Radiation Stability of Plastics and Elastomers,Nucleonics,Vol. 13,No.3,July. 1955.,p. 28.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polybutadiene- cable insulation

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{\ }$CD (rads) ($\overline{\ }$CDR ($\frac{rads}{hr}$))	
TS		1E6	-40%,1E7	Van de Voorde and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, P. 79.
TS			-50%,1.8E7	Ibid.
TS			-60%,2E7	Ibid.
TS			-70%,4E7	Ibid.
TS			-80%,6E7	Ibid.
TS			-90%,8E7	Ibid.
EL		5E5	-45%,3.5E6	Ibid.
EL			-50%,4.5E6	Ibid.
EL			-70%,1.5E7	Ibid.
EL			-80%,2E7	Ibid.
EL			-90%,4E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polychloroprene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
TS		2.5E7 (1.4E3)	-15%,1.1E7 (1.4E3)	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796RV, August 1981, p. 15.
TS			-27%,3E7 (1.4E3)	Ibid.
TS			-45%,5E7 (1.4E3)	Ibid.
EL		1.6E7 (1.4E3)	-20%,1.3E7 (1.4E3)	Ibid.
EL			-55%,3E7 (1.4E3)	Ibid.
EL			-76%,4.2E7 (1.4E3)	Ibid.
EL			+426%,1.9E7	In Air/27°C/Makhlis, F. A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 248.
EL			+405%,1.9E7	In Vac./27°C/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polychloroprene

Property	Radiation Data				Other Information*
	LTD (rads) (LTDR (rads/hr))		25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
TS			2.4E7 (8.4E3)	-9%,7.0E6 (8.4E3)	G/In Air/Gillen,K. T. and Clough,R.L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157,SAND 80-1976 RV, August, 1981,p.16.
TS				-39%,5.3E7 (8.4E3)	Ibid.
TS				-48%,9.7E7 (8.4E3)	Ibid.
TS				-56%,1.5E8 (8.4E3)	Ibid.
EL			2.5E7 (8.4E3)	-8%,6.2E6 (8.4E3)	Ibid.
EL				-28%,2.6E7 (8.4E3)	Ibid.
EL				-73%,5.0E7 (8.4E3)	Ibid.
EL				-80%,9.7E7 (8.4E3)	Ibid.
EL				-99%,1.5E8 (8.4E3)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polychloroprene

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS		4.5E7 (4.7E4)	-12%,1.7E7 (4.7E4)	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796RV, August 1981, p. 15.
TS			-32%,6.4E7 (4.7E4)	Ibid.
TS			-35%,1.25E8 (4.7E4)	Ibid.
EL		2.3E7 (4.7E4)	-18%,1.7E7 (4.7E4)	Ibid.
EL			-50%,5E7 (4.7E4)	Ibid.
EL			-68%,7.5E7 (4.7E4)	Ibid.
EL			-80%,1E8 (4.7E4)	Ibid.
EL			-90%,1.25E8 (4.7E4)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polychloroprene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) ($\bar{}$CDR ($\frac{rads}{hr}$))	
TS			-4%,9E6 (2.0E5)	G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND 80-1796 RV, August 1981, p. 16.
TS			-7%,2.0E7 (2.0E5)	Ibid.
TS			-7%,4.9E7 (2.0E5)	Ibid.
TS			-7%,1.4E8 (2.0E5)	Ibid.
EL		2.1E7 (2.0E5)	-11%,1.3E7 (2.0E5)	Ibid.
EL			-22%,2.0E7 (2.0E5)	Ibid.
EL			-48%,4.8E7 (2.0E5)	Ibid.
EL			-72%,8.5E7 (2.0E5)	Ibid.
EL			-85%,1.4E8 (2.0E5)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polychloroprene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) (CDR ($\frac{rads}{hr}$))	
TS	1.7E7 (9.1E5)			G/In Air/Gillen, K. T., and Clough, R. L., Occurrence and Implication of Radiation Dose-Rate Effects in Material Aging Studies, NUREG/CR-2157, SAND80-1796RV, August 1981, p. 15.
TS			+1%,6.9E7 (9.1 E5)	Ibid.
TS			+5%,9.5E7 (9.1 E5)	Ibid.
TS			+10%,1.5E8 (9.1 E5)	Ibid.
EL		2.3E7 (9.1 E5)	-12%,1.7E7 (9.1 E5)	Ibid.
EL			-50%,5.2E7 (9.1 E5)	Ibid.
EL			-75%,9.5E7 (9.1 E5)	Ibid.
EL			-86%,1.5E8 (9.1 E5)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polychloroprene,Neoprene; Supplier: Fleten and G.

