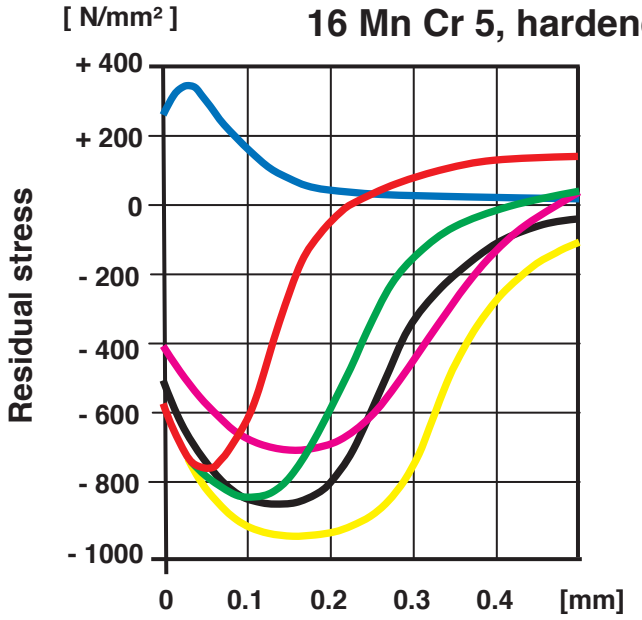
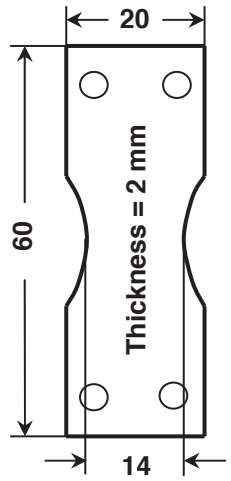
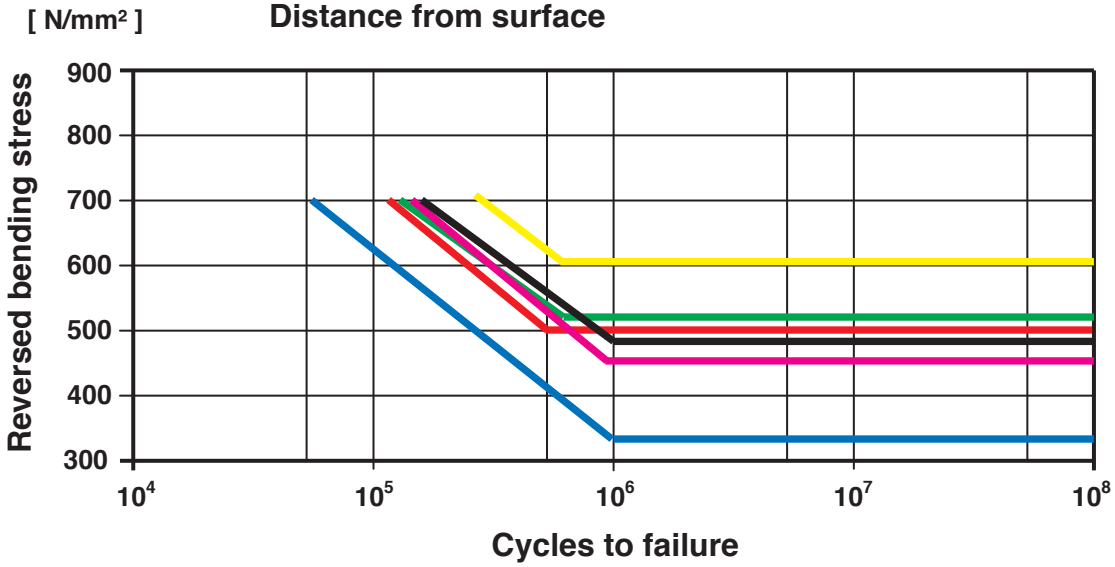
# Test report of a shot peened specimen with reversed bending load



