



BRODER METALS GROUP UNS S31254 F44

F44 is a fully austenitic alloy containing 6% molybdenum and provides excellent corrosion resistance in a wide variety of aggressive, aqueous environments. We find customers replace austenitic stainless steels such as AISI 316 where their capabilities are pushed to their performance limits (even if cold drawn as in our range of High Tensile Stainless steels for fastener manufacturers).

Applications

F44 is ideally suited to chemical and food processing, condenser tubing, water heaters for the power industry, paper bleaching plants, marine and offshore platform equipment, pollution control systems, and piping.

Chemical Composition:

	C	Cr	Cu	Fe	Mo	Mn	N	Ni	P	S	Si
Min	-	19.5	0.5	Balance	6	-	0.18	17.5	-	-	-
Max	0.02	20.5	1.0		6.5	1.0	0.22	18.5	0.030	0.010	0.8

Melt practice: E+AOD or equivalent

Heat Treatment & finish condition: Annealed & Peeled

Tensile Strength (MPa /N/mm ²)	655-850
0.2% Proof Stress (MPa /N/mm ²) minimum	305
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Elongation (A5 & 4D) minimum	35.00%
Reduction of Area minimum	50.00%
Hardness (HB) maximum	220
Charpy V-notch Impact at ambient Temp (J)	100 minimum
ASTM G48 method A Corrosion test at 50°C	No pitting and weight loss <0.8g/m ²
Ultrasonic Testing	At customer's request
Ferrite Content	35%-55%
Microstructure	Microstructure certified free from grain boundary carbides, sigma, chi and laves phases

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

Broder Metals provide F44 with our global same day quote, next day dispatch service. All our metals are fully traceable for your confidence, with clear certification delivered electronically or sent with the material as requested. For more information, contact us.

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