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (−CDR (rads/hr))	
EL		5E7 (1E7)	-10%,3.8E7 (1E7)	G/In Air/Jacket/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 99.
EL			-44%,7.5E7 (1E7)	Ibid.
EL			-91%,1.4E8 (1E7)	Ibid.
EL			-98%,5.2E8 (1E7)	Ibid.
HD		+3.2E7 (1E7)	+50%,5E7 (1E7)	Ibid.
HD			+95%,1.0E8 (1E7)	Ibid.
TS		2.5E7 (1E7)	-34%,4.5E7 (1E7)	Ibid.
TS			-37%,1.0E8 (1E7)	Ibid.
TS			-12%,2.6E8 (1E7)	Ibid.
TS		+3.5E8 (1E7)	+87%,5.3E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polychloroprene,Neoprene Jacket; Supplier: Pirelli

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL		1.8E7 (1E7)	-48%,3.7E7 (1E7)	G/In Air/Schonbacher, H., and Stolarz-Izycka, A., Compilation of Radiation Damage Test Data, Part I, CERN 79-04, 18 June 1979, p. 99.
EL			-81%,9.3E7 (1E7)	Ibid.
EL			-94%,1.9E8 (1E7)	Ibid.
EL			-97%,5.0E8 (1E7)	Ibid.
HD		+5E7 (1E7)	+31%,3.9E7 (1E7)	Ibid.
HD			+102%,1.0E8 (1E7)	Ibid.
HD			+344%,5.1E8 (1E7)	Ibid.
TS		4E7 (1E7)	-27%,4.5E7 (1E7)	Ibid.
TS		+2.5E8 (1E7)	+4%,1.5E8 (1E7)	Ibid.
TS			+90%,5.2E8 (1E7)	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material Polychloroprene, Neoprene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
TS	1.5E7	6E7	-35%,1E8	Van de Voorde, M. H., and Restat, C., Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7, May 17, 1972, p. 83.
TS			-50%,2E8	Ibid.
TS			-60%,3.5E8	Ibid.
TS			-75%,1E9	Ibid.
EL	4E6	2E7	-20%,1.5E7	Ibid.
EL			-50%,4.5E7	Ibid.
E1			-75%,1E8	Ibid.
E1			-90%,3E8	Ibid.
SB	4E6	2E7	-20%,1.5E7	Ibid.
SB			-50%,4.5E7	Ibid.
SB			-75%,1E8	Ibid.
SB			-90%,3E8	Ibid.
CS	2E6	5E6	-50%,1.3E7	Ibid.
CS			-75%,1E8	Ibid.
CS			-75%,5E8	Ibid.
CS			-80%,1E9	Ibid.
HD	2E7		+5%,1E8	Ibid.
HD			+20%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polychloroprene, Neoprene

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
EL	2.5E14	1.5E15	-50%, 3E15	Fast Neutrons, Fluence/In Air/ Calkins, V.P., Radiation Damage to Non-Metallic Materials, APEX-167, General Electric, August 1954, p. 21.
EL			-88%, 2E16	Ibid.
EL			-75%, 7E15	Ibid.
TS	1E15	3E15	-50%, 1E16	Ibid.
TS			-60%, 2E16	Ibid.
TS			-75%, 1E17	Ibid.
TS			-70%, 3E17	Ibid.
EL			-50%, 6E7	In Air/Bopp, C.D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, July, 1955, p. 28.
CS		4E6		Rads (c)/Nuclear and Space Radiation Effects on Materials, NASA SP-8053, June 1970, p. 33.
Unstated		6E6		Baur, J.F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981, p. 9.

Material: Polychloroprene, Neoprene GN

EL			-50%, 1E8	In Helium/Bopp, C.D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nuclonics, Vol. 13, No., July 1955, p. 28.

***Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.**

CLASS: ELASTOMER

Material: Polychloroprene, Neoprene W

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
TS			-20%,2E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 273
EL			-20%,8E6	Ibid.
HD			-20%, 1E10	Shore hardness/ Ibid.
CS			-20%,9E5	Ibid.
CS			-50%, 8E6	Ibid.
EL			-7%,5E6	Blodgett,R.B.,and Fisher,R. G.,IEEE Trans. on Power Apparatus and Systems,Vol. PSA-88,No.5, 1969,p.529.
EL			-54%,5E7	Ibid.
CS	8.7E7			Aromatic filler/Ibid.
TS	1.1E7	7.3E7	-50%,1.8E8	Goetzel, C. G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 335.
EL	4.5E6	2E7	-50%,4.5E7	Ibid.
CS	2E6	5.5E6	-50%,1.4E7	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Polysulfide, Thiokol

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL			-50%,1E8	In Helium/Bopp, C. D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, Vol. 13, No. 3, July 1955, p. 28.
Unstated		1E6		Baur, J. F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981, p. 13.
Material: Polysulfide, Thiokol ST				
ST			-20%,7E7	Parkinson,W.W., Nucl. Engr. and Design, Vol.17,1971,p.273.
EL			-20%,5E6	Ibid.
CS			-20%,6E5	Ibid.
TS			-50%, 7E7	King,R.W., et al., REIC Report 21,, 1961 and Addendum, 1964.
EL	5E5	4E6	-50%, 8E7	Ibid.
HD	3E5			Ibid.
CS	6E5			Ibid.
EL			-50%,1E8	In Air/Bopp,C.D., and Sisman,O., Radiation Stability of Plastics and Elastomers, Nucleonics, July, 1955mp.28.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Silicone

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CDR}}$ (rads/hr))	
Unstated		4E6		Baur, J.F., Radiation Damage Limit for Diagnostic Components, General Atomic Co. July 1981, p. 13.
CX		4E6		Rads(C)/Nuclear and Space Radiation Effects on Materials, NASA-SP-8053, June 1980, p. 33.
FS			-50%, 8E6	(C)/Kamen, R.E., Radiation Effects on HS-350 Materials, Vol. I, Natural Space Radiation, Report 74-87, Hughes Aircraft Co., April 1974, p. 6-15.
CL			-50%, 8E6	Ibid.
OC	1.2E13			P, 144 Mev, protons-cm^{-2}/ In Air/Parker, R. H., Jupiter's Radiation Belts and their Effects on Spacecraft, JPL Tech. Memo 33-708, October 15, 1974, p. 25.
TS	7E6		-50%, 7E7	Van de Voorde, M.H., and Restat, C., CERN 72-7, May 17, 1972.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Silastic 250

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
EL			-50%, 1E8	In Helium/Bopp, C. D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, Vol. 13, No. 3, July 1955, p. 28.

