OVERVIEW

The following discussion has been prepared in response to inquiries about the different types of flooding compounds used in CATV cable. Interest has centered on which compound is appropriate and when flooded cable should be used.

The primary reason to use a flooded cable is for additional corrosion protection. This extra protection is highly desirable in burial applications and also under certain conditions for aerial installations. Currently, TFC uses three types of flooding compounds.

BURIAL FLOODING COMPOUND

Underground Semiflex

For semiflex burial cable, TFC uses a material (flooding compound) with permanent fluid properties which allow it to cold flow underneath the cable jacket. Because of the nature of burial cable installation, jacket damage is always a concern. If the jacket of the cable is damaged, the flooding compound will actually ooze out of the damaged area and provide a seal.

Underground Drop

For drop burial cable, TFC uses a lower molecular weight flooding compound, which is a less viscous material. The lower viscosity allows the flooding compound to flow even more readily within the interstices of the cable's outer braid.

AERIAL FLOODING COMPOUND

Aerial Semiflex

For jacketed aerial applications where additional corrosion protection is required, a flooding compound with limited flow properties is used. A flooding compound with limited flowing properties is necessary to prevent dripping of floodant onto underlying areas.

Aerial Drop

A different flooding compound is needed for flexible drop cable. The limited flow properties of the aerial semiflex flooding compound make connectorization more difficult when using "F" type connectors. A special non-flowing flooding compound was developed which does not flow or drip so that it can be used for aerial applications and is flexible so that connectors can be installed more easily. This non-dripping floodant material is called LifeTime™. The use of LifeTime™ significantly extends not only the life of the flexible drop cable but also extends the life of the drop cable connector junction.

TERMINATION OF FLOODED CABLE

The preparation of a flooded cable for connectorization must be done with some precaution in order to avoid jacket movement. This phenomenon is common to all manufacturers of flooded cable. Because of normal longitudinal stresses that are built into the jacket during the extrusion process, longitudinal shrinkage may occur due to the lubricity of the underlying flooding compound. If unrestrained, the jacket can move several inches leaving the aluminum exposed. To prevent this, TFC recommends securing the jacket with a hose clamp and then installing a heat-shrinkable tube.

REMOVAL OF FLOODING COMPOUND

Semiflex Cable

The installation of the connector on semiflexible cable requires the removal of the flooding compound from the aluminum sheath. TFC has evaluated several removal agents and found that prepackaged cleaner wipes, Scotchcast Brand 4415 manufactured by Telcomm Products Div./3M, worked very well along with HydraSol™ manufactured by American Polywater Corp. The cleaning agent was safe and easy to work with and was not harmful to the cable.

At very cold temperatures other removal materials may be needed because the water based materials freeze.

Drop Cable

In the case of drop cables, removal of flooding compound is not suggested or desired because the floodant enhances the corrosion protection of the connector interface.

ENVIRONMENTAL PERFORMANCE

In addition to required viscosity and flow properties, flooding compounds are chosen for compatibility with the cable materials used and for overall chemical, oxidation and UV resistance. Flooding materials are also compounded for high tackiness to aluminum, polyethylene, and PVC to assure uniform and continuous material protection.