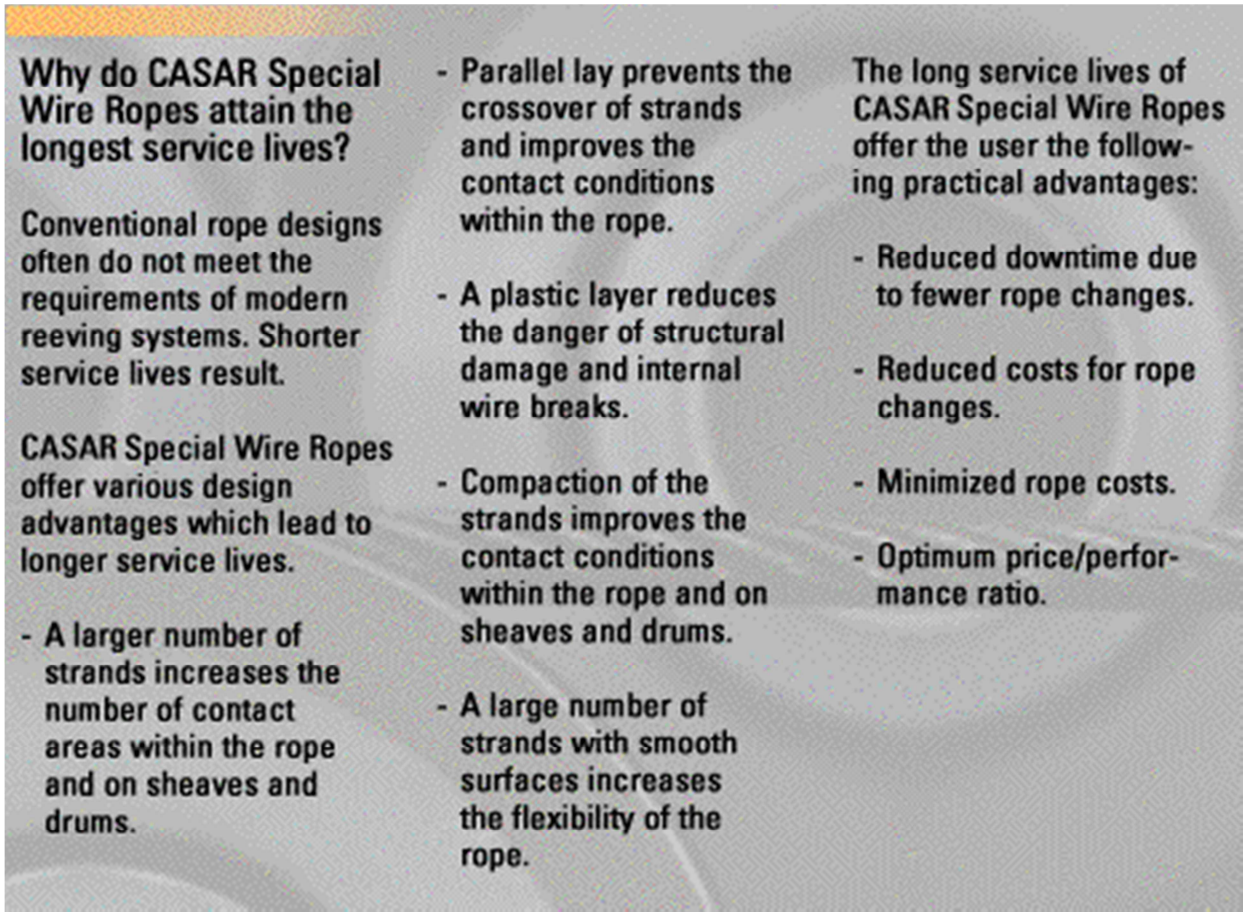
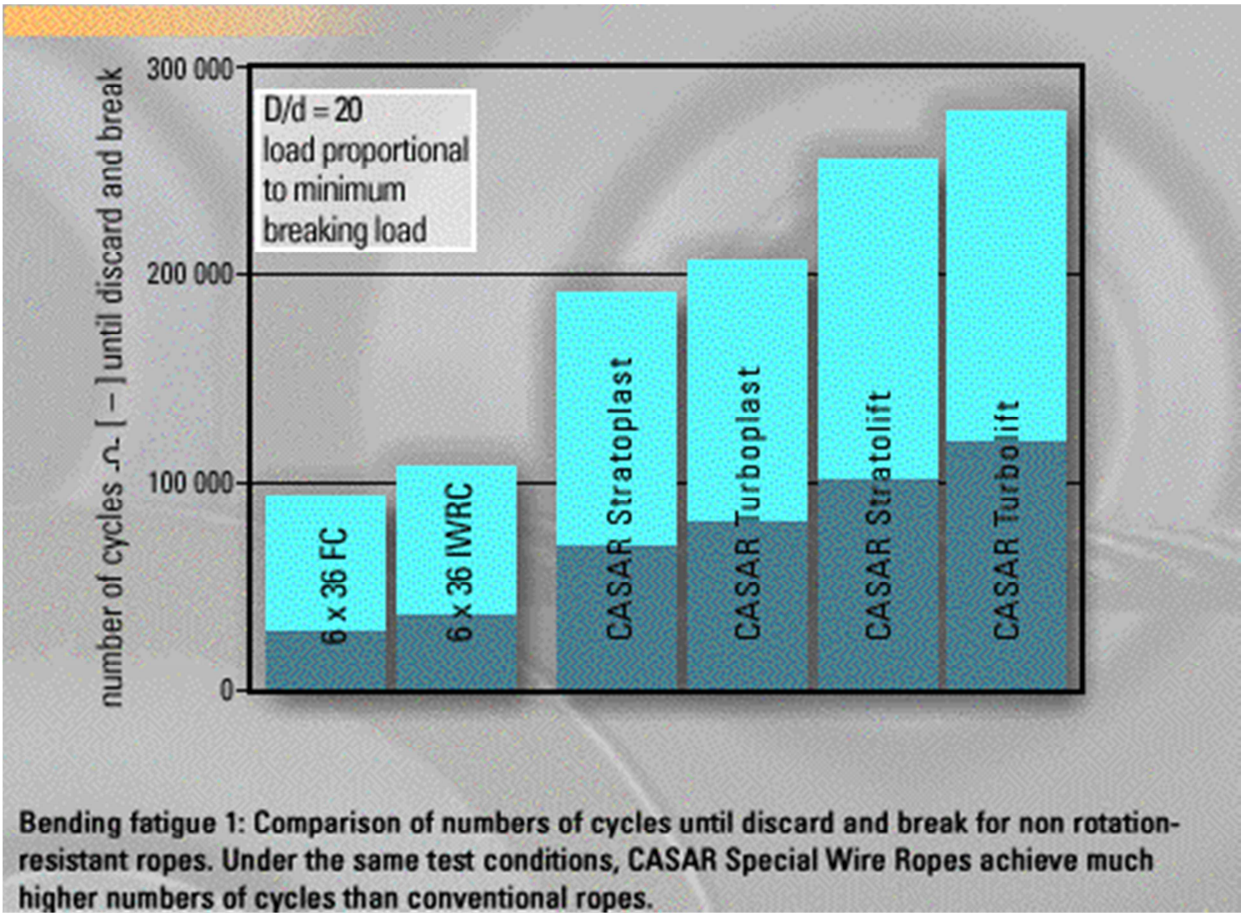