Material: Silicone, Silastic 7-710

TS	1.3E6	5.3E7	-50%,1.7E8	Goetzel, C. G., and Singletary, J. B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 335.
EL	1.5E6	7.5E6	-50%,1.8E7	Ibid.
CS	1.3E6	4.2E6	-50%,1E7	Ibid.
EL			-50%,6E7	In Air/Bopp, C. D., and Sisman, O., Radiation Stability of Plastics and Elastomers, Nucleonics, July, 1955, p. 28.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Silicone, Silastic 7-710

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	Radiation Data: 25CD (rads) (25CDR (rads/hr))	Radiation Data: ±CD (rads) (±CDR (rads/hr))	Other Information*
TS			-20%,6E7	Parkinson, W. W., Nucl. Engr. and Design, Vol. 17, 1971, p. 273
EL			-20%,9E6	Ibid.
HD			-20%, 1E9	Shore hardness test/ Ibid.
CS			-20%,1E6	Ibid.

Material: Silicone elastomer, dimethyl siloxane

TS	1E6	5E7	+15%,5E6	Van de Voorde,M.H., and Restat,C.,Selection Guide to Organic Materials for Nuclear Engineering, CERN 72-7,May 17,1972,p.86.
TS			+10%,1E7	Ibid.
TS			-10%,3E7	Ibid.
TS			-40%,1E8	Ibid.
TS			-50%,2E8	Ibid.
EL	2E6	7E6	-10%,5E6	Ibid.
EL			-50%,2E7	Ibid.
EL			-75%,3.5E7	Ibid.
EL			-90%,1E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Silicone elastomer, dimethyl siloxane

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\overline{\text{CD}}$ (rads) ($\overline{\text{CD}}$R (rads/hr))	
SB	3E6	1.5E7	-50%,4E7	Van de Voorde,M.H., and Restat,C.,Selection Guide to Organic Materials for Nuclear Engineering,CERN 72-7, May 17,1972,p.86
SB			-75%,1E8	Ibid.
CS	1E6	5E6	-45%,1E7	Ibid.
CS			-75%,3E7	Ibid.
CS			-90%,5E7	Ibid.
HD	1E6	+2E7	+10%,4E6	Ibid.
HD			+20%,1E7	Ibid.
HD			+30%,3E7	Ibid.
HD			+40%,5E7	Ibid
HD			+45%,7E7	Ibid.
HD			+50%,1E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Silicone, SKN-40

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
TS	3E7		-17%,1E8	G/Makhlis, F. A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 240.
TS			-10%,2E8	Ibid.
TS			-5%,3E8	Ibid.
TS			+40%,5E8	Ibid.
TS	<3E6		+10%,1E7	G/Makhlis, F. A., Rad. Phys. and Chem. of Polymers, Wiley, 1975, p. 240.
TS			+20%,1.4E7	Ibid.
TS			+19%,3E7	Ibid.
TS			+10%,5E7	Ibid.
TS			-5%,1E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ELASTOMER

Material: Silicone-UMQ

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
EL			-10%,5E6	Blodgett, R.B., and Fisher, R.G., "Insulations and Jackets for Control and Power Cables in Thermal Reactor Nuclear Generating Stations, IEEE Trans. Power Apparatus and Systems, Vol. PAS-88, No. 5, p. 529, 1969.
EL			-66%,5E7	Ibid.
CS			-31.4%,1E7	Ibid.
TS			-50%,5E7	Ibid.

Material: Vinyl pyridine

CS	2E6			King, R. W., REIC 21, 1961 and Addendum, 1964.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Alkylaromatics, n-nonylbenzene

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
VS		+5.2E8	+3%,1E8	G/In Helium, Radiat. Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O., and Carroll, J.G., Radiat. Effects on Organic Materials, Academic, 1963, p. 354.
VS			+23%, 5E8	Ibid.

Material: Alkylaromatics, di-n-nonylbenzene

VS			+61%,5E8	G/In Helium, Radiat. Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O., and Carroll, J.G., Radiat. Effects on Organic Materials, Academic, 1963, p. 354.

Material: Alkylaromatic, 1, 6, - diphenylhexane

VS			+3.8%,1E8	G/In Helium, Radiat. Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O., and Carroll, J.G., Radiat. Effects on Organic Materials, Academic, 1963, p. 354.
VS			+17%, 5E8	

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Alkylaromatics, 1, 9, - diphenylnonane

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
VS		+5E8	+5.3%,1E8	G/In Helium, Radiat. Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O., and Carroll, J.G., Radiat. Effects on Organic Materials, Academic, 1963, p/ 354.

Material: Alkylaromatic, 1, 10-diphenyldecane

VS			+12.3%,1E8	G/In Helium, Radiat. Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O., and Carroll, J.G., Radiat. Effects on Organic Materials, Academic, 1963, p. 354.
VS			+46%,5E8	Ibid.

