

ENGINEERING DATA SHEET

DSM 1.2.11

ASMP

FERRITIC STAINLESS STEEL

1.4509 - With BS EN 10088-2- 2J Finish

General:

Stainless steel producers have been developing new grades. These new grades are sometimes developed for specific end uses and sometimes to improve upon an existing grade.

Type 1.4509 spans both of these two areas since it was developed for a particular range of applications in certain industries where it can be used in place of type 1.4301 (304). On some aspects, its properties and performance in service are actually superior to 304 whilst on others it falls between 430 and 304. However, it is also a lower cost than 304.

Type 1.4509 is a Ferritic Stainless Steel. When in quenched condition the material can be slightly magnetizable. With increasing cold forming the magnetizability increases.

The Fine Grain structure of this steel results in significant improvements to edge & thru material definition when using laser cutting processes for stencil apertures.

This grade combines the following characteristics:

- Deep Drawing
- Good Weldability
- Good pitting corrosion resistance
- Good brightness
- Polishes well

BS EN 10088-2- 2J Finish

Abbreviation	Finishing Process Route	Notes	Typical (Ra) micro-metres
1J or 2J	Brushed or Dull Polished	Can be based on either '1' or '2' ex-mill finishes Smoother than "G" with a unidirectional texture, not very reflective	0.2-1.0

These values are representative of the material. For critical applications, refer to Vendors Datasheet.

TYPICAL MECHANICAL PROPERTIES @20°C

DENSITY:	7700 Kg/m ³
YOUNGS MODULUS:	220 GPa
YIELD STRENGTH	230 MPa
TENSILE STRENGTH	430 - 630 MPa
Grain Size	1 - 2µm

CHEMICAL ANALYSIS	1.4509	BENEFIT
C	0.03 Max	Improves hardness & strength.
Si	1 Max	Combined with Chrome, improves tensile strength.
Mn	1 Max	Combines with sulphur: good machining & finish.
P	0.04 Max	Increases resistance to corrosion.
S	0.015 Max	Good for machining.

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Cr	17.5 – 18.5	Good for corrosion resistance.
Ti	0.1 – 0.6	Provide increased strength.

COUNTRY	MATERIAL STANDARD
BRITISH: BS	1.4509
AMERICAN: SAE	441
EUROPEAN STEEL No.	X2CrTiNB18
JAPANESE GRADE	JIS SUS430LX

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