



ATT 2738 MOD TS (THRUHARD SUPREME) ATT 2738 MOD TS HH (THRUHARD SUPREME (HH))

CHEMICAL ANALYSIS (PERCENTAGE BY MASS)

| | C | Si | Mn | P | S | Cr | Ni | Mo | V |
|----------------|------|------|------|-------|-------|------|------|------|------|
| Guide analysis | 0.26 | 0.10 | 1.45 | 0.015 | 0.002 | 1.25 | 1.05 | 0.50 | 0.10 |

CHARACTERISTICS

Newly developed plastic mould steel, which compared with grades ATT 2311 and ATT 2738, ATT 2738 MOD TS offers:

- higher hardness and better through-hardening
- polishability to grain size 600 (high-gloss polishing characteristics on request)
- grain reliability even with delicate grain designs, improved weldability, higher thermal conductivity.

Nitridable, hard-chrome platable, surface hardenable as supplied; thanks to the higher basic hardness, better supporting effect for surface-finishing processes (e.g. PVD coating).

APPLICATION

With no dimension restrictions for compression and injection moulds, for example for bumpers, instrument panels, chairs, garbage containers, bottle crates, TV cabinets, etc.

DELIVERED CONDITION

ATT 2738 MOD TS:

- hardened and tempered to 280 - 325 HB (approx. 950-1,100 MPa)*

ATT 2738 MOD TS HH:

- hardened and tempered to 310 - 355 HB (approx. 1,050-1,200 MPa)*

PHYSICAL PROPERTIES

| | | | |
|---------------------------------------|-------|-------|-------|
| Thermal Conductivity (W/m.K) at | 20°C | 250°C | 500°C |
| | 37.4 | 41.3 | 39.8 |
| Thermal Expansion (µm/m) from 20°C to | 100°C | 250°C | 500°C |
| | 10.8 | 12.2 | 13.9 |
| Young's modulus (GPa) | 20°C | 250°C | 500°C |
| | 204 | 188 | 160 |

* Surface hardness in Brinell, converted to DIN EN ISO 18265 Table A.1.

SEL

~26MnCrNiMo6-5-4

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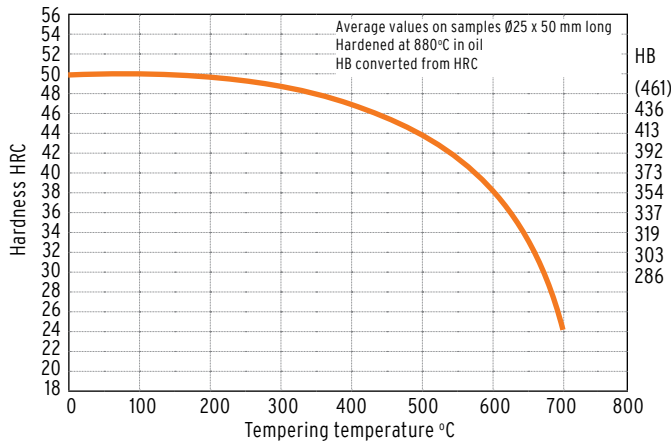


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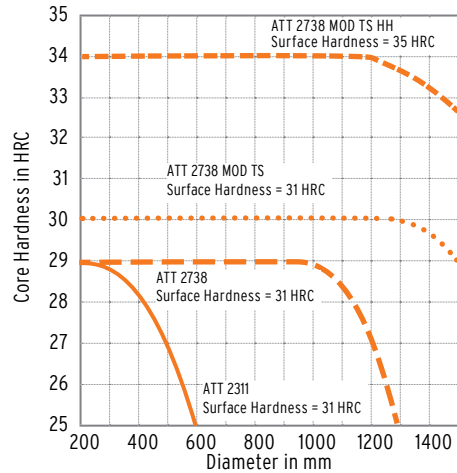
HEAT TREATMENT

| | | |
|--------------------|-------------|---|
| Stress relieving | Temperature | Approx. 600°C in the annealed state Approx. 560°C in the quenched and tempered state |
| | Duration | 1 hour per 50 mm wall thickness |
| | Cooling | Furnace |
| Soft annealing | Temperature | 720°C |
| | Duration | 1 hour per 25mm wall thickness |
| | Cooling | Furnace |
| Hardening | Temperature | 880°C |
| | Duration | 1 min per mm wall thickness |
| Quenching hardness | Max. 50 HRC | in oil, hot bath or vacuum |
| | Temperature | See tempering curve |
| Tempering | Duration | 1 hour per 25 mm wall thickness |
| | Cooling | Air |
| Working hardness | 280-325 HB | ATT 2738 |
| | 310-355 HB | ATT 2738 HH |

Tempering curve



Through-hardability (schematic)



TTT curve (continuous)

