

Material No.: Code:
1.2083 X40Cr14

DE - Brand:
HC50

Chemical composition:
 (Typical analysis in %)

| | | | | | | | |
|------|-------|--|--|--|--|--|--|
| C | Cr | | | | | | |
| 0,40 | 13,50 | | | | | | |

Steel properties:

Tool steel with high dissolved Cr-content in the steel matrix, corrosion resistant in hardened condition, good polishability.

Applications:

Mould and pressure tools, tooling and inserts for corrosive plastics and polymers.

Condition of delivery:

Soft annealed to max. 241 HB

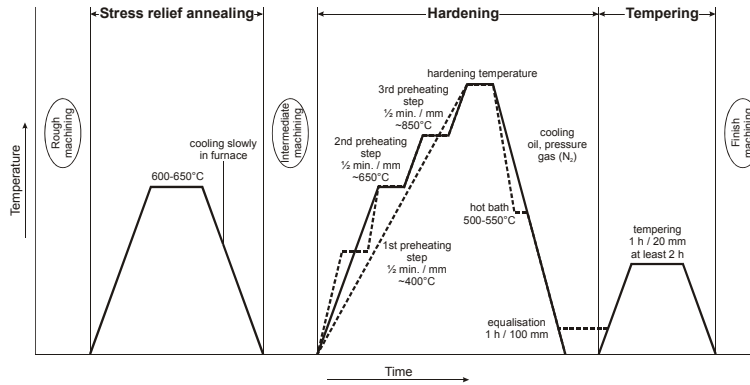
Physical properties:

| | | | | | |
|-------------------------------|---|----------|----------|----------|----------|
| Thermal expansion coefficient | $\left[\frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$ | 20-100°C | 20-200°C | 20-300°C | 20-400°C |
| | | 10,5 | 10,9 | 11,3 | 11,6 |
| Thermal conductivity | $\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$ | 20°C | 350°C | 700°C | |
| | | 24,6 | 25,3 | 26,2 | |

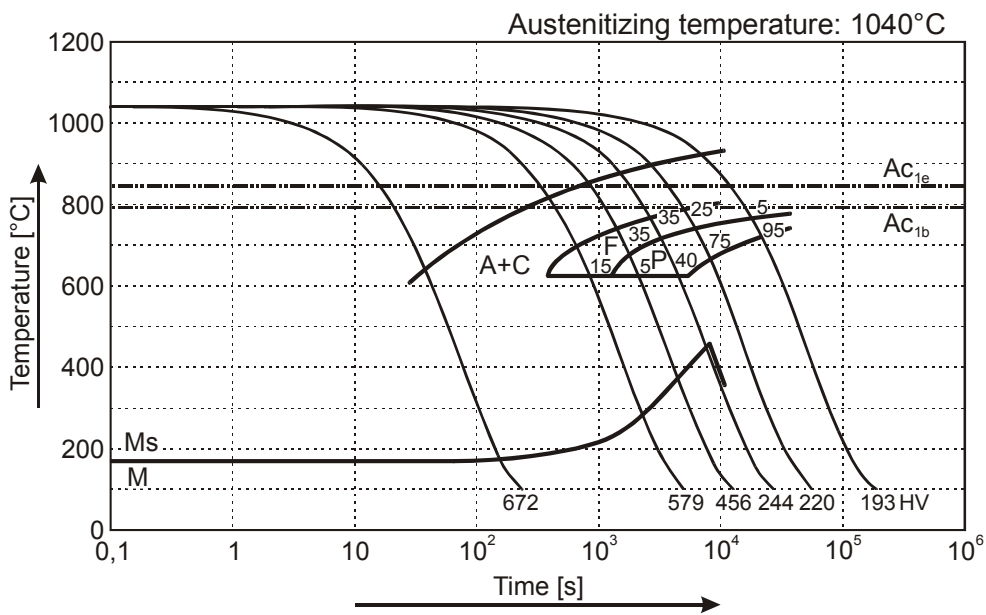
Heat treatment:

| | | | |
|-------------------------|--------------------|--|--------------------------|
| Soft annealing | Temperature | Cooling | Hardness |
| | 760 - 800°C | furnace | max. 241 HB |
| Stress relief annealing | Temperature | Cooling | |
| | 600 - 650°C | furnace | |
| Hardening | Temperature | Cooling | Tempering |
| | 1000 – 1050°C | oil, pressure gas (N ₂), air or hot bath 500 - 550°C | see tempering diagram |

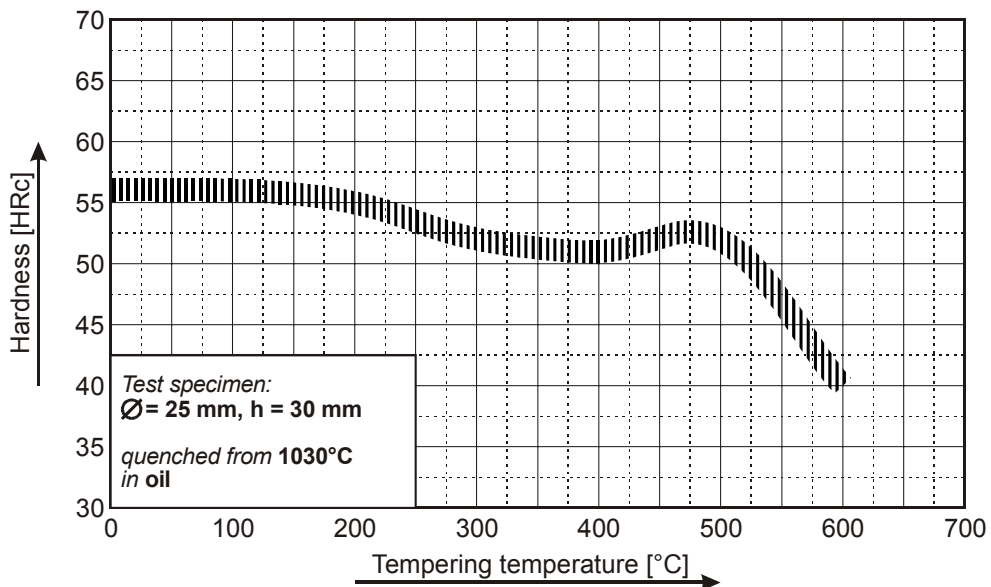
(1.2083) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.