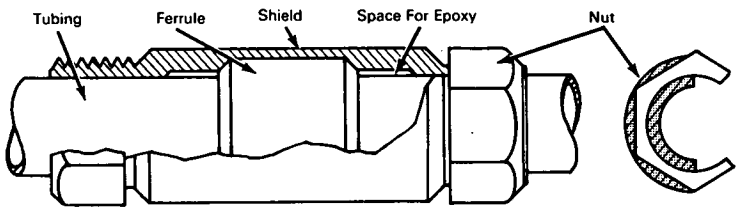
NASA TECH BRIEF

Method for Reinforcing Tubing Joints



The problem:

Resealing or reinforcement of leaking or weak joints in small tubing has frequently required removal of complete conduit systems, particularly where work space about the deficient members is restricted. A method is required that would permit repairs without such time-consuming practices.

The solution:

A joint repair technique that uses a longitudinally split aluminum shield over the joint ferrule and immediately adjacent tubing. An epoxy resin coating on the inside surfaces of the two shield halves provides a tightly sealed bond between shield and tubing.

How it's done:

The shield is threaded on each end with standard pipe threads and is designed with a small space adjacent to each side of the ferrule location to ensure a continuous circumferential epoxy seal. The aluminum shield is halved longitudinally with a slit saw and a generous coating of epoxy resin is applied to the inner surfaces of each half. Nuts to fit the pipe-threaded ends of the shield are sectioned as shown to just slip over the tubing, the shield halves are clamped together over the joint and the nuts attached and drawn up on the shield and threads. For increased strength and clamping action, two such nuts can be applied at each end of the shield. In this case, the nuts should be so sectioned that their open portions lie on opposite sides of the shield.

Note:

Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Manned Spacecraft Center
Houston, Texas 77058
Reference: B68-10115

Patent status:

No patent action is contemplated by NASA.

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(MSC-11108)

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