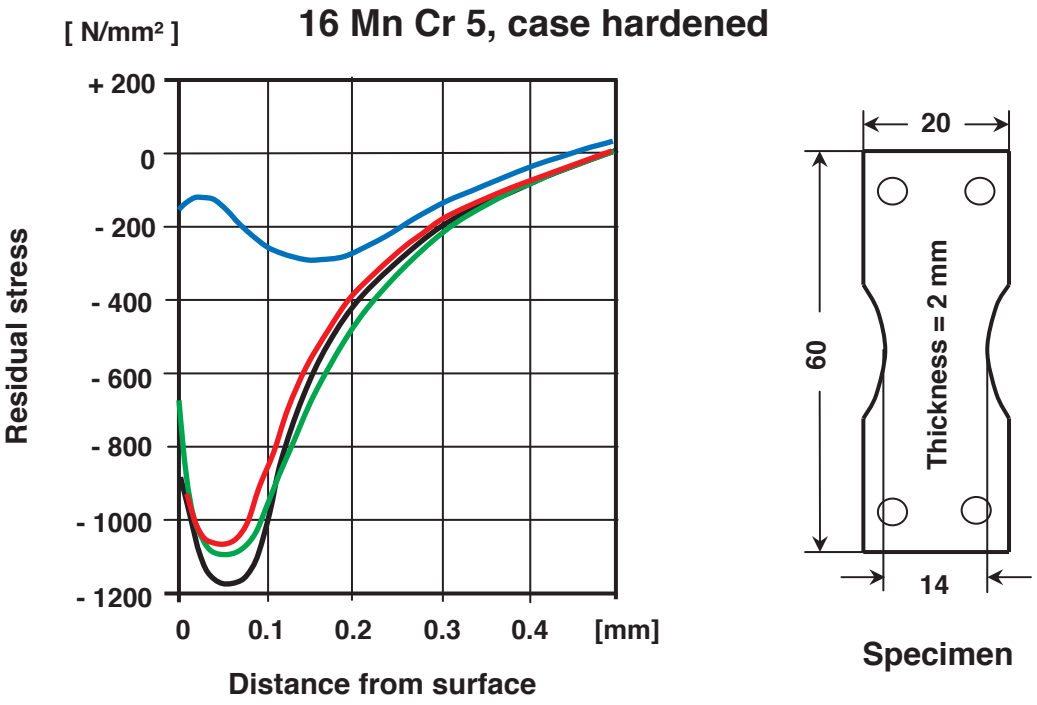

Specimen

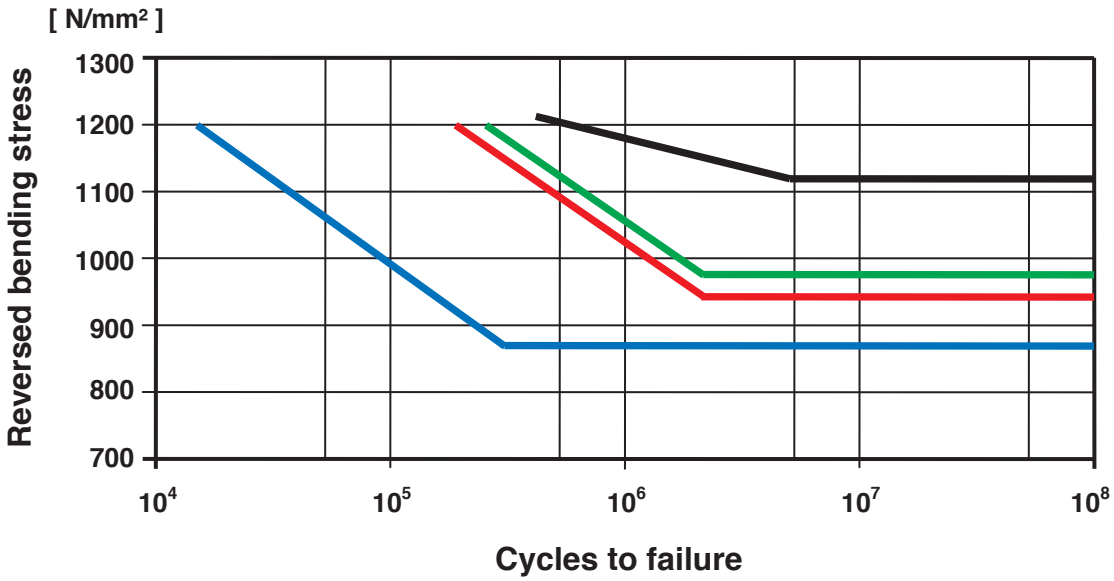



| Line | Hardness of shot [HCR] | Shot size [mm Ø] | Intensity [mm A] | Coverage |
|---|---|---|---|---|
| | Unpeened | — | — | — |
| | 46 - 51 | 0.6 | 0.25 | 98 % |
| | 46 - 51 | 0.6 | 0.45 | 98 % |
| | 46 - 51 | 0.6 | 0.55 | 98 % |
| | 46 - 51 | 0.6 | 0.65 | 98 % |
| | 46 - 51 | 0.6 | 0.55 | 6 x t 98 % |

The most important objectives of shot peening are the improvement of the fatigue life and of fatigue strength. The precondition to the success of shot peening is the appropriate distribution of compressive residual stress.

