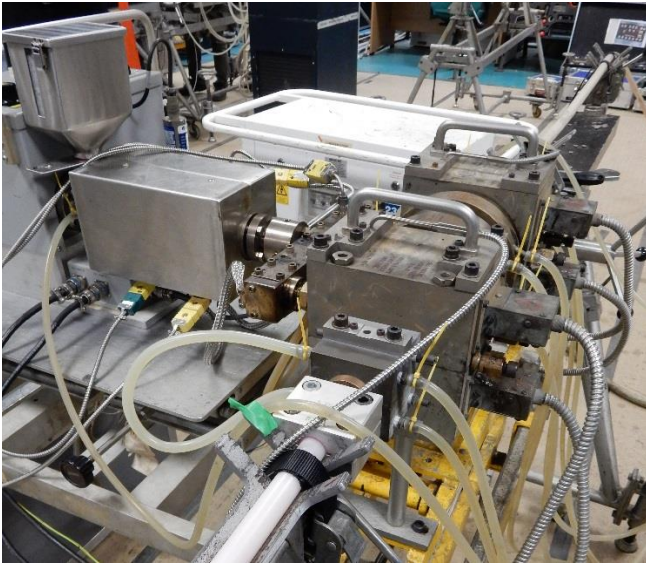


UJ Molding Process

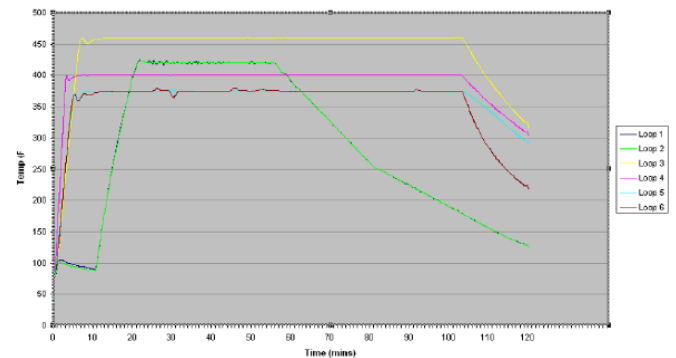
Cables made for transoceanic cable systems are required to withstand the high hydrostatic pressures seen at 8km water depth and the high voltages required to power the many repeaters, which may be up to 15,000 volts.

The optical cable is manufactured with an insulating polymer layer. During the construction of a UJ or UC the assembled body containing the fibers is over-molded with polymer which must withstand the high voltage and water pressure for the remainder of the system life.



Trained and qualified personnel achieve this by injection molding the polymer layer over the

completed joint using an extruder, a mold cavity, a modified water chiller, water manifold and a process controller. The molding process requires the mold cavity and extruder to be heated in a controlled manner. The polymer is injected, held at a set temperature and then cooled in a controlled manner.



Molding Process Thermal Trace Chart

If the cooling is done in an uncontrolled manner the injected polymer will retain stresses which are detrimental to the long life of the product, which may result in the failure of the joint, for example a shunt fault.

The use of the Universal Joint and Coupling are integral to transoceanic systems and therefore are subjected to the same operational conditions as the cable. Consequently they are required to withstand the hydrostatic pressure and high voltage for the system design lifetime which is typically 25 years.