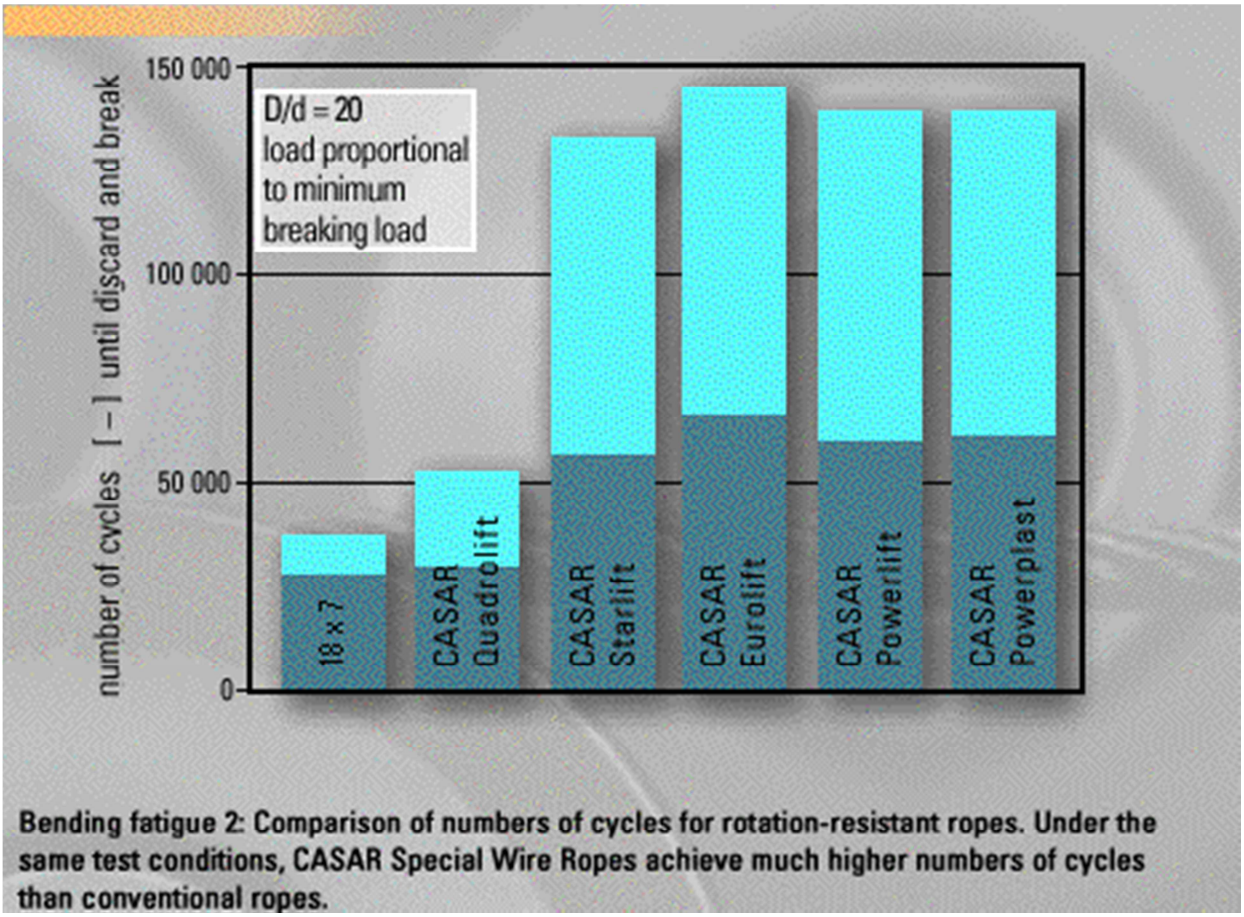
# Bending Fatigue

