

Material Designation

1.7709 DIN

Standards

 DIN EN 10269
 DIN 17240
 AD 2000 W7

Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Ni	Mo	V	Al
min.	0,17	0,15	0,40	-	-	1,20	-	0,65	0,25	-
max.	0,25	0,35	0,80	0,025	0,030	1,50	0,60	0,80	0,35	0,03

Customer specific restrictions upon request

Properties

1.7709 is a Cr-Mo-V alloyed heat-resistant structural steel with good toughness. In continuous operation, its application temperature is up to 550 °C.

Delivery Condition

- ✘ quenched and tempered (+QT)
- ✘ quench., tempered, stress relieved (+QT+SR)
- ✘ spheroid. annealed (+AC), max. 229 HBW

Application Area

Components for increased operating temperatures up to 550 °C.

Typical Applications

- ✘ Fasteners
- ✘ Turbine shafts
- ✘ Flanges and rings
- ✘ Components for thermal power plants

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
quenched and tempered (+QT)	≤ 160	≥ 550	700 - 850	60	≥ 16	≥ 63

Minimum values of the 0.2 % proof stress at elevated temperatures

Condition	Diameter [mm]	Temperature [°C]	Yield strength [N/mm ²]
+QT	≤ 160	300	≥ 460
		500	≥ 350

Heat Treatment Guideline values

	Temperature [°C] / Duration	Cooling medium
Quenching and tempering +QT	880 - 950 (Hardening)	Oil, polymer, air, water
	680 - 720 (Tempering), min 2h	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

Your personal contact:

BGH Edelstahlwerke GmbH

 Am Stahlwerk 1
 01705 Freital
 +49 351 646-0
 www.bgh.de
