

## Material specification sheet

### Saarstahl - 20MoCrS4

|               |                    |                             |
|---------------|--------------------|-----------------------------|
| Material No.: | Former brand name: | International steel grades: |
| 1.7323        | Mo 20              | BS:<br>AFNOR:<br>SAE:       |

**Material group:** Case hardening steels according to DIN EN 10084

| Chemical composition:<br>(Typical analysis in %) | C    | Si   | Mn   | Cr   | Mo   | S              | other |
|--|------|------|------|------|------|----------------|-------|
|  | 0,20 | 0,25 | 0,75 | 0,40 | 0,45 | 0,020<br>0,035 | (Pb)  |

**Application:** Alloyed case hardening steel for wear resisting automobile and gear parts with a core tensile strength of 800 - 1100 N/mm<sup>2</sup> and high toughness for gears, crown wheels, primary shafts etc. Suitable for direct hardening.

|  |                         |                     |
|--|-------------------------|---------------------|
| <b>Hot forming and heat treatment:</b> | Forging or hot rolling: | 1150 - 850°C        |
|  | Normalising:            | 840 - 870°C/air     |
|  | Soft annealing:         | 650 - 700°C/furnace |
|  | Carburising:            | 880 - 980°C         |
|  | Core hardening:         | 860 - 900°C/oil     |
|  | Intermediate annealing: | 650 - 700°C         |
|  | Case hardening:         | 780 - 820°C/oil     |
|  | Tempering:              | 150 - 200°C         |

|                               |   |              |
|-------------------------------|---|--------------|
| <b>Mechanical Properties:</b> | Treated for cold shearability, +S:                                  | max. 255 HB  |
|                               | Soft annealed, +A:  | max. 207 HB  |
|                               | Treated for strength, +TH:  | 156 - 207 HB |
|                               | Treated for ferrite and pearlite structure and hardness range, +FP: | 140 - 187 HB |

after hardening and tempering at 200°C:

| Diameter d [mm]                                       | d ≤ 16   | 16 < d ≤ 40 | 40 < d ≤ 100 |
|---|----------|-------------|--------------|
| Tensile strength R <sub>pm</sub> [N/mm <sup>2</sup> ] | min. 900 | min. 800    | -            |