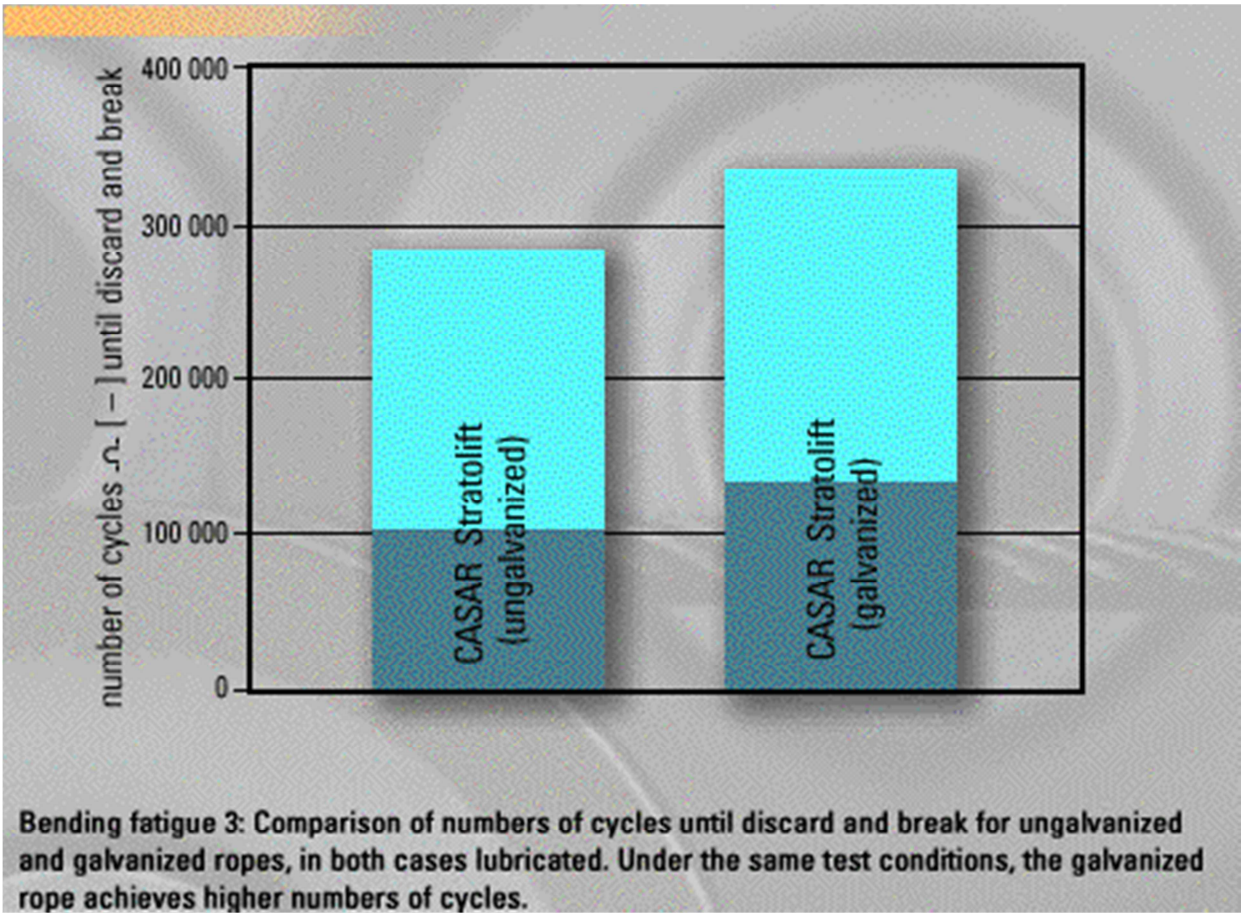




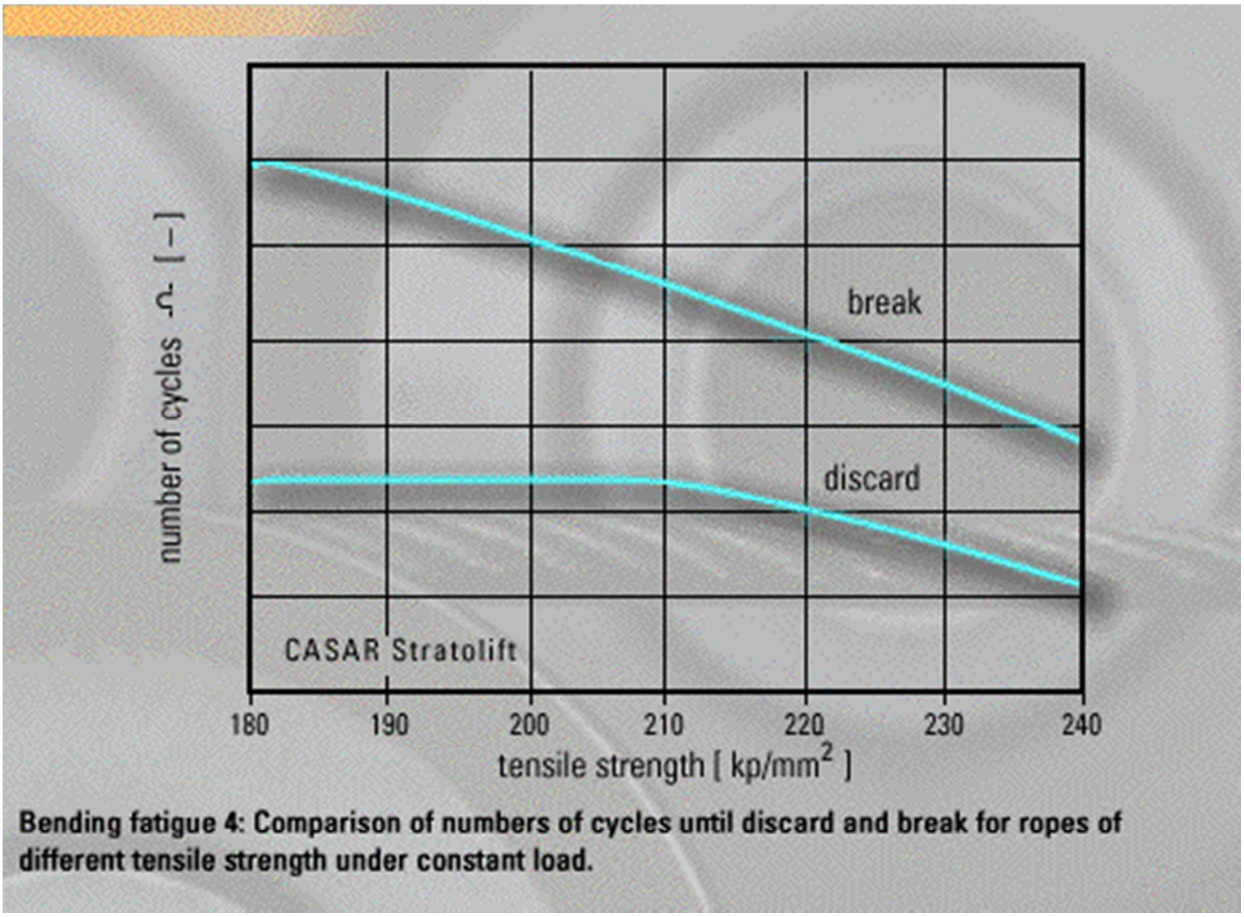

**Bending fatigue 1: Comparison of numbers of cycles until discard and break for non rotation-resistant ropes. Under the same test conditions, CASAR Special Wire Ropes achieve much higher numbers of cycles than conventional ropes.**



