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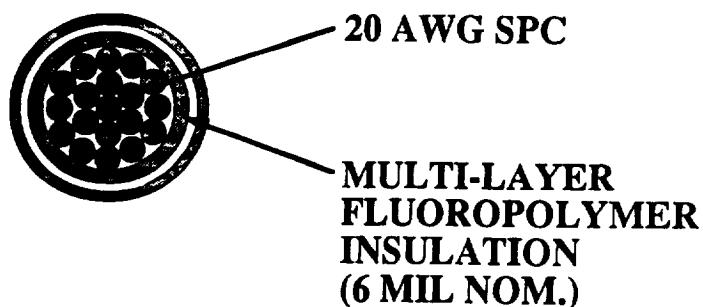
**N94-28710**

## **BACKGROUND**

- **PURPOSE**
- **HYBRID SAMPLES**
- **TESTING**

## **TEST PROGRAM**

**M81381/7 VS. GORE HSCR™**



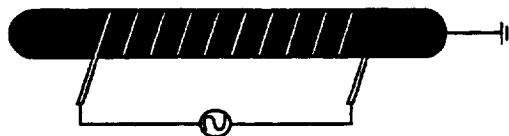
## TESTS PERFORMED

- CORONA INCEPTION & EXTINCTION
- TIME/CURRENT TO SMOKE
- WIRE FUSING TIME
- ABRASION
- FLEX LIFE
- DYNAMIC CUT THROUGH

## CORONA INCEPTION & EXTINCTION VOLTAGES

### -TEST PARAMETERS-

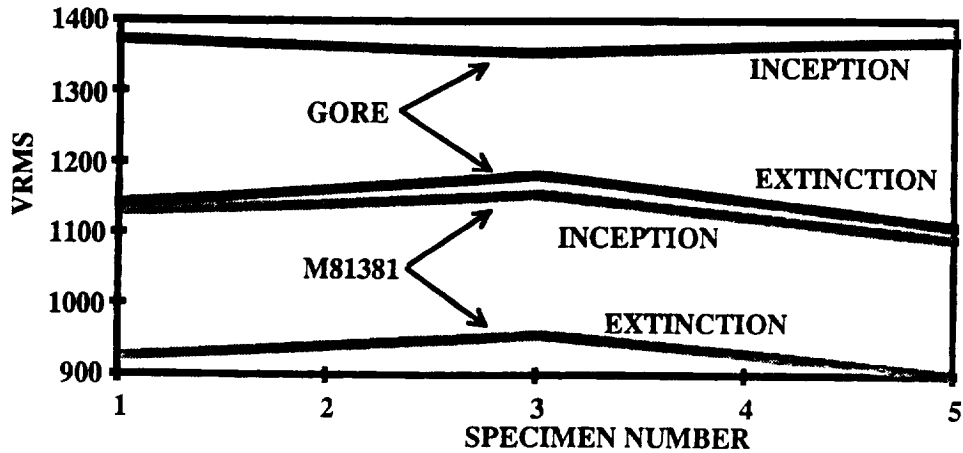
- 10X MANDREL, 10 TURNS
- 400 HZ POWER SUPPLY
- 50 VOLTS/SECOND
- SEA LEVEL, 60,000 FEET



