EN 10222-2 11CrMo9-10 (1.7380) Specification

The material **11CrMo9-10 (Material No. 1.7380)** is a **chromium-molybdenum alloy steel** defined in **EN 10222-2** for **forgings used in pressure vessels, boilers, and high-temperature applications.** It is widely used for **flanges, rings, discs, shafts, and other forged components** requiring strength, creep resistance, and toughness at elevated temperatures.

General Information

- **Standard:** EN 10222-2 (Steel forgings for pressure purposes – Part 2: Ferritic and martensitic steels with specified elevated temperature properties)
- **Grade:** 11CrMo9-10
- **Material Number:** 1.7380
- **Delivery Condition:** Normalized and tempered (NT)
- **Form of Supply:** Forgings (flanges, fittings, rings, blocks, shafts, custom parts)

11CrMo9-10 Equivalent Standards

- **DIN:** 11CrMo9-10
- **Material No.:** 1.7380
- **ASTM/ASME Equivalent (approx.):** ASTM A182 F22 Class 2 / ASTM A182 F22 Class 3

Chemical composition % of steel 11CrMo9-10 (1.7383): EN 10222-2-2000

C	Si	Mn	P	S	Cr	Mo
0.08 - 0.15	max 0.5	0.4 - 0.8	max 0.025	max 0.015	2 - 2.5	0.9 - 1.1

Mechanical properties of steel 11CrMo9-10 (1.7383)

Rm - Tensile strength (MPa) (+QT)	**540-680**	
Nominal thickness (mm):	**to 200**	**200 - 500**
Rm - Tensile strength (MPa) (+NT)	**520-670**	**450-600**
Rm - Tensile strength (MPa) (+QL)	**520-670**	

ReH - Minimum yield strength (MPa) (+QT)	**355**	
Nominal thickness (mm):	**to 200**	**200 - 500**
ReH - Minimum yield strength (MPa) (+NT)	**310**	**265**
ReH - Minimum yield strength (MPa) (+QL)	**310**	

KV - Impact energy (J) transverse,	**+20°** **27-50**
KV - Impact energy (J) longitud.,	**+20°** **40-60**

Nominal thickness (mm):	**to 200**	**200 - 500**

A - Min. elongation at fracture (%) longitud., (+NT)	**20**	**23**
Nominal thickness (mm):	**to 200**	**200 - 500**
A - Min. elongation at fracture (%) transverse, (+NT)	**20**	**21**
Nominal thickness (mm):	**to 60**	**60 - 100**
A - Min. elongation at fracture (%) (+QL)	**18**	**17**

EN 10222-2 11CrMo9-10 Product Types

The **EN 10222-2 11CrMo9-10 (1.7380)** chromium-molybdenum alloy steel is supplied as **forgings for pressure purposes.** It is widely used in **power generation, petrochemical, and boiler applications.**

Standard Product Forms

- **Forged Flanges**
  - Weld Neck Flange (WNRF)
  - Blind Flange (BLRF)
  - Slip On Flange (SORF)
  - Socket Weld Flange (SWRF)
  - Threaded Flange (THRF)
  - Long Weld Neck Flange (LWN)
  - Ring Type Joint Flange (RTJ)
- **Forged Fittings & Nozzles**
  - Reducers
  - Tees
  - Couplings
  - Custom forged pipe fittings
- **Forged Rings & Discs**
  - Seamless rolled rings
  - Forged discs & blanks for machining
- **Forged Shafts & Bars**

    - Hollow shafts
    - Solid forged bars
    - Rotors & spindles
- **Custom Forged Components**
    - Boiler & heat exchanger parts
    - Pressure vessel nozzles
    - Turbine casings and power plant forgings

Typical Supply Condition

- Forged + Heat Treated (Normalized and Tempered, NT)
- Machined or rough machined finish
- Supplied with **EN 10204 3.1 / 3.2 inspection certificates**