# Test report of a shot peened specimen with reversed bending load

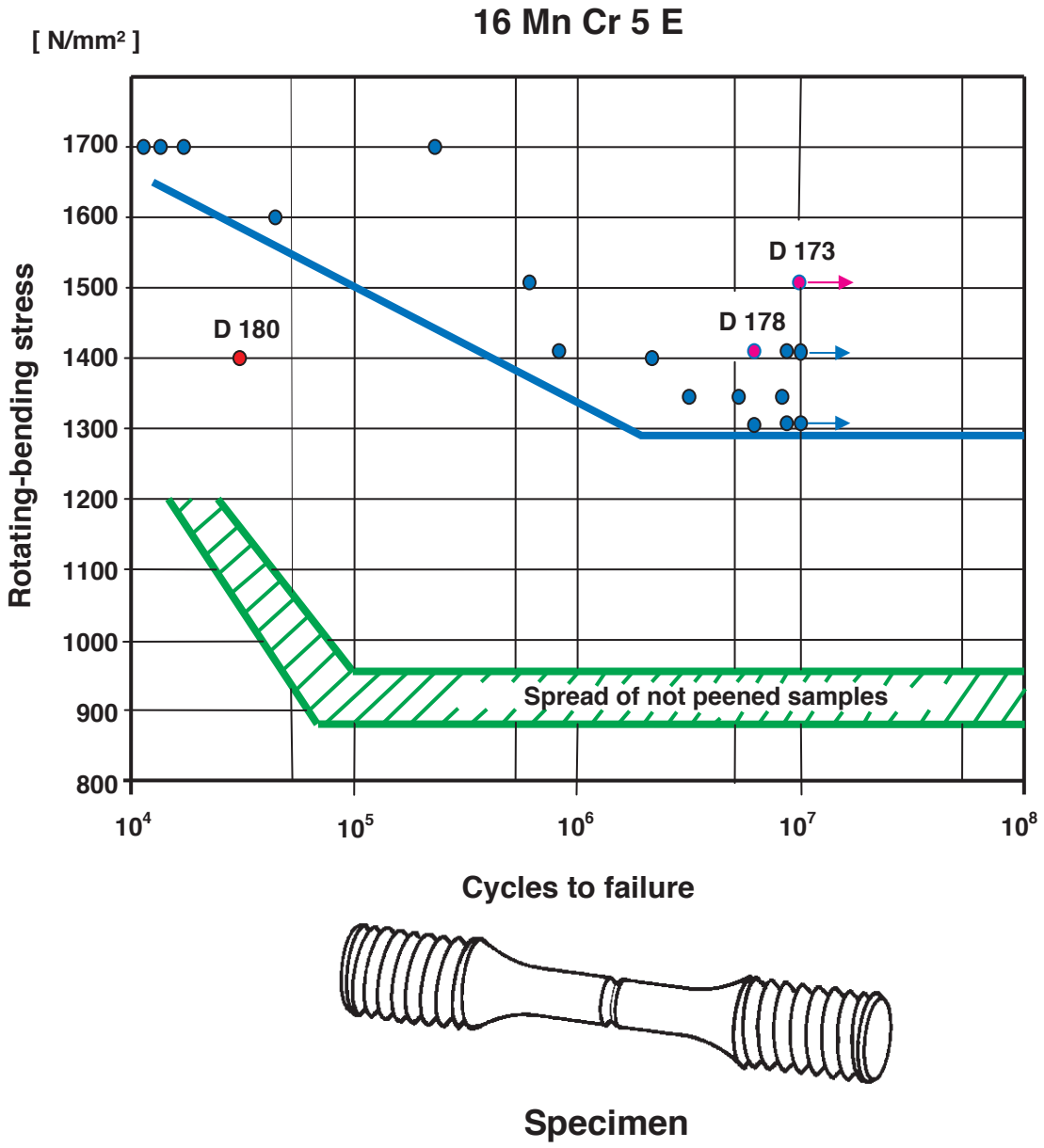



| Line | Hardness of shot [HCR] | Shot size [mm Ø] | Intensity [mm A] | Coverage |
|---|---|---|---|---|
| | Unpeened | — | — | — |
| | 46 - 51 | 0.6 | 0.25 | 98 % |
| | 46 - 51 | 0.6 | 0.45 | 98 % |
| | 53 - 58 | 0.6 | 0.65 | 98 % |

Comprehensive research and tests on very different materials and samples have proven the advantages of shot peening without any doubt and innumerable cycle fatigue test reports give evidence of this.

