

# Annealing Plastic Extrudate to Wire and Cable with a Model E4 Quad Ellipse Chamber

## Application

A fiber optic processor extruding multiple layers of various plastics on to a fiber optic cable and steel core.

## Problem

**Poor Quality** - The cable was failing various transmission tests.

**Varying Materials** - Several types of plastic were being used and there were mixed materials within the plastic-fiber optic cables and steel carrier.

**Line Speed** - The manufacturer required line speeds of up to 147 feet (45 meters) per minute.

## Solution

**Heat** - A Model E4-10 Quad Ellipse Chamber was installed to anneal the multi-layer plastic extrudate.

**Power Control** - A Model 664F Phase Angle SCR Power Controller controlled the power to the Quad Ellipse Chamber.

## Benefits

**Improved Quality** - By annealing the plastic extrudate on to the wire and cable, the manufacture was able to consistently produce cables that passed all transmission tests.

**Power Control** - By varying the power supplied to the Quad Ellipse Chamber with the SCR Power Controller, the manufacturer was able to anneal the different materials used to manufacture the cable with a single heat source.

**Line Speed** - Required line speeds of 147 feet (45 meters) per minute were maintained.