Material: Alkylaromatic sec-octyl-n-decylbenzene

VS			+1.3%,1E8	G/In Helium, Radiat. Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O., and Carroll, J.G., Radiat. Effects on Organic Materials, Academic, 1963, p. 354.
VS			+20%,5E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Alkylbiphenyl oils

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS			+8%, 0.8E8	G, In Helium, Irradiation at 75°F, Meas. Temp. 210°F/Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 354.
VS			+64%, 8.3E8	Ibid.
VS			+11%, 0.8E8	G, In Helium, Radiation Temp. 75°F, Meas. Temp. 100°F/ Ibid.
VS			+111%,8.3E8	Ibid.

Material: Alkyl(diphenyl ether) C_{14-16}

VS		+1.1E8	+8%, 8E7	G/In Air, Radiation Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O. and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 361.
VS			+39%, 2.4E8	Ibid.
VS			+195%,8.3E8	Ibid.
VS			+6%, 8E7	G/In Air, Radiation Temp. 75°F, Meas. Temp. 210°F/Ibid.
VS		+2.3E8	+26%, 2.4E8	Ibid.
VS			+108%,8.3E8	Ibid.
VS		+4.5E8	-4%, 8E7	G/In Air, Radiation Temp. 75°Fm Meas. Temp. 400°F/Ibid.
VS			+53%, 8.3E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Material: Aromatic extract oil, general

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	
VS			+83%, 5E8	In Air, 100°F/Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 241.
VS			+47%, 5E8	In Air, 210°F/Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 241.

Material: Aromatic, partially hydrogenated

VS			+22%, 1E9	In Air, 200°F/Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 244.
VS			+20%, 1E9	In Air, 200°F/Ibid.
VS			-18%, 1E9	In Air, 300°F/Ibid.
VS			+15%, 1E9	In Air, 400°F/Ibid.
VS			+13%, 1E9	In Air, 450°F/Ibid.
VS			+11%, 1E9	In Air, 500°F/Ibid.
VS			+6%, 1E9	In Air, 550°F/Ibid.
VS			0%, 1E9	In Air, 600°F/Ibid.
VS			-5%, 1E9	In Air, 625°F/Ibid.
VS			-10%, 1E9	In Air, 650°F/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Bearing lubricant,general

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
OC	>1E13			E, 3 Mev, Electron Fluence/ In Air/Bouquet, F.L., and Koprowdki, E.F., Jupiter Radiation Effects on Space-craft Materials, 19th IEEE Annual Conf. on Nuclear and Space Radiation Effects, Las Vegas, NV, July 21, 1982, p. 3.
VS			+100%, 6E12	E, 20 Mev, Electron Fluence/ In Air/Bouquet, F.L., and Koprowski, E.F., Jupiter Radiation Effects on Space-craft Materials, 19th IEEE Annual Conf. on Nuclear and Space Radiation Effects, Las Vegas, NV, July 21, 1982, p. 3.

Material: Bearing lubricant, synthetic aromatic B

VS			+70%, 1E9	In Air, 100°F/Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 250.
VS			+45%, 1E9	In Inert Atmosphere, 100°F/ Ibid.

Material: Bearing lubricant, synthetic aromatic/polymer

VS			+20%, 1E9	In Air, 100°F/Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 250.
VS			+58%, 1E9	In Inert Atmosphere, 100°F/ Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Complex calcium soap, synthetic

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS		+3.4E8	+30%, 3.5E8	In Air, Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 254. Change in work penetration.
VS			+70%, 5E8	Ibid.
VS			+69%, 7E8	Ibid.
VS			+38%, 1.2E9	Ibid.

Material: Ester, aliphatic, di(2-ethylhexyl)-sebacate

VS		+7.5E8		Baur,J.F., Radiation Damage Limit for Diagnostic Components, General Atomic Co., July, 1981, p. 14.
VS			+8%, 4E7	G/In Air, Radiation Temperature 75°F, Meas. Temp. 210°F/ Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 355.
VS			+20%, 1E8	Ibid.
VS			+530%,7.2E8	N+G/In Vac./Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Ester, aliphatic, di(2-ethylhexyl)sebacate

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS			+11%, 4E7	G/In Air, Radiation Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 355.
VS			+30%, 1E8	Ibid.
VS			+1039%,7.2E8	N+G/In Vacuum/Ibid.

Material: Ester, aromatic, diisooctyl terephthalate

VS			+26%, 8E7	G/In Air, Radiation Temp. 75°F, Meas. Temp. 100°F/ Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic 1963, p. 356.
VS			+382%, 9E8	Ibid.
VS			+15%, 8E7	G/In Air, Radiation Temp. 75°F, Meas. Temp. 210°F/Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 354.
VS			+167%, 9E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Ester, phosphate,diphenyl cresyl

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS			+46%, 1E8	G/In Nitrogen, Radiation Temp. 75°F, Meas. Temp. 100°F/Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 354.

Material: Ester,phosphate,tricresyl

VS			+54%, 1E8	G/In Nitrogen, Radiation Temp. 75°F, Meas. Temp. 100°F/Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 356.

Material: Ester, triisoctyl

VS			+32%, 1E8	G/In Nitrogen Rad. Temp. 75°F, Meas. Temp. 100°F, Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 356.

