

ASTM A240/A240M Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

Duplex (Austenitic-Ferritic) steel

UNS Designation : S31803

Chemical Composition Requirements, %

C: ≤ 0.030

Mn: ≤ 2.00

P: ≤ 0.030

S: ≤ 0.020

Si: ≤ 1.00

Cr: 21.0-23.0

Ni: 4.5-6.5

Mo: 2.5-3.5

N: 0.08-0.20

Mechanical Test Requirements

Tensile Strength: ≥ 620 MPa

Yield Strength: ≥ 450 MPa

Elongation in 2 in. or 50 mm: $\geq 25\%$

Hardness:

Brinell: ≤ 293

Rockwell (C scale): ≤ 31

Cold bend: not required