

EN287 Part 1 : 2004

Note, the proposed revision to ISO 9606 Part 1 has not been agreed.
Therefore EN287 Part 1 will continue. This does not affect the other parts
of ISO 9606

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EN 287-1:2004 Welder Approval Testing

Test pieces for butt, fillet, pipe, fillet to pipe are identical to old EN 287-1

Each process in a multi process weld can be used separately with the range of thickness dictated by the deposit thickness attributed to that process, $t = s$.

Range of Approval for Butt Welds

Same as the old version of EN 287-1

Range of Approval For Fillet Welds

Plate thickness, $t < 3\text{mm}$, Approves a range = t to 3mm

Plate thickness, $t \geq 3\text{mm}$, Approves all thicknesses from 3mm

single layer fillet weld approves single layer only

multi layer fillet weld approves single and multi layer

Branch Welds

Qualified by pipe butt welds for branch angles $\geq 60^\circ$

- **Set on:- Branch diameter and branch thickness considered in approval**
- **Set in :- Main pipe thickness and branch diameter considered in approval**

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Diameters

The approval range for pipe diameters according to EN ISO 9606-1 :-

Pipe Diameter < 25mm D to 2 D

Pipe Diameter > 25mm 0.5D (25mm Min) and above + Plates

Note:-

The testing of small bore pipes require a minimum circumference of 150mm, or additional test pieces must be welded to a maximum of 3.

EN 287-1:2004 Welder Approval Testing:- Material Groups

EN 287-1:2004 (Note:- Check flux type approval range table 3)			Old EN 287-1
Group	Approval Range	Grade	
1.1, 1.2, 1.4	1.1, 1.2, 1.4	C steel ≤ 460 Re	WO1
2 + 1.3	1, 2, 3, 9.1, 11	TMCP steel > 360 Re	WO3
3	1, 2, 3, 9.1, 11	Q+T, PH steels > 360 Re	
4	1, 2, 3, 9.1, 4, 5, 6, 7, 11	Low V CrMo steels	WO2
5	1, 2, 3, 9.1, 4, 5, 6, 7, 11	C ≤ 0.35 CrMo, noV steel	
6	1, 2, 3, 9.1, 4, 5, 6, 7, 11	High V CrMo(Ni) steel	
7	1, 2, 3, 9.1, 4, 5, 6, 7, 11	10.5 \leq Cr ≤ 30 steel	WO4
8	8, 9.2, 9.3, 10	Austenitic steel	W11
9.1	1, 2, 3, 9.1, 11	Ni steels $< 3\%$ max	
9.2, 9.3	9.2, 9.3, 1.1, 1.2, 1.4	Ni steels 10% max	
10	8, 9.2, 9.3, 10	Duplex stainless steel	W11
11	1.1, 1.2, 1.3, 1.4, 11	C steels $0.25 < C \leq 0.5$	

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Range of Approval for Electrode Coating

The approval range for EN 287-1:2004, is similar to the old EN287-1

For a single sided root run with no backing, no change of flux type is permitted. The following approval range is permitted for the fill and capping runs:-

- **Basic approves basic (B), rutile (R), acid (A) and combinations**
- **Cellulosic (C) approves cellulosic only**
- **Rutile approves R, RR, RA, RB, RC**

EN 287-1:2004 also differentiates between solid and cored wires

A Solid wire approves metal cored and vice versa, but not Flux cored wires.

Basic FCAW approves all FCAW wires

Rutile approves rutile and basic wires only

General:- The filler material must be compatible with the parent material used for the test weld

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Range of Approval on Position

EN 287-1: 2004 Has a similar positional approval range to the old EN287-1

Generally more difficult position approves for easier positions

**e.g. fixed inclined pipe approves all except V-down (PG)
Overhead (PE) approves all except V-down (PG)**

JL045 Approves all positions except HL045 and PF

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Validity Of Approval

The prolongation rules are the same for both EN 287-1:2004 and EN 287-1:1992

EN 287-1:2004

Valid for 2years, providing that the welders supervisor can confirm that at every six month period the welder has been working within his range of qualification.

Prolonged for periods of 2 years by examining body , on the basis of satisfactory evidence from volumetric testing on at least two items of production work or test welds, produced in the previous six month period. They must be traceable to the welder, satisfy the acceptance requirements of ENISO 5817 and reproduce the original test conditions. The evidence of these tests must be retained for 2 years.

EN ISO 9606 Welder Approval Testing

EN ISO 9606 - 4: 1999 Nickel and Nickel Alloys

W 41: Pure nickel
W 42: Nickel-copper alloys
W 43: Nickel-chromium alloys
W 44: Nickel-molybdenum alloys
W 45: Nickel-iron-chromium alloys
W 46: Nickel-chromium-cobalt alloys
W 47: Nickel-iron-chromium-copper

Note:- The alloy content for W41 to W47 is based on CR12187 which has now been superseded by CR15608. This reduces the qualifying Nickel content for group 44 from a minimum of 45% to 30%

A test in W41 approves W41 to W47 not vice versa
A test in any group W42 to W47 approves all of the groups
A test in any group W41 to W47 approves 8 {Austenitic Stainless Steel}
EN287-1

Acceptance is the same as EN 287-1:2004 *EN ISO 5817*

Thickness and diameter approval ranges are basically the same as EN287-1:2004