Material: Ether,alkyd diphenyl

VS			+10%, 5E8	In Air, 100°F/Wills, J.G., Nucl. Power Plant Technology, Wiley, 1967, p. 255.
VS			+70%, 1E9	Ibid.
VS			+120%,1.2E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Ether, Aliphatic, UCON DLB-144E

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	
VS		+1.8E8	+8%, 1E8	G/In Helium, Radiation Temp. 75°F/ Meas. Temp. 210°F/ Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 359.
VS			+160%, 5E8	Ibid.
VS		+1.2E8	+20%, 1E8	Meas. Temp. 100°F/Ibid.
VS			+293%, 5E8	Ibid.

Material: Ether, bis(p-phenoxyphenyl)

VS		+1.2E9	+3%, 1.1E8	E/In Nitrogen, 300°F/ Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 360.
VS			+12%, 5.5E8	Ibid.
VS			+23%, 1.1E9	Ibid.
VS			+57%, 2.8E9	Ibid.
VS			+116%,5.5E9	Ibid
VS		+1.5E9	+2.5%,1.1E8	E/400°F/Ibid.
VS			+12%,5.5E8	Ibid.
VS			+19%,1.1E9	Ibid.
VS			+79%,5.5E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Ether, bis(p-(p-tert-butylphenoxy)-phenyl))

Property	Radiation Data LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\bar{C}D$ (rads) ($\bar{C}DR$ ($\frac{rads}{hr}$))	Other Information*
VS		+2E8	+6%, 1.1E8	E/In Nitrogen, 210°F/ Bolt, R.O. and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 360.
VS			+31%,5.5E8	Ibid.
VS			+50%,1.1E9	Ibid.
VS			+202%,2.8E9	Ibid.
VS			+980%,5.5E9	Ibid.
VS		+1.6E9	+3%, 1.1E8	E/In Nitrogen, 400°F/ Ibid.
VS			+13%,5.5E8	Ibid.
VS			+18%,1.1E9	Ibid.
VS			+55%,2.8E9	Ibid.
VS			+150%,5.5E9	Ibid.

Material: Ether, perfluorinated, Braycote 3L-38-1

WC			-3.8%, 1E6	G/Luebben, M.G., Results of Radiation Tests on LAC-34 -4554-0200 Grease (Bray Co. 3L-38RP), Lockheed Missiles and Space Co., September 2, 1980, p. 2.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Ether(polyether),general

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS		+3E8		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol, NS-26, No. 4, August 1979, p. 4665.

Material: Ether,polyphenyl

VS			+40%,1.2E9	E, 3 Mev, Roentgens/210°F/ Goetzel, C.G., and Singletary, J.B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 446.
VS		+5E9		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4665.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Ether, polyphenyl, 5 ring

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
VS	3E8	+7.6E8	+5%, 4.4E8	In Air, 100°F/Wills, J.G., Nuclear Power Plant Tech., Wiley, 1967, p. 255.
VS			+20%, 7E8	Ibid.
VS			+37%, 1E9	Ibid.
VS			+60%, 1.5E9	Ibid.

Material: Ether, poly(phenyl), p linked

VS	~1E8	+4E8	+120%,1.2E9	E/In Nitrogen, 100°F/ Bolt, R.O., and Carroll, J.G., Radiation Effects on Organic Materials, Academic, 1963, p. 360.
VS			+280%, 2E9	Ibid.
VS			+500%,2.7E9	Ibid.
VS		+2.5E9	+10%,1.2E9	E/In Nitrogen, 600°F/Ibid.
VS			+60%, 5E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Films, dry, general

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS		+5E9		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4465.
Material: Gear lubricant, aromatic disulfide				
VS			+15%, 1E9	In Air, 100°F/Wills, J.G., Nuclear Power Plant Tech., Wiley, 1967, p. 250.
VS			+40%, 1E9	In Inert Atmosphere, 100°F/Ibid.
Material: Gear lubricant, oil/synthetic aromatic, disulfide				
VS			+130%, 1E9	In Air, 100°F/Wills, J.G., Nuclear Power Plant Tech., Wiley, 1967, p. 250.
VS			+70%, 1E9	In Inert Atmosphere, 100°F/ Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Grease, Cal Research 159

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS	>8.2E8			Goetzel, C.G., and Singletary, J.B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 446.

Material: Grease, UKAEA Schedule 1

HD	1E8	+3E8		In Air/Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 251. Change in work penetration, softens.
HD			+35%, 5E8	Grease Softens/Ibid.
HD			+30%, 1E9	Ibid.

Material: Methylene linked aromatic

VS			+30%, 1E9	In Air, 300°F/Wills, J.G., Nuclear Power Plant Tech., Wiley, 1967, p. 244.
VS		+1E9		In Air, 400°F/Ibid.
VS			+15%, 1E9	In Air, 500°F/Ibid.
VS			0%, 1E9	In Air, 570°F/Ibid.
VS			-10%, 1E9	In Air, 600°F/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Phosphates, general

Property	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS		+4E5		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nuclear Sci., Vol. Ns-26, No. 4, August 1979, p. 4665.

Material: Silicone fluid; Dow Corning - 200

VS			-2.4, 1E5	G/Rad. Temp. 24.8°C/ JPL Tests/Eskanas, A., Radiation Effects on Dow Corning 200 and 510 Silicone Fluids, September 20, 1979, p. 4.
VS			+18, 1E6	Rad. Temp. 26.8°C/Ibid.
VS			+1260, 5E6	Rad. Temp. 27.6°C/Ibid.

