AANURAJ FASTENERS PVT. LTD.

AN ISO 9001:2015 CO.

QUALITY FASTENERS FOR TOUGHER INDUSTRIES

ASTM A1082/A1082M UNS S32750 & UNS S32760 SUPER DUPLEX HEX NUTS

HIGH STRENGTH | EXCELLENT CORROSION RESISTANCE | RELIABLE PERFORMANCE

1 EQUIVALENT MATERIAL NAMES

UNS Grade	Common Name (Trade Name)	EN	Werkstoff No.	Related ASTM Forging Grade (for reference)
UNS S32750	Super Duplex 2507	EN 1.4410	X2CrNiMoN25-7-4	ASTM A182 F53
UNS S32760	Zeron 100	EN 1.4501	X2CrNiMoCuWN25-7-4	ASTM A182 F55

2 CHEMICAL COMPOSITION (wt %) – ASTM A1082/A1082M

Grade	C max	Mn max	Si max	P max	S max	Cr	Ni	Mo	N	Cu	W
UNS S32750	0.030	1.20	0.80	0.035	0.020	24 – 26	6 – 8	3 – 5	0.24 – 0.32	0.50 max	–
UNS S32760	0.030	1.00	1.00	0.030	0.010	24 – 26	6 – 8	3 – 4	0.20 – 0.30	0.50 – 1.00	0.50 – 1.00

3 MECHANICAL PROPERTIES – ASTM A1082/A1082M (Solution Annealed)

Grade	Size Range	Tensile Strength (min)	Yield Strength 0.2% (min)	Elongation (min)	Hardness (max)
UNS S32750	Up to 2 in.	800 MPa / 116 ksi	550 MPa / 80 ksi	15%	310 HB / 33 HRC
UNS S32760	Over 2 in.	760 MPa / 110 ksi	515 MPa / 75 ksi	15%	310 HB / 33 HRC
UNS S32760	All sizes	750 MPa / 109 ksi	550 MPa / 80 ksi	25%	290 HB / 30 HRC

4 PITTING RESISTANCE EQUIVALENT NUMBER (PREN)

PREN = Cr + 3.3Mo + 16N

For UNS S32760 (with W):

$PREN^{w}$ = Cr + 3.3(Mo + 0.5W) + 16N

Grade	PREN (Typical)
UNS S32750	≥ 40 (typically 41 – 43)
UNS S32760	≥ 40 (per ASTM A1082)

PREN is calculated from the actual heat chemistry reported on the MTC.

5 SOLUTION ANNEALING

Grade	Solution Annealing Temperature
UNS S32750	1025 – 1125 °C
UNS S32760	1100 °C

Process

Heat uniformly to the specified solution annealing temperature, hold sufficiently for the section size, then rapidly water quench to room temperature. Avoid prolonged exposure within the critical precipitation temperature range.

6 PRODUCT DIMENSIONS (REFER STANDARD)

Product	Metric Standard	Inch Standard
Studs / Threaded Rods	Applicable ISO / customer spec.	ASME B18.31.2 (or as specified)
Hex Bolts / Hex Cap Screws	ISO 4014 / ISO 4017	ASME B18.2.1
Hex Nuts	ISO 4032	ASME B18.2.2
Heavy Hex Nuts	ISO 4033	ASME B18.2.2
Washers	ISO 7089 / ISO 7090	ASME B18.21.1

Size Range: Metric M6 – M64+ and Inch 1/4 in – 4 in+ (subject to product type, standard and customer requirement).

7 KEY FEATURES

EXCELLENT CORROSION RESISTANCE
Resists pitting, crevice corrosion and stress corrosion cracking in chloride environments.

HIGH STRENGTH
Superior mechanical properties with duplex austenitic-ferritic microstructure.

IDEAL FOR DEMANDING APPLICATIONS
Suitable for oil & gas, chemical, petrochemical, marine, offshore and process industries.

8 PRODUCT RANGE

Studs | Hex Bolts | Hex Nuts | Heavy Hex Nuts | Washers

Available in Metric & Inch sizes | UNC / UNF / Metric threads

OIL & GAS

CHEMICAL PROCESSING

MARINE & OFFSHORE

PETROCHEMICAL

POWER GENERATION