

MECHANICAL AND CHEMICAL VALUES FOR:  
**SUPER DUPLEX UNS 32760 FLANGES**

The material shall be forged as close as practical to the specified shape and size. Forged or rolled bar may be used without additional hot working for small cylindrical shaped parts below 4"NB. Flanges of any description may not be machined directly from forged or rolled bar.

**DUPLEX, AN AUSTENITIC FERRITIC IRON CHROMIUM-NICKEL ALLOY WITH MOLYBDENIM ADDITION. GOOD RESISTANCE TO PITTING, HAS A HIGH TENSILE STRENGTH AND HIGHER RESISTANCE TO STRESS CORROSION CRACKING AT MODERATE TEMPERATURES TO THAT OF CONVENTIONAL AUSTENITIC STAINLESS STEELS.**

**CHEMICAL COMPOSITION** (All values are maximum unless otherwise stated)

%C	%Cr	%Ni	%Mo	%S	%P	%Si	%Mn	%N	%Cu	%W
0.03	24.0-26.0	6.0-8.0	3.0-4.0	0.01	0.03	1.0	1.0	0.2-0.3	0.5-1.0	0.5-1.0

**UNS 32750 VALUES**

%C	%Cr	%Ni	%Mo	%S	%P	%Si	%Mn	%N	%Cu
0.03	24.0-26.0	6.0-8.0	3.0-5.0	0.02	0.035	0.80	1.20	0.24-0.32	0.5

**MECHANICAL PROPERTIES**

YIELD STRENGTH	TENSILE STRENGTH	ELONGATION (MIN)	REDUCTION OF AREA (MIN)	HARDNESS (MAXIMUM)	ASTM SPECIFICATION
(ksi) (mpa)	(ksi) (mpa)			(HB) (HRC)	
80 550	109 750	25	45	28	ASTM A182 F55
<b><u>UNS 32750 VALUES</u></b>					
80 550	116 800	15	-	310 32	ASTM A182 F55

**PREn (PITTING RESISTANCE EQUIVALANT) (%Cr) + (3.3 x %Mo) + (16 x %N)**

**HEAT TREATMENT**

SOLUTION ANNEALED AT 1100 DEG C—1140 DEG C WATER QUENCH

**EQUIVALENT GRADES**

UNS	SB EN	SWEEDEN SS	GERMANY DIN	SANDVIK +
32760	1.4501	2377	X2 CrNiMoN 22.5.4	-
32750	1.4410	2328	X2 CrNiMoN 25.74	SAF 2507

Duplex is a material having an approximate equal amount of austenite and ferrite. These combine excellent corrosion resistance with high strength. Mechanical properties are approximately double those of singular austenitic steel and resistance to stress corrosion cracking is superior to type 316 stainless steel in chloride solutions. Duplex material has a ductile / brittle transition at approximately - 50 deg°C. High temperature use is usually restricted to a maximum temperature of 300deg°C for indefinite use due to embrittlement