



16MnCr5 AISI 5115

16MnCr5

C 0.14 Si 0.40 Mn 1.0 Cr 0.90 S 0.3

Steel properties

16MnCr5 Steel Grade is generally used for elements with a required core tensile strength of 800 – 1100 N/mm<sup>2</sup> and good carrying resistance as piston bolts, camshafts, levers and other automobile and mechanical engineering add-ons.

Standards

AISI 5115 AFNOR 16MC5

Physical properties

|                         |      |      |      |
|-------------------------|------|------|------|
| Thermal conductivity °C | 20   | 350  | 700  |
| W/(m • K)               | 44.5 | 45.0 | 46.0 |

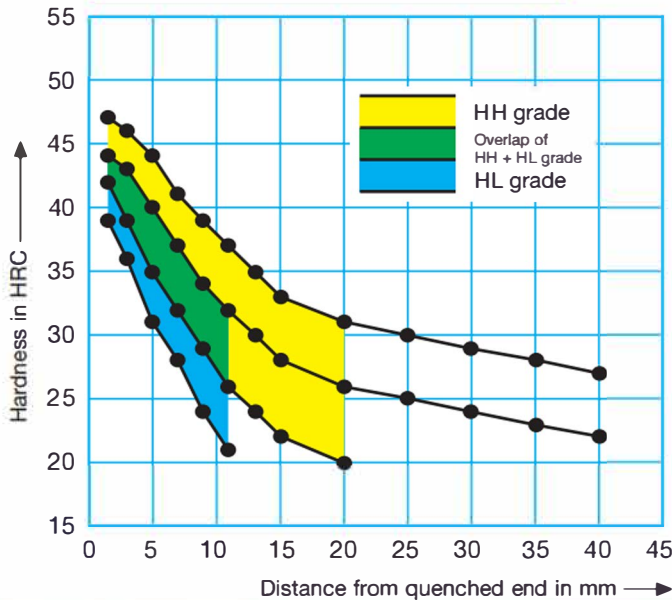
Applications

Alloyed case hardening steel for parts with a required core tensile strength of 800 - 1100 N/mm<sup>2</sup> and good wearing resistance as piston bolts, camshafts, levers and other vehicle and mechanical engineering components.

Heat treatment

|                                                 |                            |              |                               |                           |                              |
|-------------------------------------------------|----------------------------|--------------|-------------------------------|---------------------------|------------------------------|
| Soft annealing °C                               | Cooling Furnace            | Hardness HB  |                               |                           |                              |
| 650-700                                         |                            | max. 206     |                               |                           |                              |
| Stress-relief annealing °C                      | Cooling Furnace            |              |                               |                           |                              |
| 600-620                                         |                            |              |                               |                           |                              |
| 1st pre-heating °C                              | 2nd and 3rd pre-heating °C | Hardening °C | Quenching                     | Tempering °C              | Hardness after tempering HRC |
| up to approx. 300 in an air-circulating furnace | a) 740<br>b) 740 and 840   | 810-840      | 870 °C<br>a) Oil<br>b) Quench | at least twice<br>150-200 | 62-64                        |

Hardenability diagram



Time-temperature-transformation diagram for continuous cooling

