



## STEEL FOR HEAT TREATMENT

| Wr.Nr. | PN   | EN      | GOST | AISI |
|--------|------|---------|------|------|
| 1.7225 | 40HM | 42CrMo4 | 40XM | 4140 |

## CHEMICAL COMPOSITION

Chemical composition (in weight %)

| Element | C    | Si   | Mn   | P     | S     | Cr   | Mo   | Cu   |
|---------|------|------|------|-------|-------|------|------|------|
| min     | 0.38 | 0.10 | 0.60 | max.  | max.  | 0.90 | 0.15 | max. |
| max     | 0.90 | 0.40 | 0.90 | 0.025 | 0.035 | 1.20 | 0.40 | 0.40 |

## APPLICATION

The steel is used for the production of high-strength parts used in cars and vehicle construction. It produces: king pins, connecting rods, gears, geared rollers, spindles, reinforced rims, axles.

## TREATMENT

|           |                                                        |
|-----------|--------------------------------------------------------|
| Hardening | 820 - 860 °C at least 30 min. (approx.) / Oil or water |
| Tempering | 540 - 680 °C at least 60 min. (approx.)                |

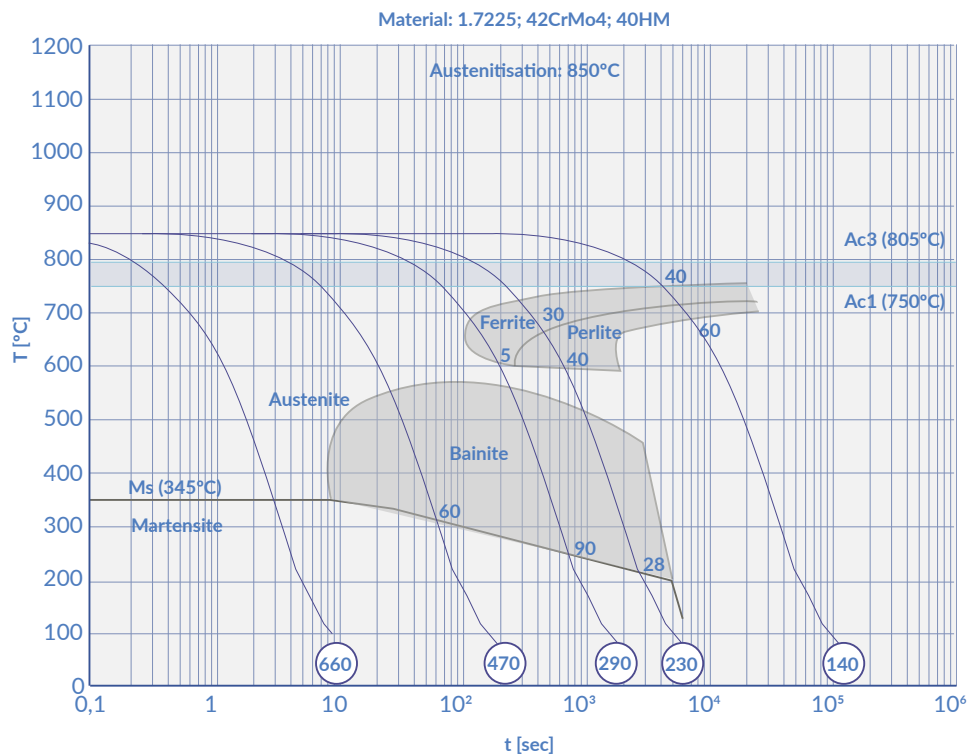
## ADDITIONAL HEAT TREATMENT

|                |              |
|----------------|--------------|
| Normalising    | 840 - 880 °C |
| Soft annealing | 680 - 720 °C |

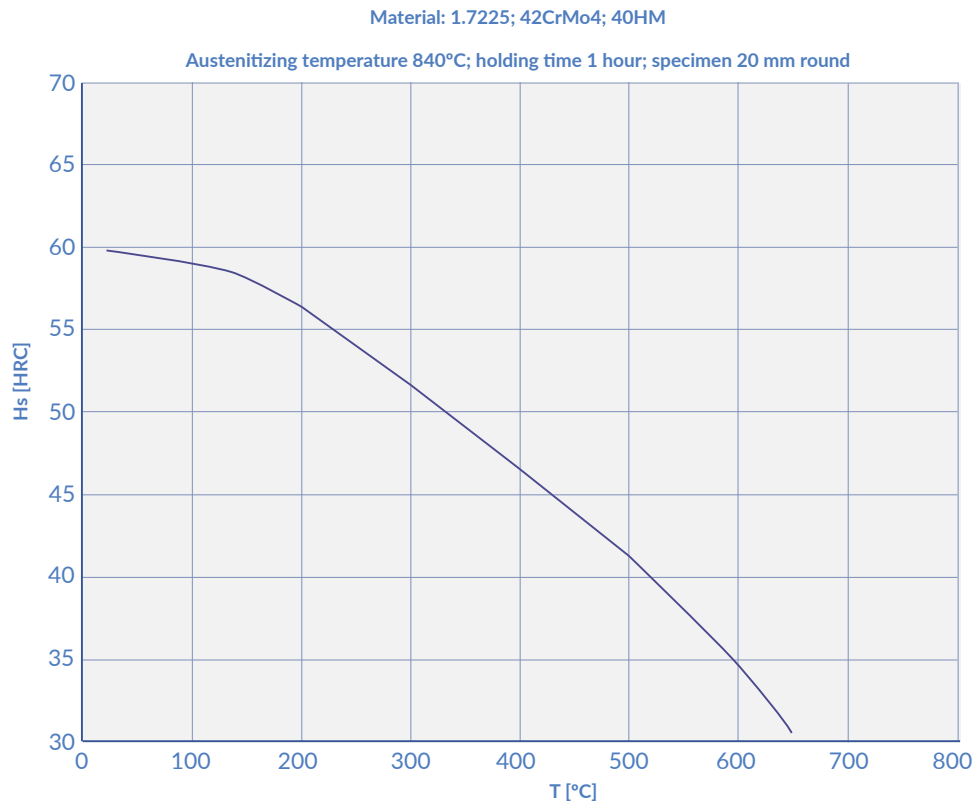
## MECHANICAL PROPERTIES

|               |                                  |                                      |                    |
|---------------|----------------------------------|--------------------------------------|--------------------|
| Condition     | Quenched and tempered (+QT)      | Treated to improve shearability (+S) | Soft annealed (+A) |
| Hardness [HB] | Depend on diameter and thickness | max. 255                             | max. 241           |

## CONTINUOUS COOLING TRANSFORMATION (CCT) DIAGRAM



## TEMPERING DIAGRAM



**NOTE:** All technical information is for reference only.