# CORONA INCEPTION & EXTINCTION VOLTAGES

-TEST RESULTS-

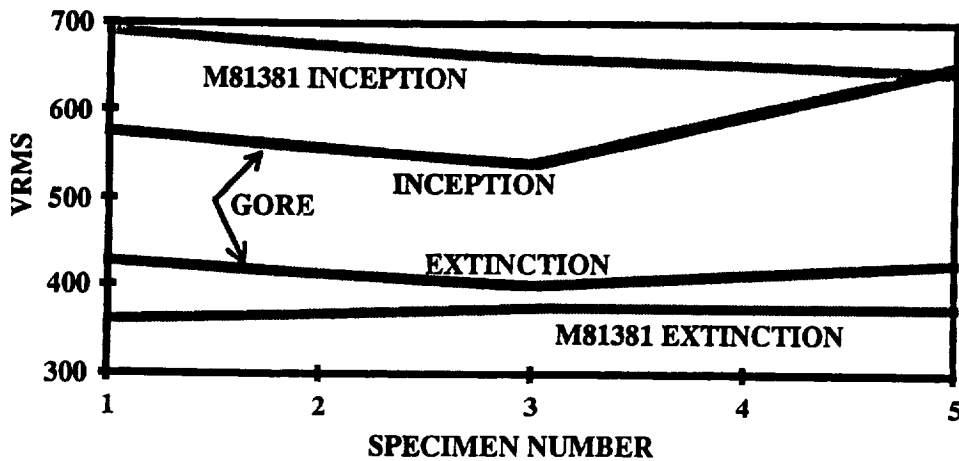
SEA LEVEL



# CORONA INCEPTION & EXTINCTION VOLTAGES

-TEST RESULTS-

ALTITUDE



# TIME/CURRENT TO SMOKE

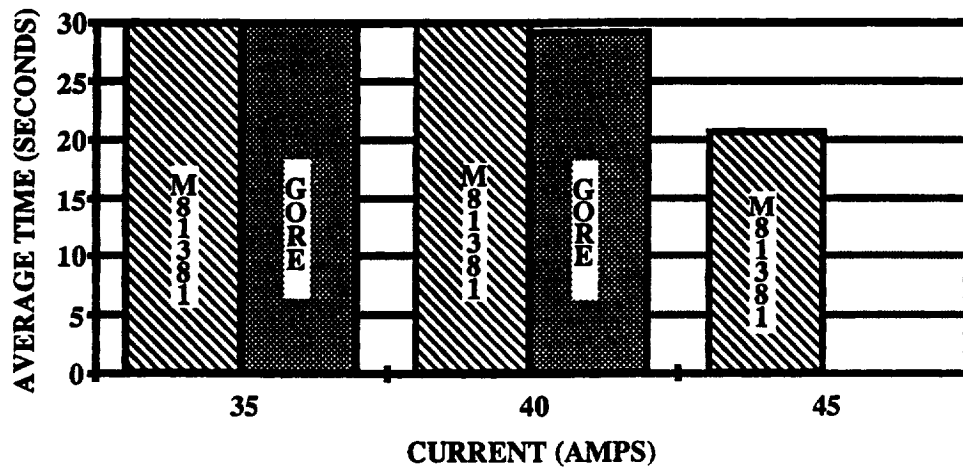
## -TEST PARAMETERS-

- SPECIMEN SUSPENDED HORIZONTALLY
- CONSTANT CURRENT DC POWER
- 5 AMP INCREMENTS
- 30 SECONDS AT AMPERAGE



# TIME/CURRENT TO SMOKE

## -TEST RESULTS-



# WIRE FUSING TIME

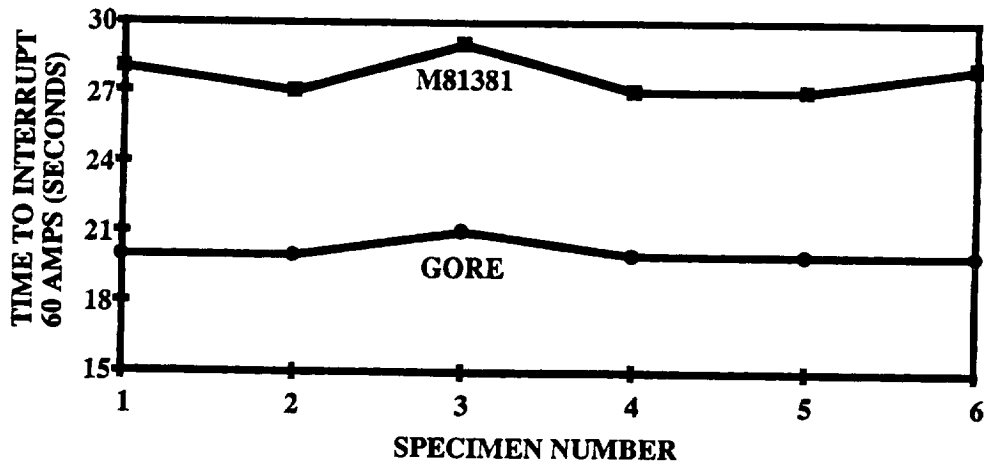
## -TEST PARAMETERS-

- SPECIMEN SUSPENDED HORIZONTALLY
- CONSTANT CURRENT DC POWER
- 2.5 X RATED CURRENT (60 A)