Material: Silicone fluid; Dow-Corning -510

VS			-3.8%, 1E5	G/Rad. Temp. Unspecified/ JPL Tests/Eskanas, A., Radiation Effects on Dow Corning 200 and 510 Silicone Fluids, September 20, 1979, p. 4.
VS			+16%, 1E6	Rad. Temp. 26.8°C/Ibid.
VS			+962%, 5E6	Rad. Temp. 26.6°C/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Silicone , methyl, general

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS		+1E7		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Fly-Bys and Orbiters, IEEE Trans. Nucl. Scil, Vol. NS-26, No. 4, August 1979, p. 4665.

Material: Silicone fluid, polyphenylmethyl, 35 centistokes fluid

VS	1E8	+5E8		G/Currin, C.G., AIEE Conf. Paper 58-289, Winter General Meeting, New York, February 6, 1958, p. V.

Material: Spindle lubricant, synthetic aromatic A

VS			+45%, 1E9	In Air, 100°F/Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 250.
VS			+25%, 1E9	In Inert Atmos., 100°F/Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: LUBRICANT

Material: Spindle lubricant, synthetic aromatic B

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
VS			+45%, 1E9	In Inert Atmos., 100°F/ Wills, J.G., Nuclear Power Plant Technology, Wiley, 1967, p. 250.
VS			+70%, 1E9	In Air, 100°F/Ibid.

Material: Turbine lubricant, synthetic base Mil-L-7808C

VS	1.5E14			N, Thermal flux neutrons/ cm^2/Goetzel, C.G., and Singletary, J.B., Space Materials Handbook, January 1962, p. 446.
VS	5.3E6			Roentgens/Ibid.
VS			-50%, 6E6	G, Roentgens/Ibid., p. 447.

Material: Versilube G-300

VS	4.5E13			N, Thermal Flux/Goetzel, C.G., and Singletary, J.B., Space Materials Handbook, Lockheed Missiles and Space Corp., January 1962, p. 446. Slight damage but still useable.
VS	1E7			G/Ibid. Slight damage but still useable.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Acrylic,Y966

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
TS	>2.8E10			P, 480 Kev/In Vac./Bouquet, F.L., and Phillips, A., Radiation Test of Materials for Galileo Spacecraft, JPL Report, D380, November 18, 1982, p. 16.
Material:	Acrylonitrile rubber-phenolic,AF-6			
SS		+1.6E8	+16%,0.8E8	G/In Air, 65°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 411.
SS			+30%,2E8	Ibid.
SS			+36%,3.6E8	Ibid.
SS			+28%,5E8	Ibid.
SS			+5%,7E8	Ibid.
SS	8E7		-8%,2.2E8	G/In Air, 260°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 412.
SS			-10%,4E8	Ibid.
SS			-10%,6E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Acrylonitrile rubber-phenolic, Cycleweld A-Z

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
SS	8E7	1.2E8	-40%,1.7E8	G/In Air, 260°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 412.
SS			-49%,2.5E8	Ibid.
SS			-30%,6E8	Ibid.
SS			~0%,9E8	Ibid.

Material: Acrylonitrile rubber-phenolic, Cycleweld A-Z

SS		8.5E8	-13%,1E8	G/In Air, 65°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 411.
SS			-10%,2.2E8	Ibid.
SS			-8%,3E8	Ibid.
SS			-12%,5E8	Ibid.
SS			-34%,1E9	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Epoxy, Araldite

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{\text{rads}}{\text{hr}}$))	25CD (rads) (25CDR ($\frac{\text{rads}}{\text{hr}}$))	$\bar{C}$D (rads) ($\bar{C}$DR ($\frac{\text{rads}}{\text{hr}}$))	
SS	4E7	6E9		Neutrons, k = 4E-9/ Sisman, O., ASTM Sym. on Radiation Effects on Materials, Vol. 1, 1957, p. 124.

Material: Epoxy, EC 1614A/B

TS	>2.8E10			P, 480 Kev/In Vac./Bouquet, F.L., and Phillips, A., Radiation Test of Materials for Galileo Spacecraft, JPL Report, D380, November 18, 1982, p. 15.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Epoxy, Epon VIII

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS		4.6E8	+3%, 7E7	G/In Air, 65°F/Bolt, R.O. and Carroll, J.G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 410.
TS			-1%, 2.5E8	Ibid.
TS			-6%, 1.7E8	Ibid.
TS			-19%, 3.6E8	Ibid.
TS			-28%, 5.5E8	Ibid.
TS			-36%, 7E8	Ibid.
SS		5E8	-20%, 4E8	G/In Air, 65°F/Bolt, R.O. and Carroll, J.G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 411.
SS			-10%, 2.2E8	Ibid.
SS			-35%, 6.9E8	Ibid.
SS	8E7	1.7E8	-27%, 1.8E8	G/In Air, 260°F/Bolt, R.O. and Carroll, J.G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 412.
SS			-50%, 4E8	Ibid.
SS			-60%, 5.8E8	Ibid.
SS			-67%, 9E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Epoxy,Epon 929

Property	Radiation Data				Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))		
SS			+12%,6E7		G/In Air, 100°F/Materials Properties Data Book, Vol. 3, Nonmetallics, Aerojet Nucl. Systems Co., Report 2275, November 30, 1970, p. 605.
SS			+4%,1.2E8		Ibid.
SS			-2%,3.8E8		Ibid.

