

1.8550 (34CrAlNi7-10)

Material Designation

1.8550 DIN

Standards

DIN EN 10085
DIN 17211

Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Mo	Ni	Al
min.	0,30	-	0,40	-	-	1,50	0,15	0,85	0,80
max.	0,37	0,40	0,70	0,025	0,015	1,80	0,25	1,15	1,20

Customer specific restrictions upon request

Properties

1.8550 is a CrNiAl-alloyed nitriding steel with very good abrasion resistance and surface hardness. The alloying concept makes it particularly suitable for large tempering cross-sections. Difficult to weld.

Delivery Condition

- ✘ quenched and tempered (+QT)
- ✘ quench., tempered, stress relieved (+QT +SR)
- ✘ annealed (+A) max. 248 HBW

Application Area

Parts that are subject to high surface wear, e.g. screws, pistons, excenters or pinion shafts. Nitriding of the surface is carried out after machining.

Typical Applications

- ✘ Plastics industry
- ✘ Automotive industry
- ✘ General mechanical engineering
- ✘ Drive engineering

Mechanical Properties quenched and tempered (+QT) acc. DIN EN 10085, at room temperature

Diameter d [mm]	Yield strength [N/mm ²]	Tensile strength [N/mm ²]	Elongation [%]	Impact toughness [J] Charpy-V
16 ≤ d ≤ 40	≥ 680	900 - 1100	≥ 10	≥ 30
40 < d ≤ 100	≥ 650	850 - 1050	≥ 12	≥ 30
100 < d ≤ 160	≥ 600	800 - 1000	≥ 13	≥ 35
160 < d ≤ 250	≥ 600	800 - 1000	≥ 13	≥ 35

Heat Treatment acc. DIN EN 10085, guideline values

	Temperature [°C]	Cooling medium
Annealing (+A)	650 - 700	
Quenching and tempering (+QT)	870 - 930 (Hardening) 580 - 700 (Tempering)	Oil, water
Nitriding	480 - 570	

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