# WIRE FUSING TIME

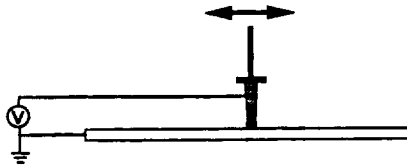
## -TEST RESULTS-



# ABRASION

## -TEST PARAMETERS-

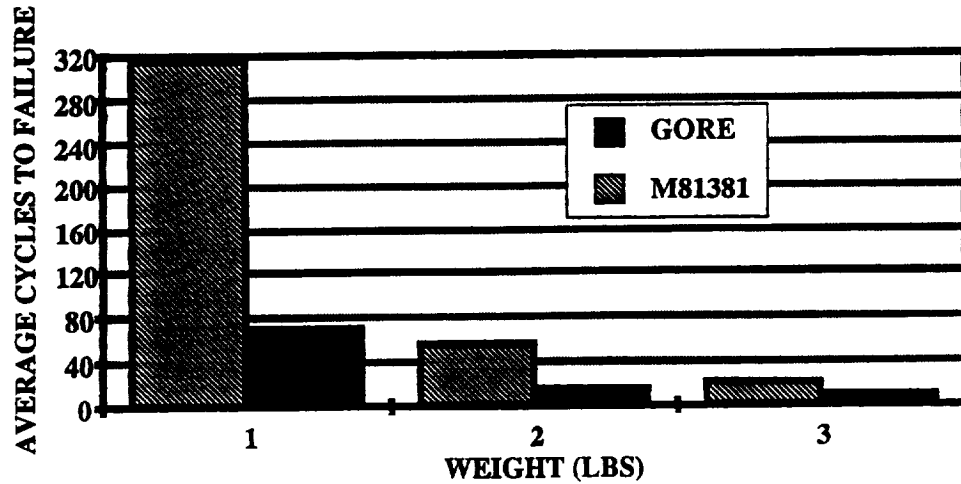
- .020 INCH ROD
- 1 INCH PATH, 60 CYCLES PER MINUTE
- 1, 2, & 3 LB. WEIGHT
- AMBIENT & 150°C