Material: Epoxy, Epon 934

SS	-1% 3.8E8				G/In Air, 100°F/Material Properties Data Book, Vol. 3, Nonmetallics, Aerojet Nucl. Systm. Co., Report 2275, November 30, 1970, p. 609.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Epoxy, general

Property	Radiation Data LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) (CDR ($\frac{rads}{hr}$))	Other Information*
SS	5E8	1E9		Bouquet, F.L., Price, W.E. and Newell, D.M., Designers Guide to Radiation Effects on Materials, for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4665.

Material: Epoxy,nitrile,Metlbond 402

SS			-11%,6E7	G/In Air, 100°F/Material Properties Data Book, Vol. 3, Nonmetallics, Aerojet Nucl. Systm. Co., Report 2275, November 30, 1970, p. 635.
SS			-24.4%,3.8E8	Ibid.

Material: Epoxy Nylon

SS	3.8E8			G/In Air, 100°F/Material Properties Data Book, Vol. 3, Nonmetallics, Aerojet Nucl. Systm. Co., Report 2275, November 30, 1970, p. 612.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Epoxy-phenolic

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) ($\overline{CD}$R (rads/hr))	
SS			-5%, 2E7	G/In Air, 65°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 411.
SS			-7%, 7E7	Ibid.
SS			-5%,2E8	Ibid.
SS			-5%,6E8	Ibid.
SS			-10%,8.7E8	Ibid.
Material:	Epoxy, phenolic, Aerobond 430			
SS			-11%,1.5E7	G/In Air, 100°F/Material Properties Data Book, Vol. 3, Nonmetallics, Aerojet Nucl. Systm. Co., Report 2275, November 30, 1970, p. 618A.
SS			-7.4%,5.8E7	Ibid.
SS			-14.8%,1.2E8	Ibid.
Material:	Epoxy phenolic, 422			
SS	8E7		+1%,3E8	G/In Air, 260°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963 p. 412.
SS			+2%,6E8	Ibid.
SS			+8%,9E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Epoxy-phenolic,HT-424

Property	Radiation Data: LTD (rads) (LTDR (rads/hr))	Radiation Data: 25CD (rads) (25CDR (rads/hr))	Radiation Data: $\bar{C}D$ (rads) ($\bar{C}DR$ (rads/hr))	Other Information*
SS	6E7		-8%, 1.2E8	G/In Air, 100°F/Material Properties Data Book, Vol. 3, Nonmetallics, Aerojet Nucl. Systm. Co., Report 2275, November 30, 1970, p. 615.

Material: Epoxy, polyamide, Metlbond 406

SS			-86%,5.5E8	Neutron data; K=4E-9/ Broadway, N, AD656926, April 1964, p. D-16.

Material: Epoxy resin, Versamid

WC	>2.8E10			P, 480 kev/In Vac./Bouquet, F.L. and Koprowski, E.F., Radiation Effects on Spacecraft Materials for Jupiter and Near-Earth Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-29, No. 6, December 1982, p. 1631.
WC	>2.8E10			P, 480 kev/In Vac./Bouquet, F.L., and Phillips, A., Radiation Test of Materials for Galileo Spacecraft, JPL Report, D380, November 18, 1982, p. 15.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Vinyl phenolic

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	$\bar{}$CD (rads) ($\bar{}$CDR (rads/hr))	
TS		7.1E8	+2%,8E7	G/In Air, 65°F/Bolt, R. O. and Carroll, J. G., Academic Press, N.Y., 1963, p. 410.
			-2%,2.5E8	Ibid.
			-26%,7.4E8	Ibid.

Material: Vinyl phenolic FM-47

SS		5E8	+3%,0.8E8	G/In Air, 65°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 411.
SS			-4%,2.5E8	Ibid.
SS			-15%,4E8	Ibid.
SS			-40%,6.5E8	Ibid.
SS			-52%,7.6E8	Ibid.

Material: Vinyl phenolic, FM-47

SS	6E7		-14%,3.8E8	G/In Air, 100°F/Material Properties Data Book, Vol. 3, Nonmetallics, Aerojet Nucl. Systm. Co., Report 2275, November 30, 1970, p. 638.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: ADHESIVE

Material: Vinyl phenolic, FM-47 tape

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))	
TS		6.5E8	+3%,1E8	G/In Air, 65°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 410.
TS			-2%,3E8	Ibid.
TS			-31%,7.5E8	Ibid.

Material: Vinyl phenolic, FM-47

SS	8E7		-13%,2.5E8	G/In Air, 260°F/Bolt, R. O. and Carroll, J. G., Radiation Effects on Organic Materials, Academic Press, N.Y., 1963, p. 412.
SS			-15%,3E8	Ibid.
SS			-15%,6E8	
SS			-15%,4E8	Ibid.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Acrylic, general

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (±CDR (rads/hr))	
BR			7.1%,7E7	Rad(C), G/In Air/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 8.

Material: Acrylic, Kemacryl

BR	8E6	1E7		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4666.

Material: Atomicote , chlorinated rubber

OC			>-10%,9.1E7	Rad(C), G/In Air/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 8.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Conformal coating,Solithane 113/300

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	±CD (rads) (±CDR (rads/hr))	Other Information*
EC	>1E13			E, 3 Mev, Electron Fluence/ In Air/Bouquet, F. L., and Koprowski, E. F., Jupiter Radiation Effects on Spacecraft Materials, 19th IEEE Annual Conf. on Nucl. and Space Radiation Effects, Las Vegas, NV, July 21, 1982, p. 3.

