ASTM A790 UNS S32750 Pipe Specification | Super Duplex 2507 Seamless & Welded Pipes

ASTM A790 UNS S32750 specifies **seamless and welded super duplex stainless steel pipes** intended for high-temperature and corrosive environments. **UNS S32750** (also known as **Super Duplex 2507**) offers outstanding mechanical strength, **excellent resistance to chloride-induced corrosion**, and exceptional performance in aggressive media such as seawater, brine, and chemical processing fluids.

Designation

- **Standard**: ASTM A790 / ASME SA790
- **Material**: Super Duplex Stainless Steel
- **UNS Number**: S32750
- **EN Equivalent**: 1.4410
- **Trade Name**: Super Duplex 2507
- **Product Form**: Seamless and Welded Pipes

Size Range

Parameter	Range
Outside Diameter	½” to 24” (Seamless), up to 48” (Welded)
Wall Thickness	SCH 10S to SCH 160 / Custom
Pipe Length	Single Random (SRL), Double Random (DRL), Fixed up to 12m
Pipe Ends	Beveled Ends (BE), Plain Ends (PE), Threaded Ends (NPT/BSP)

Chemical Composition (%)

UNS Designation	Type	C	Mn	P	S	Si	Ni	Cr	Mo	N	Cu	Others
S32750	2507	0.03	1.2	0.035	0.02	0.8	6.0–8.0	24.0–26.0	3.0–5.0	0.24–0.32	0.5	...

UNS S32750 Pipes Mechanical Properties and hardness requirement

UNS Designation	Type	Tensile Strength, min, ksi [MPa]	Yield Strength, min, ksi [MPa]	Elongation in 2 in. or 50 mm, min, %	Hardness, max - HBW	Hardness, max - HRC
S32750	2507	116 [800]	80 [550]	15	300	32

S32750 Pipe Heat Treatment Condition

UNS Designation	Type	Temperature °F [°C]	Quench
S32750	2507	1880–2060 [1025–1125]	Rapid cooling in water or by other means

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Testing Requirements

- Tensile Test
- Flattening Test (for welded pipes)
- Hydrostatic Test or Nondestructive Electric Test
- Intergranular Corrosion Test (if required)
- Visual and Dimensional Inspection
- PMI (Positive Material Identification)

Key Benefits of S32750 Pipes

- High strength (twice that of 316L)
- PREN > 40 → excellent pitting resistance
- Exceptional resistance to chloride SCC
- Low thermal expansion, high thermal conductivity
- NACE MR0175/ISO 15156 compliant for sour service

Applications

- Offshore platforms and subsea piping
- Desalination systems and seawater RO plants
- Chemical injection lines and acid processing
- Pulp & paper bleach plants
- Firefighting water lines in marine facilities
- High-pressure heat exchanger and boiler systems

Marking & Packaging

- Marked with: Standard + Grade + Size + Heat No. + Schedule
- Plastic end caps
- Bundled with steel straps

Certification & Documentation

- EN 10204 3.1 / 3.2 Mill Test Certificate
- NACE MR0175 / ISO 15156 Compliance
- ASME / PED / ISO 9001 Certification
- Third-Party Inspection (TPI): SGS, BV, TUV upon request