

IABCO 1.4455

MIG and TIG wire for austenitic stainless steel

Product name	IABCO 1.4455																
Classification EN ISO	14343-A: G/W 20 16 3 Mn L																
Material No.	-																
Classification AWS	A5.9: ER316LMn																
Approvals	-																
Applications	<p>For welding nominally 316L austenitic stainless steel base materials where either fully austenitic or non-magnetic weld metal is required. The 1.4455 wire is used where non-magnetic weld deposits are required for some instrumentation applications and also fittings in minesweepers.</p> <p>Unlike conventional 316L weld metals that contain typically 10% ferrite, the 1.4455 wire produces a fully austenitic weld deposit with no ferrite which has very good corrosion resistance to nitric acid, nitrates and urea.</p> <p>The fully austenitic weld metal deposited by the 1.4455 wire also has very good cryogenic impact properties down to -269°C.</p> <p>The nitrogen addition to 1.4455 provides a strength level higher than standard 316L weld metal and so the wire may be suitable for welding some higher strength nitrogen alloyed stainless steels.</p>																
Base materials	For Mo bearing austenitic stainless steels.																
Typical analysis of wire, weight %	<table> <tr> <td>C:</td> <td>0.01</td> <td>Si:</td> <td>0.50</td> </tr> <tr> <td>Mn:</td> <td>7.0</td> <td>Cr:</td> <td>20.2</td> </tr> <tr> <td>Ni:</td> <td>16.5</td> <td>Mo:</td> <td>3.0</td> </tr> <tr> <td>N:</td> <td>0.16</td> <td></td> <td></td> </tr> </table>	C:	0.01	Si:	0.50	Mn:	7.0	Cr:	20.2	Ni:	16.5	Mo:	3.0	N:	0.16		
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Typical heat treatment ⁽¹⁾	<p>Preheat: Not required.</p> <p>Interpass temperature: 150°C.</p> <p>PWHT: Not required.</p>																
Mechanical properties of weld deposit ⁽²⁾	<table> <tr> <td>0.2% proof stress, Rp0.2%:</td> <td>≥350MPa.</td> </tr> <tr> <td>Tensile strength, Rm:</td> <td>≥560MPa.</td> </tr> <tr> <td>Elongation, 4d/5d:</td> <td>≥30%.</td> </tr> <tr> <td>Impact, ISO-V, -196°C:</td> <td>≥50J.</td> </tr> </table>	0.2% proof stress, Rp0.2%:	≥350MPa.	Tensile strength, Rm:	≥560MPa.	Elongation, 4d/5d:	≥30%.	Impact, ISO-V, -196°C:	≥50J.								
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Other products	-																

Notes (1) Application codes and project specifications should always be referred to for specific requirements.

(2) Actual mechanical properties will be dependent on specific welding procedure (including shielding gas, flux, PWHT etc) and should always be confirmed by approval of an appropriate welding procedure.