Material: Drying oil alkyd coating (enamel)

CX			>-50%,8.7E8	Rad(C), G/In Air/Mayer, R. A., et al, The Effect of Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 4.

Material: Epoxy, general

CX			>-50%,4.4E8	Rad(C), G/In Air/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 5.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Fluorinated vinyl copolymer/ Kel-F 800

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
FS	<4.4E9			Rads(C), G/In Air/Mayer, R.A., REIC Report No. 13, 1960, p. 12. Blistering occurred at 4.4E9 rads.

Material: Furane based Alkalyoy-550

OC	>8.7E8			Rads(C), G/In Air/Concrete Panel Substrate/Mayer, R.A., et. al., The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 6.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Melamine - modified coconut alkyd

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
OC			>-12%,1.7E7	Rad(C), B/In Air/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 5.

Material: Neobon, Neoprene - type resin

CL			>-10%, 7E7	Rad(C), G/In Air/Mayer, R.A., et al., The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 10.

Material: Nitrocellulose

Unstated			>-50%,4.4E8	Rads(C),G/In Air/Concrete Panel Substrate/Mayer, R. A., et. al., The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 2.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Phenolic, Amphesive - 801

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	CD (rads) ($\overline{\text{CDR}}$ ($\frac{rads}{hr}$))	
BR			>-10%,8.7E8	Rads(C), G/In Air/Concrete Panel Substrate/Mayer, R.A., et. al., The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 6.

Material: Phenolic, MIL - R - 3043

HD			>-10%,8.7E8	Rad(C), G/In Air, 250°F/ Mayer, R.A., et. al., The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 6.
BR			>-10%,8E8	Ibid.

Material: Phenolic, Phenoline 3 resin

OC			>-10%,8.7E8	Rads(C), G/In Air/Concrete Panel Substrate/Mayer, R.A., et. al., The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 6.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Polyester

Property	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
OC			>-10%,8.7E8	Rad(C)/In Air/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 5.

Material: Polyethylene

CL			>-10%,9.1E8	Rad(C)/In Air/Free Standing Films/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 11.
EL	9.1E10			Rads(C), G/In Air/Mayer, R. A., REIC Report No. 13, 1960, p. 11. Coatings were darkened by radiation, embrittled.

Material: Polyimide,Kapton(with 2000 angstroms aluminum coating)

AB			+6.5%,5E15	P, protons-cm^2/In Vacuum plus 1 Sun UV/Fogdall, L. B., and Cannaday, S. S., Effects of High Energy Simulated Space Radiation on Polymeric Second-Surface Mirrors, NASA CR-132725, October 1975, p. 15.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Polyvinyl butyral wash primer, MIL-C-8514

Property	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
CL	>7E7			Rad(C), G/In Air/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 7.

Material: Silicone; alkyd, Barrett

FS	>7E8			Rads(C)/Mayer, R. A., REIC Report No. 13, 1960, p. 4.

Material: Silicone, alkyd enamels

CS	< 8.8E8			Rads(C)/In Air/Kircher, J. F. and Bowman, R. E., Effects of Radiation on Materials and Components, Reinhold, N.Y., 1964, p. 143.

Material: Silicone, alkyd coating (enamel)

CS			<-50%, 8.7E8	Rad(C), G/In Air/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 4.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Silicone, alkyd enamel

Property	Radiation Data				Other Information*
	LTD (rads) (LTDR ($\frac{rads}{hr}$))	25CD (rads) (25CDR ($\frac{rads}{hr}$))	$\overline{CD}$ (rads) ($\overline{CDR}$ ($\frac{rads}{hr}$))		
BR		1E9			Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4666.

Material: Silicone, GE 224

WC	>2.8E10			P, 480 Kev/In Vac./Bouquet, F. L., and Phillips, A, Radiation Test of Materials for Galileo Spacecraft, JPL Tech. Memo., D380, November 18, 1982, p. 15.

Material: Silicone, S13G

BR	1E5	1E6		Bouquet, F. L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials For Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4666.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Silicone , S13GLO

Property	Radiation Data LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	Other Information*
BR	1E6	8E6		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4666.

Material: Silicone, Thermatrol 6A-100

BR	1.5E7	8E7		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4666.

Material: Styrene, general

BR		2E8		Bouquet, F.L., Price, W.E., and Newell, D.M., Designer's Guide to Radiation Effects on Materials for Use on Jupiter Fly-Bys and Orbiters, IEEE Trans. Nucl. Sci., Vol. NS-26, No. 4, August 1979, p. 4666.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.

CLASS: COATING

Material: Styrene, Prufcoat

Property	Radiation Data			Other Information*
	LTD (rads) (LTDR (rads/hr))	25CD (rads) (25CDR (rads/hr))	CD (rads) (CDR (rads/hr))	
BR			>-10%,9.6E8	Rad(C)/In Air/Concrete Substrate/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 11.

Material: Styrene, Zerox 110

CL			>-10%,9.6E8	Rad(C)/In Air/Concrete Substrate/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 11.

Material: Vinyl Chloride, Amercoat-23

CL			>-10%,1E9	Rad(C), G/In Air/Mayer, R. A., et al, The Effect of Nuclear Radiation on Protective Coatings, REIC No. 13, July 15, 1960, p. 11.

*Note: Order in which the information appears: Units, if different than rads, particle(s), k factor/Environmental data/Material data/References.