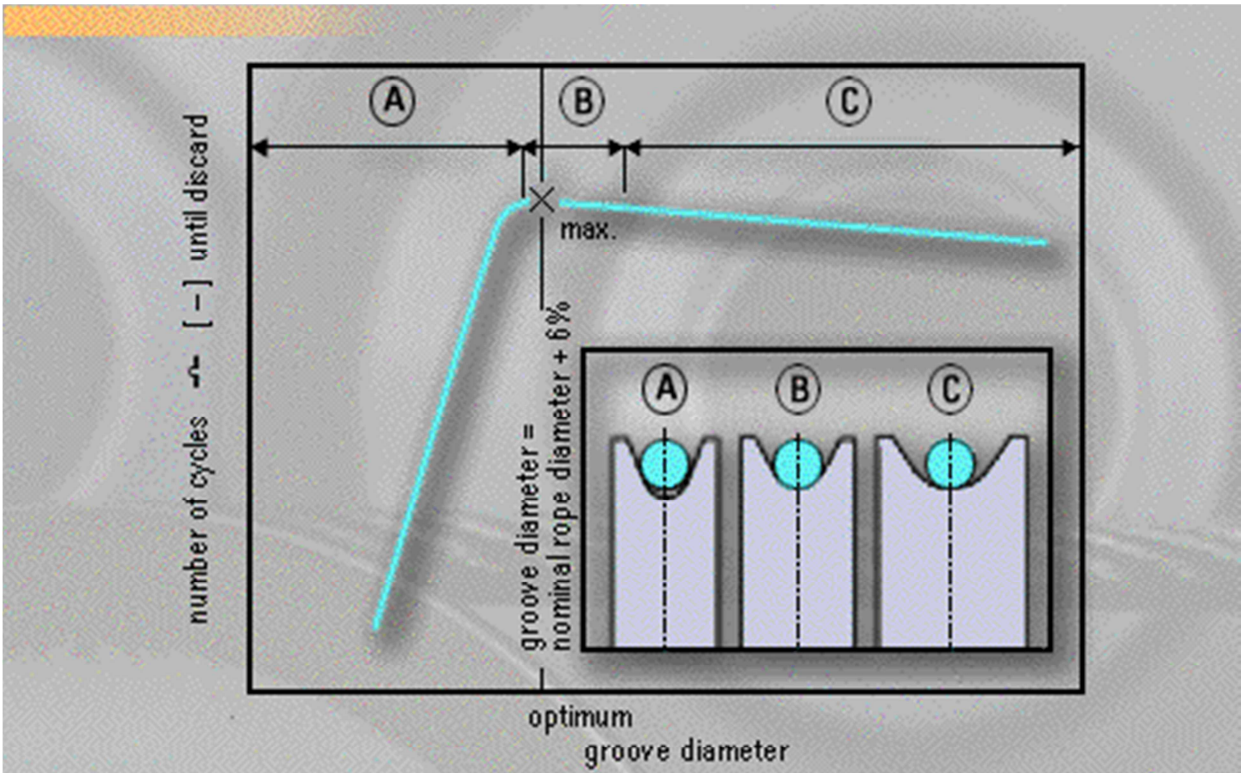

**Bending fatigue 2: Comparison of numbers of cycles for rotation-resistant ropes. Under the same test conditions, CASAR Special Wire Ropes achieve much higher numbers of cycles than conventional ropes.**



