

**THERMET 309H**



Thermet 309H is designed for welding similar austenitic high carbon 309 castings; lower carbon cast and wrought alloys are matched by Thermet 309CF. Depending on the balance of Cr and Ni the high carbon castings may be fully austenitic or may contain a small percentage of ferrite. These alloys have good resistance to oxidation, sulphidation and abrasion at temperatures up to about 1050°C, with applications in furnace parts, petrochemical and cement plants. They are generally not used for critical load bearing structures.

**CLASSIFICATIONS**

There are no national specification for this electrode.

**CHEMICAL ANALYSIS**

<b>% Carbon</b>	0.300	<b>% Nickel</b>	13.00
<b>% Manganese</b>	1.700	<b>% Molybdenum</b>	0.050
<b>% Silicon</b>	0.400	<b>% Copper</b>	0.100
<b>% Sulphur</b>	0.010	<b>% Nitrogen</b>	0.120
<b>% Phosphorus</b>	0.020	<b>% Ferrite</b>	<2.00
<b>% Chromium</b>	26.00		

**TYPICAL MECHANICAL PROPERTIES  
ALL WELD METAL**

<b>Tensile Strength</b>	780 - 840 MPa
<b>0.2% Proof Stress</b>	550 - 600 MPa
<b>Elongation on 4d</b>	14 - 25%

**Microstructure**

In the as-welded condition the microstructure consists of austenite with primary and secondary carbides and possible traces of ferrite.

**PACKING DATA**

(DC+)

<b>Diameter (mm)</b>	<b>Current (A)</b>	<b>Item Number</b>	<b>Canned Pack Mass (Kg)</b>
3.20	75 - 120	078-058	5
4.00	100 - 155	078-060	4.8

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