# Test report of a shot peened specimen with rotating bending load



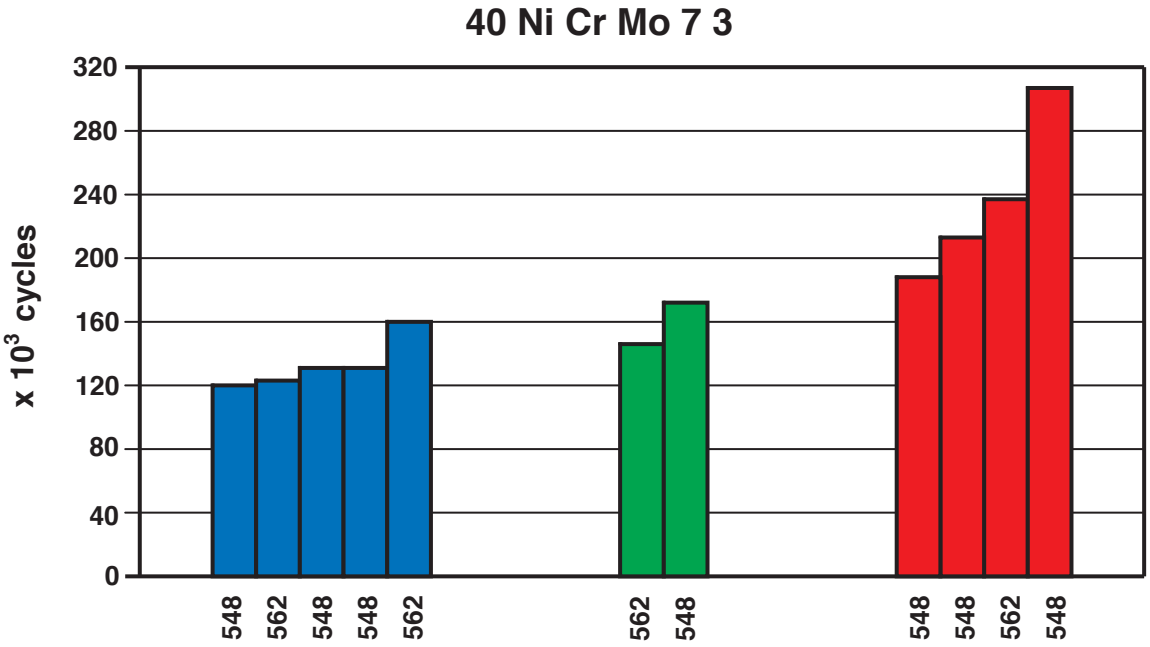



Specimen

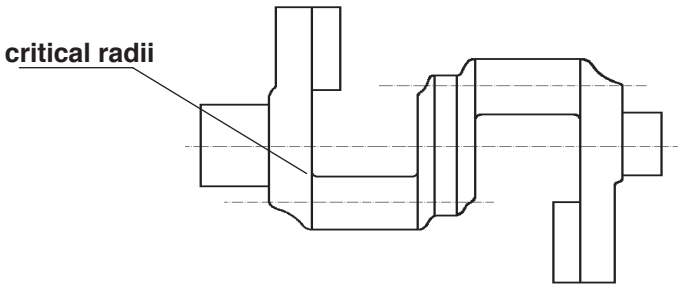
| X X X X | Specimen-no. | Coverage |
|---|---|---|
| ● | D 180 | ca. 90 % |
| ● | D 173 + D 178 | 2 x t 98 % |
| ● | all other | 98 % |

The cycle fatigue diagram above of a rotating bending fatigue test shows the result of different coverage and the detrimental effect of insufficient coverage.

