


Classification						
EN ISO 17633-A		EN ISO 17633-B		AWS A5.22		
T 19 9 Nb R M/C3		-		E347T0-4/-1		
Characteristics and typical fields of application						
<p>Avesta FCW-2D 347/MVNB is a Nb-stabilised Cr-Ni flux-cored wire for welding steels that are stabilised with titanium or niobium, such as 1.4541/ASTM 321. A stabilised weldment has improved high temperature properties, e.g. creep resistance, compared to low-carbon non-stabilised grades. This wire is primarily used for applications with service temperatures above 400°C.</p> <p>Avesta FCW-2D 347/MVNB provides excellent weld ability in flat as well as horizontal-vertical position. Welding in vertical-up and overhead positions is preferably done using FCW 347/MVNB-PW.</p> <p>Avesta FCW-2D 347/MVNB should be welded using direct current positive polarity (DC+) with a recommended wire stick-out of 15 – 20 mm.</p> <p><b>Corrosion resistance:</b></p> <p>Primarily intended for high temperature service or applications that should be heat treated. However, the corrosion resistance corresponds to that of 308H. i.e. good resistance to general corrosion.</p>						
Base Materials						
Outokumpu	EN	ASTM	BS	NF	SS	
4541	1.4541	321	321S31	Z6 CNT 18-10	2337	
-	1.4550	347	347S31	Z6 CNNb 18-10	2338	
Typical analysis of all-weld metal (wt.-%)						
	C	Si	Mn	Cr	Ni	Nb
wt-%	0.03	0.6	1.6	19.4	10.5	>8xC
Mechanical properties of all-weld metal						
Heat-treatment	Yield strength R <sub>e</sub> N/mm <sup>2</sup>	Tensile strength R <sub>m</sub> N/mm <sup>2</sup>	Elongation (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J		Hardness
	MPa	MPa	%	+20 °C		HB
u	420	600	35	75		220
u untreated, as-welded – shielding gas Argon + 18 % CO <sub>2</sub>						
Operating data						
	<b>Polarity</b> DC ( + )	<b>shielding gases:</b> Ar + 15 – 25% CO <sub>2</sub> 100 % CO <sub>2</sub>	<b>re-drying if necessary:</b> 150°C / 24 hrs	<b>amps A</b> 125 – 280	<b>voltage V</b> 20 – 34	<b>ø (mm)</b> 1.2
Ar + 15 – 25% CO <sub>2</sub> offers the best weld ability, but 100% CO <sub>2</sub> can be also used (voltage should be increased by 2V). Gas flow rate 20 – 25 l/min.						
Approvals						
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