

Material Designation

1.7711 DIN
B16 ASTM

Standards

DIN EN 10269
ASTM A193/A193M¹

Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Mo	V	Al
min.	0,36	0,15	0,45	-	-	0,90	0,50	0,25	-
max.	0,44	0,35	0,70	0,025	0,030	1,15	0,65	0,35	0,015

Properties

1.7711 is a Cr-Mo-V-alloyed heat-resistant structural steel with good toughness. In continuous service, its operating temperature is up to 550 °C.

Delivery Condition

- ✖ annealed (+A), max. 241 HBW
- ✖ quenched and tempered (+QT)

Application Area

Components designed for elevated ambient temperatures of up to 550 °C.

Typical Applications

- ✖ Fasteners
- ✖ Turbine shafts
- ✖ Flanges and rings
- ✖ Components for thermal power stations

Mechanical Properties acc. to DIN EN 10269

Condition	Diameter [mm]	Yield strength [N/mm ²]	Tensile strength [N/mm ²]	Reduction of area [%]	Elongation [%]	Impact toughness [J] Charpy-V
+QT	≤ 100	≥ 700	850 - 1000	≥ 45	≥ 14	≥ 40
+QT	100 < d ≤ 160	≥ 640	850 - 1000	≥ 45	≥ 14	≥ 40

Minimum values of the 0.2 % proof stress at elevated temperatures

Condition	Diameter [mm]	Temperature [°C]	Yield strength [N/mm ²]
+QT	≤ 100	300	≥ 593
		500	≥ 470
+QT	100 < d ≤ 160	300	≥ 542
		500	≥ 429

Heat Treatment Guideline values

	Diameter [mm]	Temperature [°C]	Cooling medium
Quenching and tempering (+QT)	≤ 100	880 - 950 (Hardening)	Oil, polymer, water
		670 - 720 (Tempering)	Air
Quenching and tempering (+QT)	100 < d ≤ 160	940 - 970 (Hardening)	Oil, polymer, water
		600 - 700 (Tempering)	Air

Quality

- ISO 9001
- ISO 14001
- ISO 50001
- Approvals acc. to standards like ABS, BV, DNV ...
- Customer specific approval certificates

Innovation

- Fully automated ultrasonic testing up to dia. 1000 mm
- CO₂-reduction by innovative heat treatment solutions

Flexibility

- Product range from fine wire to forging
- Directly from stock close at hand

Individuality

- Dimensions
- Tolerances
- Surface qualities
- Delivery conditions

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¹Instead of oil, polymer can also be used as a cooling medium.