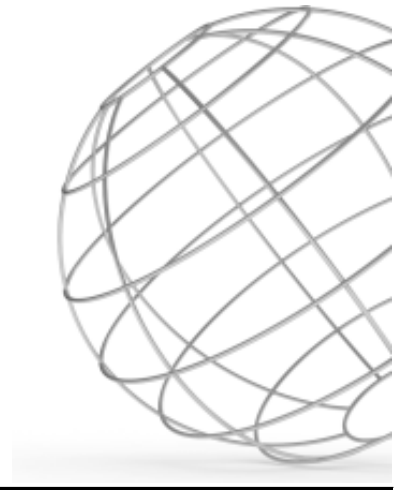




R617.10

EN: **1.4162**
LDX 2101®



R617.10 ("LDX 2101" is a trademark owned by Outokumpu) is a low-alloyed duplex steel (lean duplex) with a high mechanical strength due to its duplex microstructure and high nitrogen content. This grade has general corrosion resistance at least as good as the austenitic grade T302/304. Like all duplex steel, R617.10 show good resistance to chloride exposed stress corrosion and due to its duplex microstructure it also offers very good resistance to intergranular corrosion. Due to its relatively low alloying content, R617.10 is less sensitive to precipitation of intermetallic phases than other duplex steels. Due to the high proof strength of duplex steel, greater work force is required for cold forming than austenitic steel. R617.10 also has excellent machining properties, far better than those possessed by standard austenitic and duplex grades. Other grades with such machinability can be found amongst those where sulphur is added e.g. grade T303. Typical applications are rod and wire for general-purpose applications and environments and products for building and constructions like reinforcement bars.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo	N		
0.030	0.70	5.0	21.5	1.5	0.3	0.230		

PRE: 26 (PRE = Cr + 3.3 x Mo + 16 x N)

Comments:

PHYSICAL PROPERTIES

Condition: Annealed

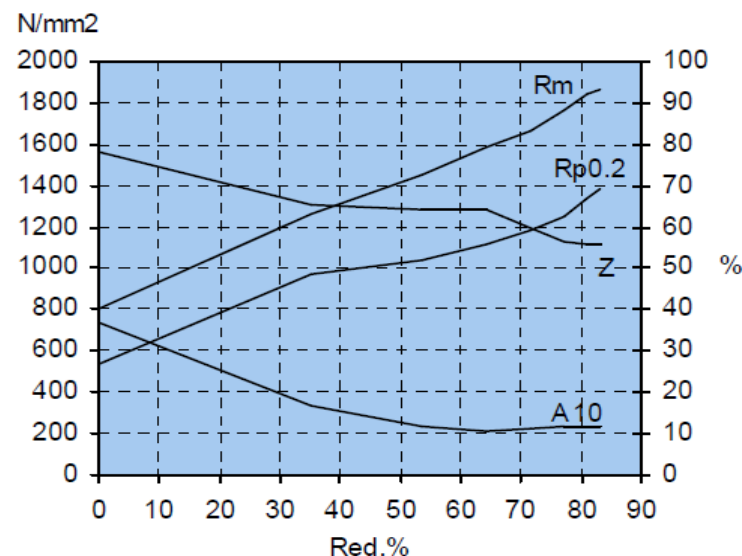
Density	7.8 g / cm ³
Modulus of elasticity, E	200 GPa
Specific heat 0-100°C	530 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: D-cooled or DST-annealed (Direct Solution Treatm.)

Proof strength	Rp0.2	min. 530 N / mm ²
Tensile strength	Rm	750-850 N / mm ²
Elongation	A10	min, 30 %

DEFORMATION GRAPH



THERMAL TREATMENT

Annealing temperature	1020-1080 °C
	1868-1976 °F

MAX. OPERATING TEMPERATURE

Operating temp. in air	300 °C
	570 °F
Scaling temp. in air	°C
	°F

THERMAL CONDUCTIVITY

20 °C	15 W / m°C
100 °C	16 W / m°C
300 °C	17 W / m°C
400 °C	18 W / m°C

THERMAL EXPANSION

Thermal expansion per °C x 10-6 from 20°C to:

100 °C	13.0
200 °C	13.5
300 °C	14.0

RESISTIVITY

20 °C	800 μΩmm
100 °C	850 μΩmm
200 °C	900 μΩmm
300 °C	1000 μΩmm