

# EFFECTS OF TEMPERATURE AND BENDING STRESS AND TENSILE AND SHEAR STRESS

## High Temperature Effects

Effects of high temperature on breaking strength/yield strength are shown in Figure 2.

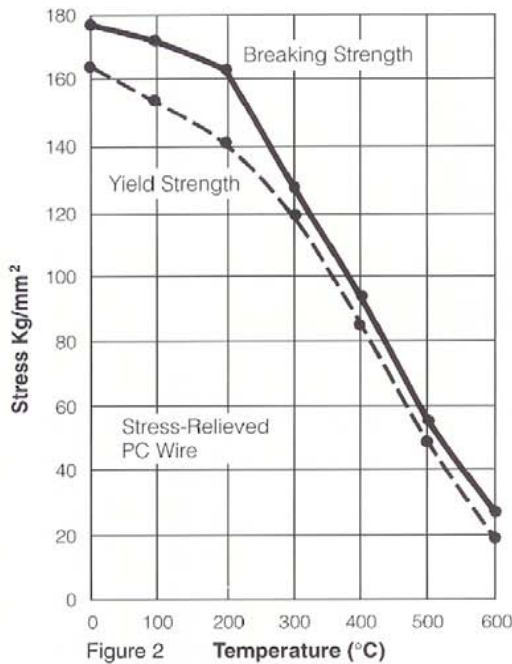


Figure 2

## Effects of Bending Stress

When bending stresses by bend-up or bend-down rollers are introduced into tensioning of strand, the following must be adhered to:

The diameter of rollers should be more than five times the diameter of strand. (Figure 4)

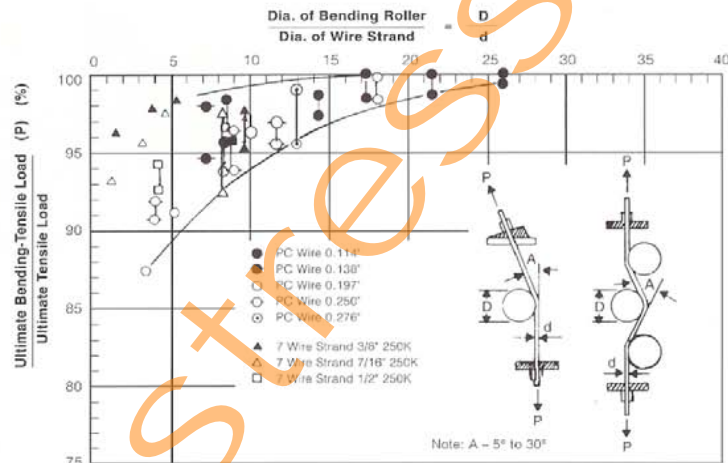


Figure 4

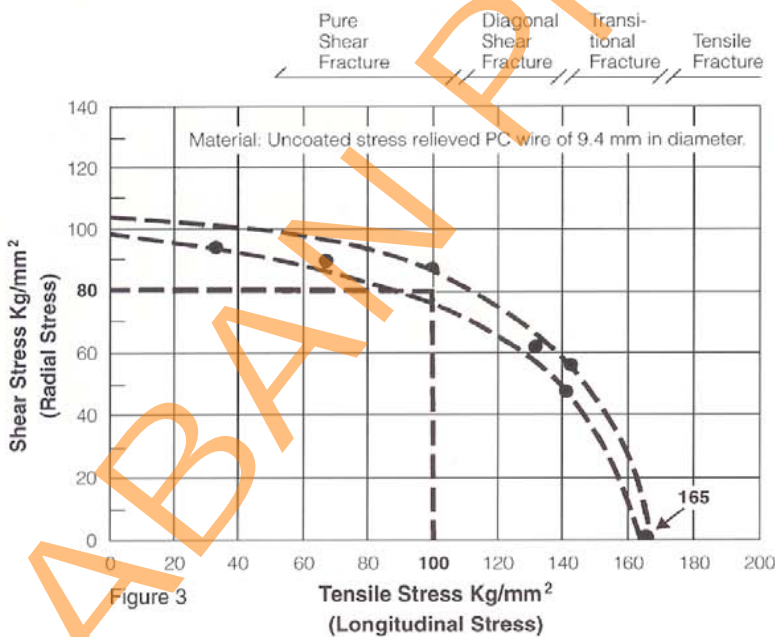


Figure 3

Breaking conditions when both tensile stress and shear stress are applied to PC tensioning material.

For example, PC wire with ultimate tensile strength of 165 Kg/mm<sup>2</sup> breaks at tensile strength of 100 Kg/mm<sup>2</sup> when shear stress of 80 Kg/mm<sup>2</sup> is applied at the same time. (Figure 3)