1.6959 (35NiCrMoV12-5)

Excellence in Specialty Steel

Material designation

1.6959 DIN

Standards

SEL 11th edition

Chemical Composition Mass-%

	C	Si	Mn	P	S	Al	Cr	Mo	Ni	V
min.	0,30	0,15	0,4	-	-	-	1,00	0,35	2,50	0,08
max.	0,40	0,35	0,7	0,015	0,015	0,015	1,40	0,60	3,50	0,20

Customer specific restrictions upon request

Properties

35NiCrMoV12-5 is a quenching and tempering steel with excellent strength, good toughness and wear resistance.
The grade is well suited for surface hardening by nitriding.

Delivery Condition

- annealed (+A) max. 265 HBW
- quenchend and tempered (+QT)
- quenched and tempered, stress relieved (+QT +SR)

Application Area

Highly stressed, safety-relevant bolts and components

Typical Applications

- Safety bolts for mobile cranes
- Defence technology

Mechanical Properties

Condition	Standard	Diameter [mm]	Yield strength [N/mm²]	Tensile strength [N/mm²]	Elongation [%]	Impact toughness CVN @-40 °C [J]
+QT	SEL	≤ 130	≥ 980	≤ 1180	≥ 13	≥ 27
+QT +SR	-	≤ 220[1]	≥ 1000	1100 - 1250	≥ 14	≥ 42
+QT	-	> 220[2]	≥ 1000	1100 - 1250	≥ 12	≥ 27

[1]Sample direction longitudinal; [2]Forged, sample direction transversal

Heat Treatment Guideline Values

	Temperature [°C]	Cooling medium
Quenching and tempering (+QT)	850 - 870 (Hardening) ≥ 570 (Tempering)	Oil, polymer, air Air
Stress relieving (+SR)	Approx. 30 °C below tempering temperature	Air (furnace)

The information contained in this data sheet is unbinding and serves as a first orientation. Liability is excluded, errors and printing mistakes are reserved.

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
- CO_2-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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