

# CHROME STEEL 100CrMo7-3

Bearing steel balls with a small percentage of Mo in the chemical composition, as 100CrMn6 this steel guarantees a high core hardness for rolling components of large diameters. The structure is bainitic (martensitic for 100CrMn6).

## APPLICATIONS

Precision bearings, automotive components (brakes, steering, line shaft), bicycle, agitators, appliances, sliders, quick couplings, machine tool, lock mechanisms, conveyor belts, skates, pens, pumps, castors, measurement instruments, valves.

## CHEMICAL COMPOSITION

|     | C    | Si   | Mn   | P     | S*    | Al    | Cr   | Cu   | Mo   | O      | - | - |
|-----|------|------|------|-------|-------|-------|------|------|------|--------|---|---|
| min | 0,93 | 0,15 | 0,60 |       |       | -     | 1,65 | -    | 0,20 | -      | - | - |
| max | 1,05 | 0,35 | 0,80 | 0,025 | 0,015 | 0,050 | 1,95 | 0,30 | 0,35 | 0,0015 | - | - |

\*acc DIN 683-17

## PHYSICAL / MECHANICAL / THERMAL / ELECTRICAL PROPERTIES

| Property                           | Symbol    | Unit                               | Type       | Notes                         | Values |
|------------------------------------|-----------|------------------------------------|------------|-------------------------------|--------|
| Density                            | $\delta$  | [g/cm <sup>3</sup> ]               | Physical   | Room temp.                    | 7,82   |
| Youngs modulus                     | E         | [GPa]                              | Mechanical | -                             | 205    |
| Spezific Heat                      | c         | [J/kg·K]                           | Thermal    | Room temp.                    | 477    |
| Coefficient lin. thermal expansion | $\alpha$  | [10 <sup>-6</sup> /°C]             | Thermal    | ( $\Delta T=0-100^{\circ}C$ ) | 13,1   |
| Thermal conductivity               | $\lambda$ | [W/(m·K)]                          | Thermal    | Room temp.                    | 42,7   |
| Electric resistivity               | $\rho$    | [ $\Omega \cdot m \cdot 10^{-9}$ ] | Electrical | -                             | 218    |
| Rel. magnetic permeability         | $\mu$     | -                                  | Magnetical | Ferromagnetic                 | > 300  |

## TECHNICAL DATAS

| Property           | Type       | U.o.M. | Values    | U.o.M. | Values    |
|--------------------|------------|--------|-----------|--------|-----------|
| Hardness           | Mechanical | [HRC]  | < 66 (67) | HV10   | 740 - 900 |
| Service Temperatur | Thermal    | [°C]   | -60 - 150 | [°F]   | -76/ 302  |

## QUALITY UND DIAMETER (on request)

| DRM mm          | U.o.M. | DRM “      | U.o.M. | Quality DIN5401 / ISO 3290 |
|-----------------|--------|------------|--------|----------------------------|
| 45,000- 300,000 | [mm]   | 1 3/4 - 12 | [“]    | G40 - 1000                 |