

Material No.: Code:

1.2358 60CrMoV18-5

DE - Brand:

AMO

Chemical composition

(Typical analysis in %)

| | | | | | | | |
|------|------|------|------|--|--|--|--|
| C | Cr | Mo | V | | | | |
| 0,60 | 4,50 | 0,50 | 0,20 | | | | |

Steel properties

Medium alloyed cold work steel that is usually supplied hardened and tempered, high hardening capacity, through hardenability and toughness, good weldability, excellent surface hardenability.

Applications

Cutting inserts for segmented tool, punching tools, shear knives, plastic moulds, cutting tools.

Condition of delivery

- a) Soft annealed to max. 240 HB
- b) Quenched and tempered, 280 - 325 HB
(950 - 1100 N/mm² according to DIN EN ISO 18265 Table A.1)

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 |
| | 11,5 | 11,8 | 12,4 | 12,8 |

Thermal conductivity

| | | | |
|---|------|-------|-------|
| $\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$ | 20°C | 350°C | 700°C |
| | 19,4 | 24,6 | 26,3 |

Heat treatment

Soft annealing

| Temperature | Cooling | Hardness |
|-------------|---------|-------------|
| 820 - 860°C | furnace | max. 240 HB |

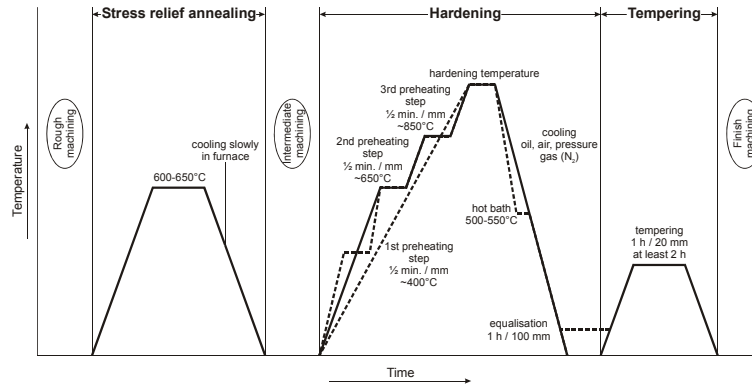
Stress relief annealing

| Temperature | Cooling | |
|-------------|---------|--|
| 600 - 650°C | furnace | |

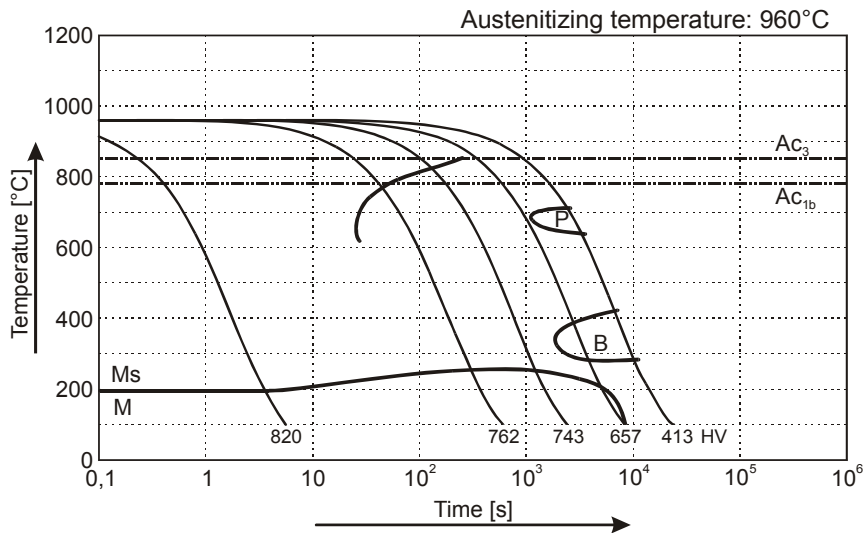
Hardening

| Temperature | Cooling | Tempering |
|-------------|--|--------------------------|
| 950 - 980°C | oil, pressure gas (N ₂), air or hot bath 500 - 550°C | see tempering diagram |

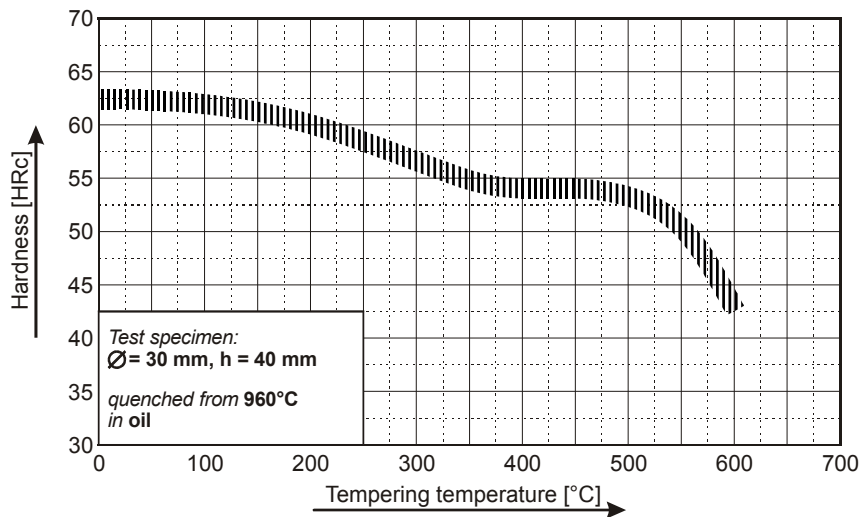
(1.2358) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.