

350WA SANS 1431 (South Africa)

Standards

SANS 1431

Weldable structural steel

Chemical composition

C < 0.22	Si < 0.5	Mn < 1.6	P < 0.05
S < 0.05	V < 0.1	Nb < 0.1	Al < 0.1
Fe Rest	CE < 0.45		

$CE = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15$

$Cu + Ni + Cr + Mo < 0.5$

$Nb + V < 0.1$ (if used in combination)

Plates: $P < 0.04$, $S < 0.04$

Properties

By SANS 1431

Plate

Thickness: 1.5 - 16.0 mm ;

Yield Strength: > 350 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Thickness: 16 - 40 mm ;

Yield Strength: > 350 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Thickness: 40 - 63 mm ;

Yield Strength: > 340 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Thickness: 63 - 100 mm ;

Yield Strength: > 325 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Thickness: 100 - 150 mm ;

Yield Strength: > 305 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Flat bars and sections

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Thickness: < 16 mm ;

Yield Strength: > 350 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Thickness: 16 - 25 mm ;

Yield Strength: > 345 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Thickness: 25 - 40 mm ;

Yield Strength: > 345 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Thickness: 40 - 63 mm ;

Yield Strength: > 340 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Thickness: 63 - 100 mm ;

Yield Strength: > 325 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 18 %

Round and square bars

Diameter or thickness: < 25 mm ;

Yield Strength: > 350 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 20 %

Diameter or thickness: 25 - 50 mm ;

Yield Strength: > 350 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 20 %

Diameter or thickness: 50 - 63 mm ;

Yield Strength: > 345 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 20 %

Diameter or thickness: 63 - 100 mm ;

Yield Strength: > 330 MPa

Tensile Strength: 480 - 650 MPa

Elongation: > 20 %

Diameter or thickness: 100 - 160 mm ;

Yield Strength: > 325 MPa

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Tensile Strength: 480 - 650 MPa

Elongation: > 20 %

Calculated properties

Density: 7.83 g/cm³