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.

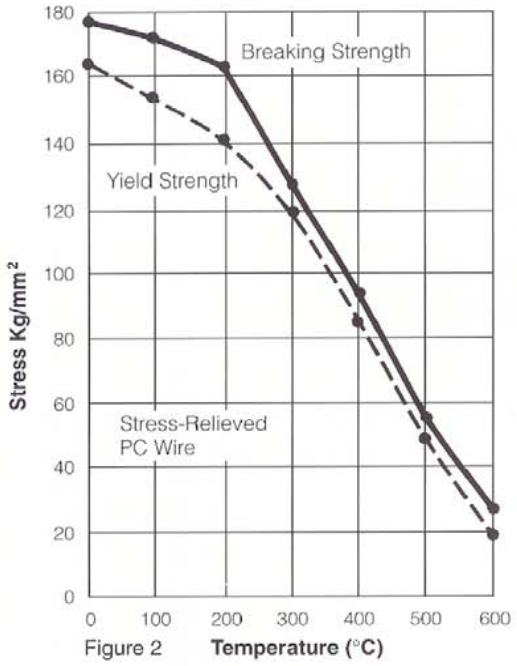

Figure 2

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)

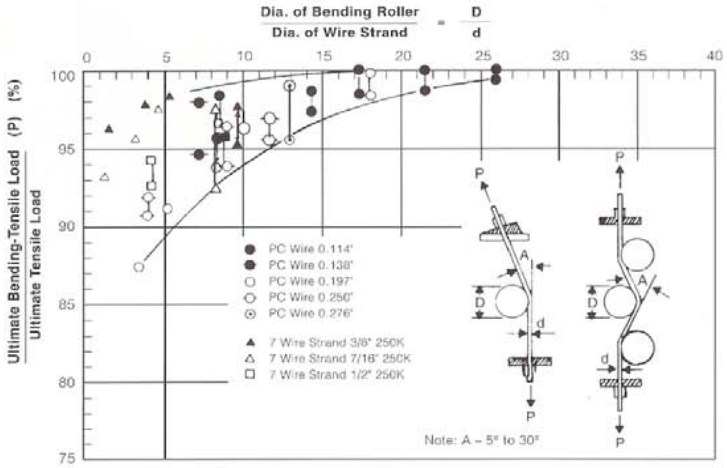

Figure 4

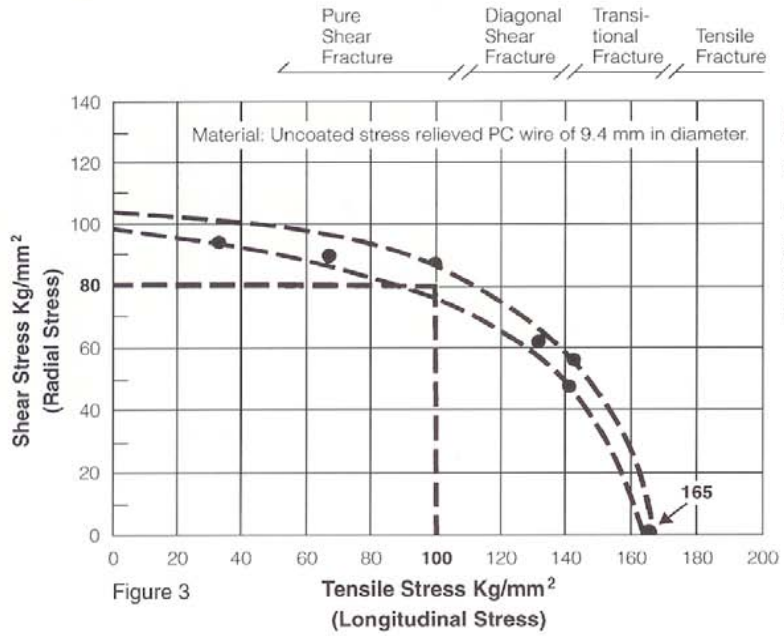

Figure 3

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/mm² breaks at tensile strength of 100 Kg/mm² when shear stress of 80 Kg/mm² is applied at the same time. (Figure 3)

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