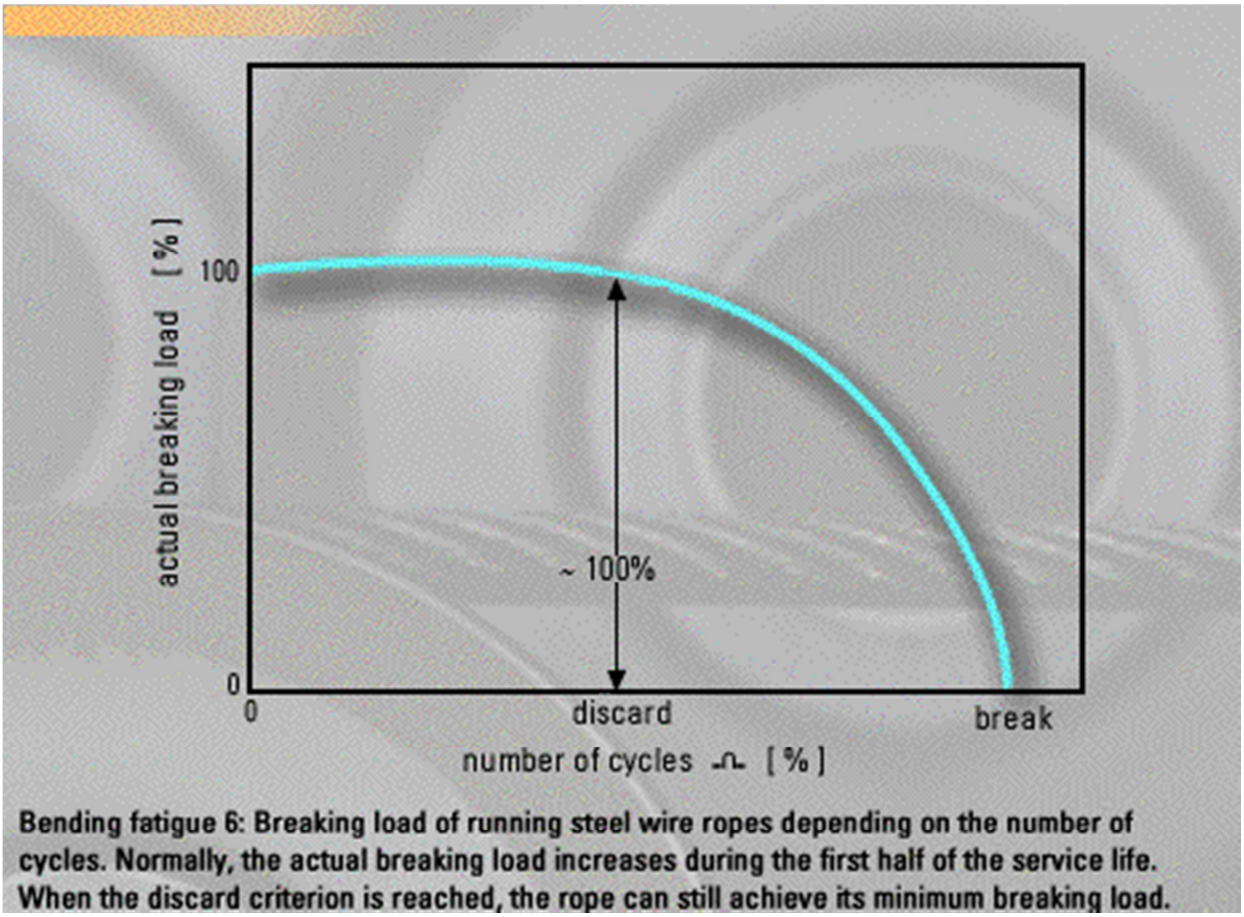

**Bending fatigue 3: Comparison of numbers of cycles until discard and break for ungalvanized and galvanized ropes, in both cases lubricated. Under the same test conditions, the galvanized rope achieves higher numbers of cycles.**



