



BRODER METALS GROUP Duplex F44

The word *duplex* is based upon the concept that the material has a two-phase microstructure consisting of grains of ferritic and austenitic stainless steel formulated in the same material. The term "Super-Duplex" denotes high-performance Duplex steel based on elevated contents of chromium, nickel and molybdenum to improve pitting corrosion resistance, while additions of nitrogen promoted structural hardening, raising the yield strength and ultimate strength values without impairing toughness.

Duplex stainless steels are about twice as strong as regular austenitic or ferritic stainless steels, have significantly better toughness and ductility than ferritic grades (although they do not reach the values of austenitic grades), have a range of corrosion resistance comparable to the range for austenitic stainless steels, have very good stress corrosion cracking resistance, and Duplex steels are cost-effective in a number of ways.

F44 is an austenitic stainless steel used in seawater and other aggressive chloride-bearing media. This grade has excellent resistance to pitting and crevice corrosion, high resistance to general corrosion and stress corrosion cracking, with a higher strength than conventional austenitic stainless steels, and good weldability.

Specifications

254SMO, UNS S31254; EN 1.4547

Broder Metals Group can supply Pipe, Plate and Rings as well as round bar from 10 mm through to 462 mm – please contact us with your requirements.

Technical Data—Nominal Percentages:

Chemical Content %	C	Mn	Si	S	P	Cr	Ni	Mo	Cu	N	W	PREN
F44	≤ 0.02	≤ 1.00	≤ 0.70	≤ 0.01	≤ 0.03	19.5-20.5	17.5-18.5	6.0-6.5	0.5-1.0	0.18-0.22		40

Mechanical Data

Mechanical (Room temperature)	UTS	0.2% Proof Strength	Elongation	Reduction in area	Hardness
F44	650-850 Mpa	≤ 300 Mpa	35.00%	50.00%	≤ 260 HB

Duplex F44 is just one of a range of corrosion resistant materials stocked by Broder Metals Group Ltd – please see our website for the full range stocked: www.broder-metals-group.com

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