

## GAP ANALYSIS FOR ISO 15614-1 & EN 288

Report No:003

Date:25/06/14

Sr No.	Details	ISO 15614-1	EN 288																																													
1	1.1	Scope	<p>This standard specifies how a preliminary welding procedure specification is qualified by welding procedure tests.</p> <p>This standard defines general rules for the specification and approval of welding procedures for metallic materials. This standard also refers to several other standards as regards detailed rules for specific applications.</p>																																													
2	2.1	Qualification	As per Table 1 - Examination and Testing of the Test pieces																																													
	2.2	The diameter of the former or the inner roller shall be 4t and the bending angle shall be 180° for parent metal with elongation A > 20 %.	EN ISO 15614-1 adopts the same mechanical test as EN 288-1, except that the bed test minimum former angle has been increased from 120 deg to 180 deg. Fillet welds require a minimum of 4 macros. When impact testing is required the minimum thickness has been reduced from 12mm to 6mm.																																													
	2.3	EN ISO 15614-1, makes no distinction between multi-pass and single pass welds. The maximum values for material in group 1 and 2, is the same as that stated in EN 288-3 for single run welds(non heat treated 280Hv10max, Heat Treated 320Hv10max)																																														
3	3.1	Base metal thickness	Both thickness in the joint are given independent approval ranges if they differ.																																													
			<p style="text-align: center;"><b>Range of Approval</b> <i>Butt and branch weld thickness and weld deposit</i></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Test Piece Thickness (t) and also Deposit Thickness for multiple process welds</th> <th colspan="2">EN ISO15614-1</th> <th colspan="2">EN 288-3</th> </tr> <tr> <th>Single run</th> <th>Multiple run</th> <th>Single run</th> <th>Multiple run</th> </tr> </thead> <tbody> <tr> <td>≤ 3mm</td> <td>0.7t- 1.3t</td> <td>0.7t - 2t</td> <td>0.8t - 1.1t</td> <td>t - 2t</td> </tr> <tr> <td>&lt;3 ≤ 12mm</td> <td>0.5t (3min) - 1.3t</td> <td>3mm - 2t</td> <td>0.8t - 1.1t</td> <td>3mm - 2t</td> </tr> <tr> <td>&gt;12 ≤ 100mm</td> <td>0.5t-1.1t</td> <td>0.5t - 2t</td> <td>0.8t - 1.1t</td> <td>0.5t - 2t</td> </tr> <tr> <td>&gt;100mm</td> <td>Not Applicable</td> <td>50mm - 2t</td> <td>0.8t - 1.1t</td> <td>0.5t - 1.5t</td> </tr> </tbody> </table> <p style="font-size: small; text-align: center;">Note:- The upper range of approval is 12mm if there is an impact requirement and impact testing has not been carried out</p> <p style="text-align: center;"><b>Range of Approval</b> <i>Fillet weld thickness and Throat Thickness EN ISO15614-1</i></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Test Piece Thickness (t)</th> <th>Plate Thickness</th> <th colspan="2">Throat Thickness</th> </tr> <tr> <th>Single and Multiple Run</th> <th>Single run</th> <th>Multiple run</th> </tr> </thead> <tbody> <tr> <td>t ≤ 3mm</td> <td>0.7t- 2t</td> <td>0.75 a - 1.5 a</td> <td>No Restriction</td> </tr> <tr> <td>3 &lt; t &lt; 30mm</td> <td>0.5t (3min) - 1.2t</td> <td>0.75 a - 1.5 a</td> <td>No Restriction</td> </tr> <tr> <td>t ≥ 30mm</td> <td>≥ 5mm</td> <td>Throat thickness welded, No approval range</td> <td>No Restriction</td> </tr> </tbody> </table> <p style="font-size: small; text-align: center;">Fillet welds Qualified by butt welds:- The throat thickness approval range is based on the deposit thickness and the plate thickness range will have to be modified to that stated above.</p>	Test Piece Thickness (t) and also Deposit Thickness for multiple process welds	EN ISO15614-1		EN 288-3		Single run	Multiple run	Single run	Multiple run	≤ 3mm	0.7t- 1.3t	0.7t - 2t	0.8t - 1.1t	t - 2t	<3 ≤ 12mm	0.5t (3min) - 1.3t	3mm - 2t	0.8t - 1.1t	3mm - 2t	>12 ≤ 100mm	0.5t-1.1t	0.5t - 2t	0.8t - 1.1t	0.5t - 2t	>100mm	Not Applicable	50mm - 2t	0.8t - 1.1t	0.5t - 1.5t	Test Piece Thickness (t)	Plate Thickness	Throat Thickness		Single and Multiple Run	Single run	Multiple run	t ≤ 3mm	0.7t- 2t	0.75 a - 1.5 a	No Restriction	3 < t < 30mm	0.5t (3min) - 1.2t	0.75 a - 1.5 a	No Restriction	t ≥ 30mm
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