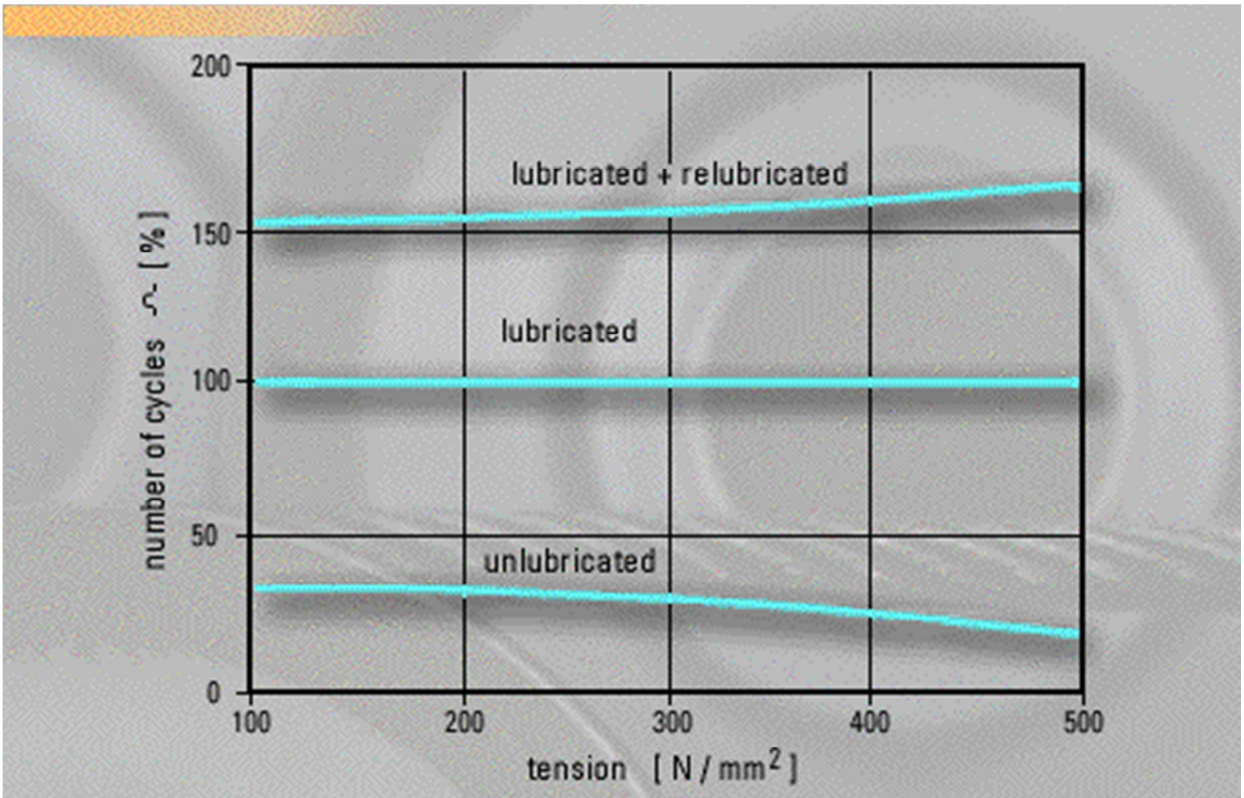

**Bending fatigue 4: Comparison of numbers of cycles until discard and break for ropes of different tensile strength under constant load.**



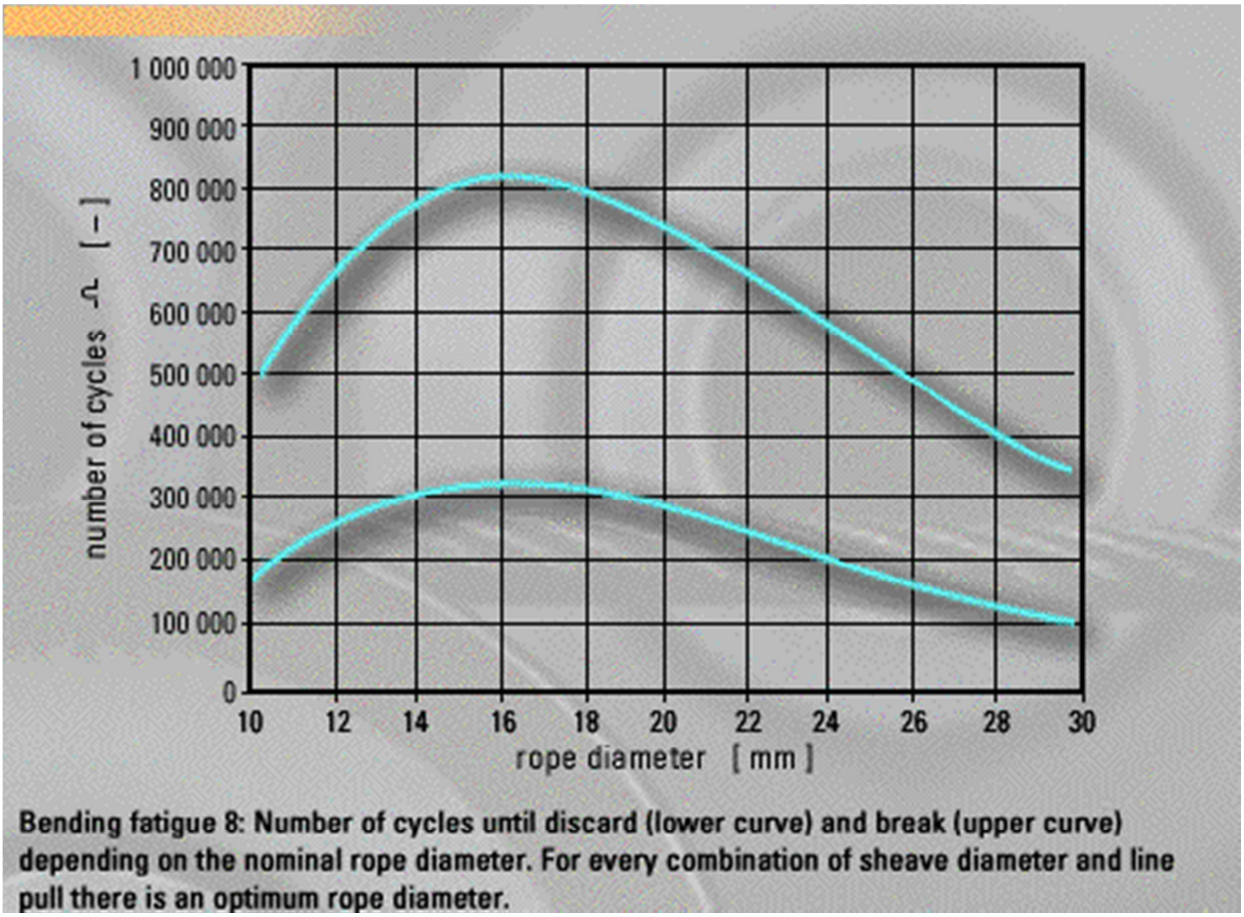

**Bending fatigue 5: Rope life as a function of the groove diameter of the sheaves. The optimal groove diameter is nominal rope diameter plus 6% (B). For larger groove diameters, the service life decreases steadily (C), for smaller groove diameters it decreases rapidly (A).**



