

Ultra 725LN

EN 1.4466, ASTM UNS S31050

General characteristics

High Ni and Mo austenitic grade with similar corrosion resistance to 904L. Typically used in Urea applications. Available as plate only.

Typical applications

- Urea applications
- Pulp & Paper industry
- Flue gas cleaning
- Chemical industry
- Pharmaceutical industry

Products & dimensions

Quarto plate products, available dimensions (mm)

Surface finish		Coil / Strip		Plate / Sheet	
		Thickness	Width	Thickness	Width
1D	Hot rolled, heat treated, pickled			5.00-50.00	400-3200

Chemical composition

The chemical composition may vary slightly between different product standards. The required standard will be fully met as specified on the order.

The chemical composition is given as % by weight.

	C	Mn	Cr	Ni	Mo	N	Other
Typical	0.01		25.0	22.3	2.1	0.12	
ASME II A SA-240	≤0.020	≤2.0	24.0-26.0	20.5-23.5	1.6-2.6	0.09-0.15	
ASTM A240	≤0.020	≤2.00	24.0-26.0	20.5-23.5	1.60-2.60	0.09-0.15	
EN 10028-7	≤0.020	≤2.00	24.00-26.00	21.00-23.00	2.00-2.50	0.10-0.16	
EN 10088-2	≤0.020	≤2.0	24.0-26.0	21.0-23.0	2.0-2.5	0.10-0.16	
EN 10088-4	≤0.020	≤2.0	24.0-26.0	21.0-23.0	2.0-2.5	0.10-0.16	

IS 6911	≤0.20	≤2.0	24.0-26.0	20.5-23.5	1.60-2.60	0.09-0.15
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Corrosion resistance

For more information, see Outokumpu Corrosion Handbook.

Pitting corrosion resistance		Crevice corrosion resistance
PRE	CPT	CCT
34		

PRE Pitting Resistant Equivalent calculated using the formula: $PRE = \%Cr + 3.3 \times \%Mo + 16 \times \%N$

CPT Corrosion Pitting Temperature as measured in the Avesta Cell (ASTM G 150), in a 1M NaCl solution (35,000 ppm or mg/l chloride ions).

CCT Critical Crevice Corrosion Temperature is the critical crevice corrosion temperature which is obtained by laboratory tests according to ASTM G 48 Method F

Mechanical properties

The mechanical properties of the available products are given in the table below.

Cold rolled coil and sheet	R _{p0.2} MPa	R _{p1.0} MPa	R _m MPa	Elongation ¹⁾ %	Impact strength J	Rockwell	HB	HV
ASTM A240	≥ 255		≥ 540			≤ 95HRB	≤ 217	
IS 6911	≥ 255		≥ 540			≤ 95HRB	≤ 217	

Hot rolled coil and sheet	R _{p0.2} MPa	R _{p1.0} MPa	R _m MPa	Elongation ¹⁾ %	Impact strength J	Rockwell	HB	HV
ASTM A240	≥ 255		≥ 540				≤ 217	
IS 6911	≥ 255		≥ 540			≤ 95HRB	≤ 217	

Hot rolled quarto plate	R _{p0.2} MPa	R _{p1.0} MPa	R _m MPa	Elongation ¹⁾ %	Impact strength J	Rockwell	HB	HV
Typical (thickness 15 mm)	280	300	630	55				
ASME II A SA-240	≥ 255		≥ 540			≤ 95HRB	≤ 217	
ASTM A240	≥ 255		≥ 540			≤ 95HRB	≤ 217	
EN 10028-7	≥ 250	≥ 290	540 - 740	≥ 40				
EN 10088-2	≥ 250		540 - 740	≥ 40				
EN 10088-4	≥ 250	≥ 290	540 - 740	≥ 40				
IS 6911	≥ 255		≥ 540			≤ 95HRB	≤ 217	

¹⁾Elongation according to EN standard:

A₈₀ for thickness below 3 mm.

A for thickness = 3 mm.

Elongation according to ASTM standard A₂^{*} or A₅₀.

Physical properties

Density kg/dm ³	Modulus of elasticity GPa	Thermal exp. at 100 °C 10 ⁻⁶ /°C	Thermal conductivity W/m°C	Thermal capacity J/kg°C	Electrical resistance μΩm	Magnetizable
8.0	195	15,7	14	500	0.80	No

Fabrication

Welding

Outokumpu 725LN can be readily welded by a full range of conventional welding methods such as:

- Shielded metal arc welding (SMAW)
- Gas tungsten arc welding, TIG (GTAW)
- Gas metal arc welding, MIG /MAG(GMAW)
- Flux-cored arc welding (FCAW)
- Plasma arc welding (PAW)
- Submerged arc welding (SAW)

The steel is fully austenitic. For this reason, the sensitivity to hot cracking should be taken into account. MAG welding may require modern pulse equipment and the use of special shielding gases containing Ar, He and O₂/CO₂.

Standards & approvals

The most commonly used international product standards are given in the table below.

Standard	Designation
ASME SA-240M Code Sect. II. Part A	UNS S31050
ASTM A240/A240M	UNS S31050
EN 10028-7, PED 2014/68/EU	1.4466
EN 10088-2	1.4466
EN 10088-4	1.4466
IS 6911, AMENDMENT NO. 2	ISS 310MoLN

Contacts & Enquiries

Contact your nearest sales office

www.outokumpu.com/contacts

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