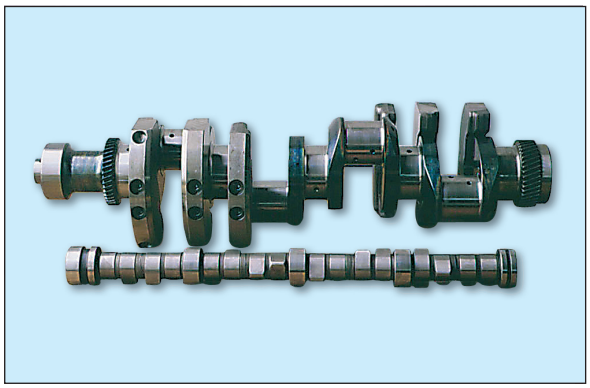
# Test report on a polished and shot peened crankshaft

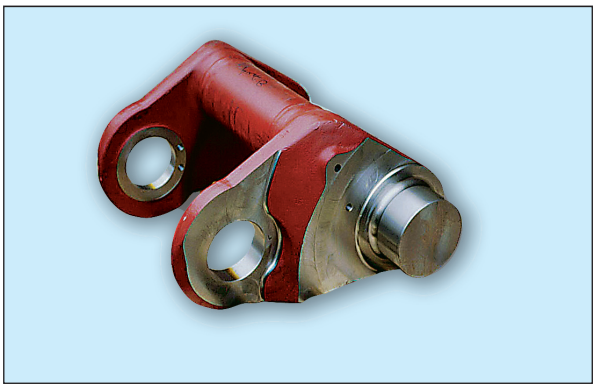



| | |
|---|---|
| | = total surface polished |
| | = bearing and radii polished |
| | = radii shot peened |

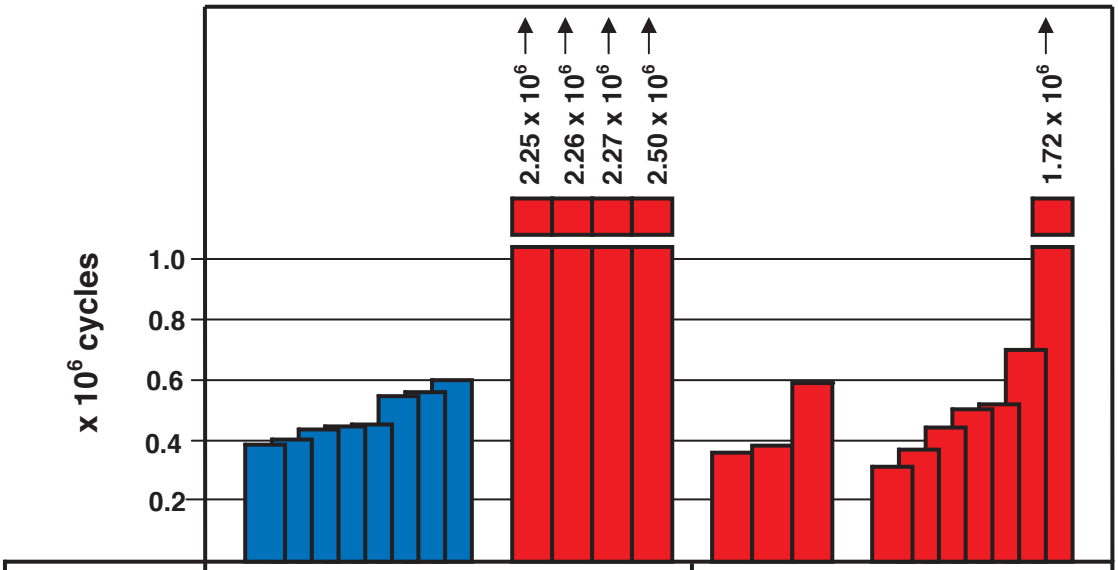



Crankshaft



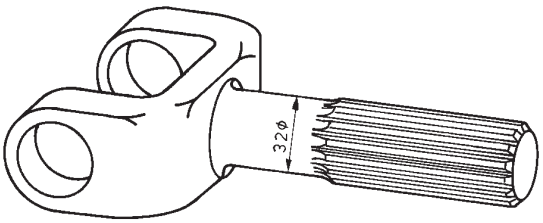


# Test report on a shot peened universal joint yoke




| | | | |
|---|---|---|---|
| Stress | 250 N/mm² | 555 N/mm² | |
| Material | A 4042<br>GS 40 Mn Mo 4 3 tempered | | NE 9440<br>GS 40 Ni Cr Mo 2 1 |
| Hardness [HRC] | 26 - 34 | 26 - 28 | 26 - 32 |
| Shaft- Ø | 45 mm | 40 mm | |
| Part-no. | K 7 | K 5 | |

= machined  = shot peened




Universal joint yoke