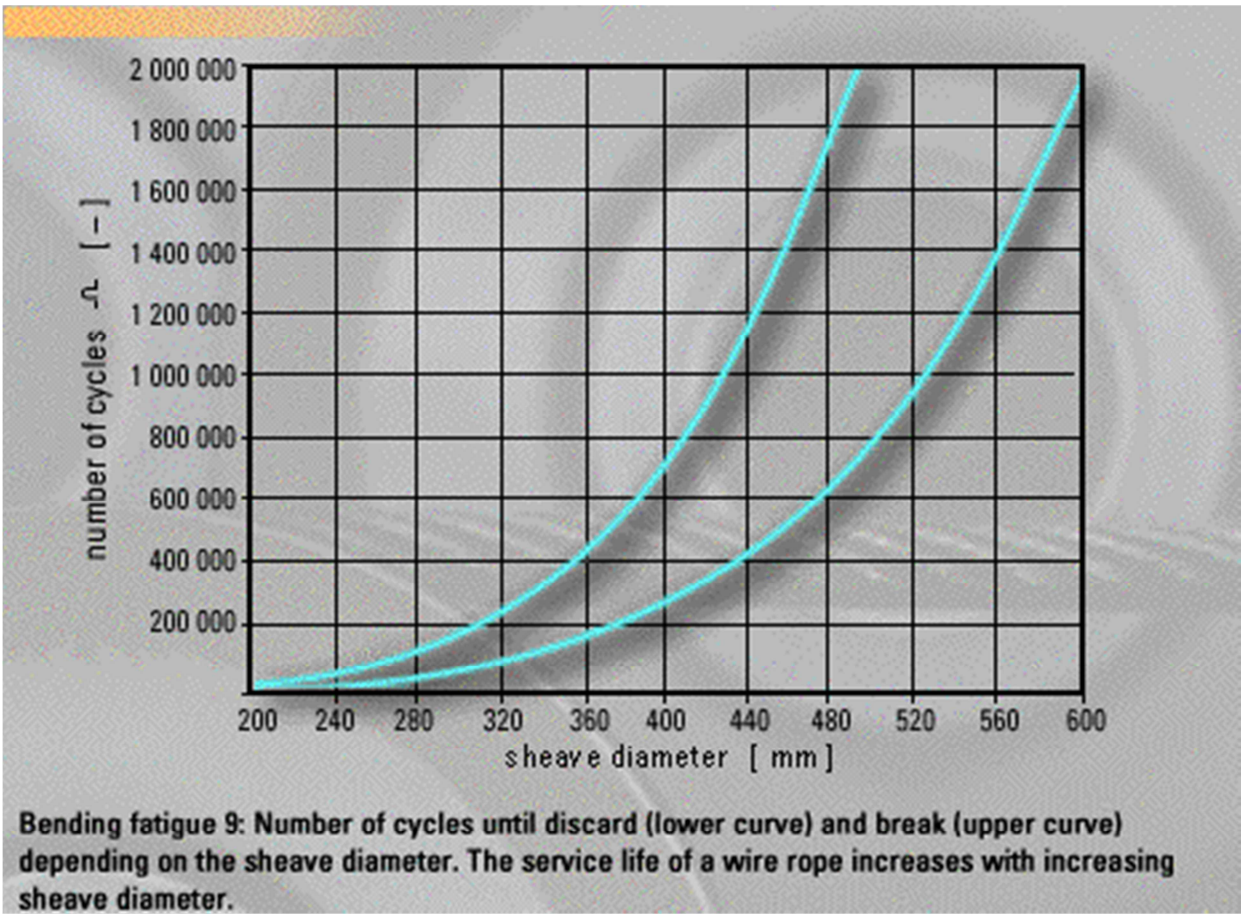

**Bending fatigue 6: Breaking load of running steel wire ropes depending on the number of cycles. Normally, the actual breaking load increases during the first half of the service life. When the discard criterion is reached, the rope can still achieve its minimum breaking load.**




**Bending fatigue 7: Number of cycles until discard for unlubricated, lubricated (= 100%) and relubricated steel wire ropes. Relubrication during service life considerably increases, lack of lubrication reduces the service life drastically.**




**Bending fatigue 8: Number of cycles until discard (lower curve) and break (upper curve) depending on the nominal rope diameter. For every combination of sheave diameter and line pull there is an optimum rope diameter.**




**Bending fatigue 9: Number of cycles until discard (lower curve) and break (upper curve) depending on the sheave diameter. The service life of a wire rope increases with increasing sheave diameter.**