# ABRASION

## -TEST RESULTS-

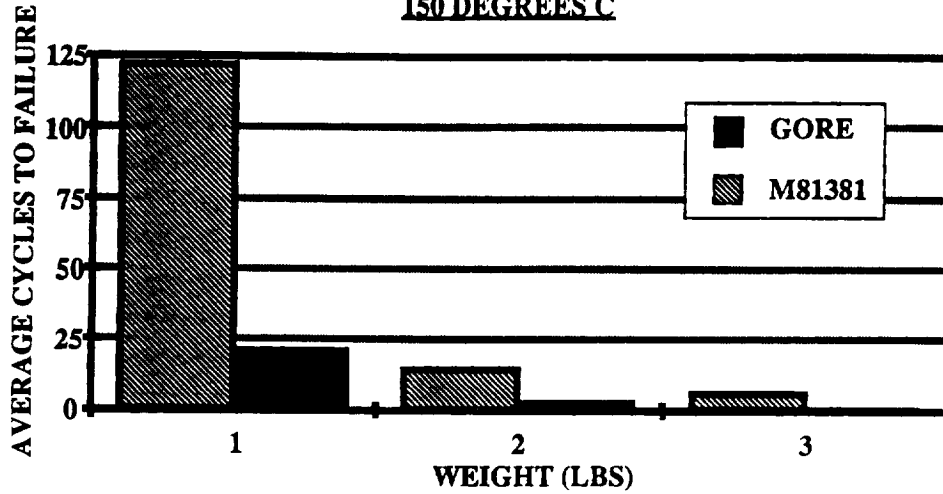
AMBIENT TEMPERATURE



# ABRASION

-TEST RESULTS-

150 DEGREES C



# FLEX LIFE

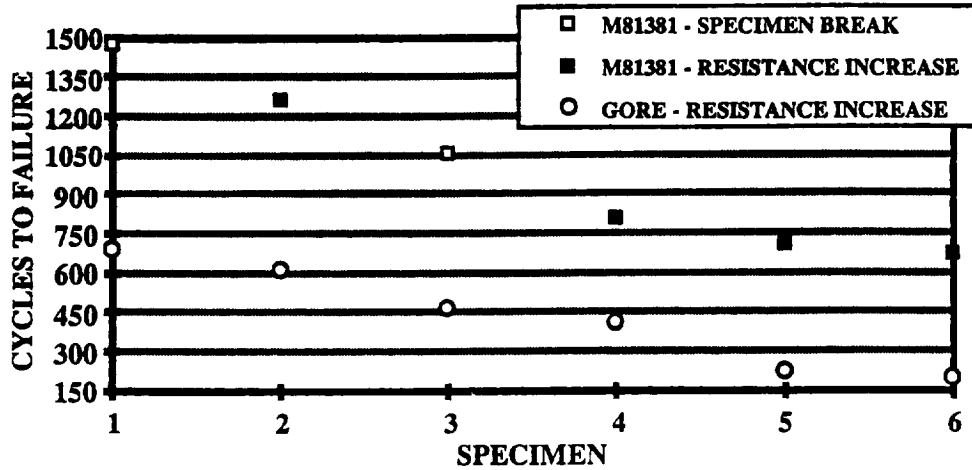
-TEST PARAMETERS-

- 90° FLEX IN EACH DIRECTION
- 30 CYCLES PER MINUTE
- 6X MANDRELS
- 7 LB. WEIGHT



# FLEX LIFE

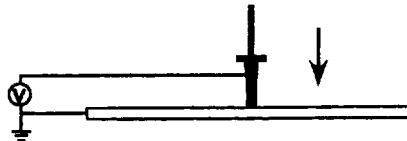
## -TEST RESULTS-



# DYNAMIC CUT-THRU

## -TEST PARAMETERS-

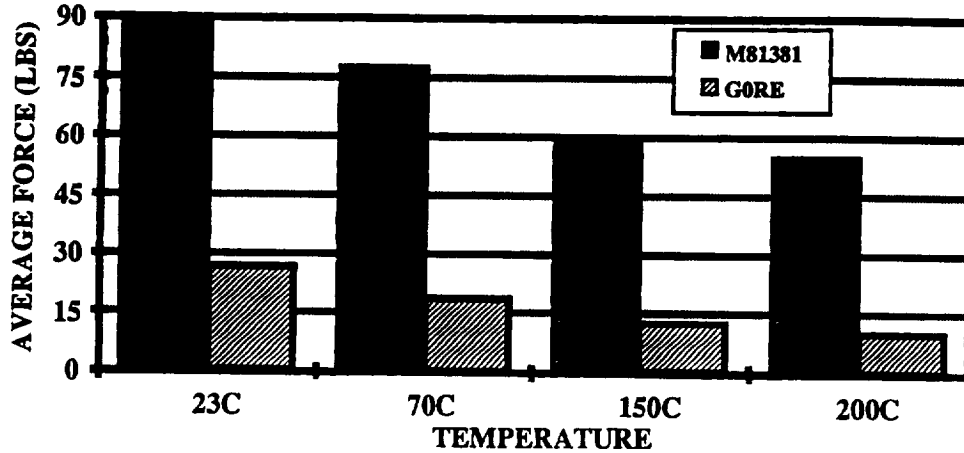
- .020 INCH ROD
- 600 LB. LOAD CELL
- 0.2 INCH/MINUTE
- 23°C, 70°C, 150°C, & 200°C





# DYNAMIC CUT-THRU

## -TEST RESULTS-



## CONCLUSIONS

- **GORE NOT COMPARABLE TO M81381 IN PERFORMANCE AT ELEVATED TEMPERATURES**
- **MECHANICAL PROPERTIES FAIR BUT M81381 SUPERIOR**
- **CORONA, WIRE FUSING TIME EQUIVALENT**

