



SLOVENSKI STANDARD SIST EN 12627:2018

01-januar-2018

Nadomešča:
SIST EN 12627:2000

Industrijski ventili - Zunanji varilni nastavki za jeklene ventile

Industrial valves - Butt welding ends for steel valves

Industriearmaturen - Anschweißenden für Armaturen aus Stahl

Robinetterie industrielle - Extrémités à souder en bout pour appareils de robinetterie en acier

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EN 12627:2017

ICS:

23.060.01 Ventili na splošno Valves in general

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EUROPEAN STANDARD

EN 12627

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2017

ICS 23.060.01

Supersedes EN 12627:1999

English Version

Industrial valves - Butt welding ends for steel valves

Robinetterie industrielle - Extrémités à souder en bout
pour appareils de robinetterie en acier

Industriearmaturen - Anschweißenden für Armaturen
aus Stahl

This European Standard was approved by CEN on 18 September 2017.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 12627:2017) has been prepared by Technical Committee CEN/TC 69 “Industrial valves”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2018, and conflicting national standards shall be withdrawn at the latest by May 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12627:1999.

The main changes compared to the previous edition are:

- a) change of the tolerance value and diameter for DN 65 in Table 2;
- b) introduction of angle α in Figures 2, 3, 4, 5 and 6.
- c) editorial revision of this standard;
- d) deletion of Annex A giving the basis document from which the previous edition was taken.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 12627:2017(E)**1 Scope**

This European Standard specifies the dimensions of butt welding ends of steel valves DN 8 to DN 1 400 designed to be butt welded to standardized pipes.

NOTE The outside diameters and wall thickness of standardized pipes are in accordance with ISO 4200.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 736-1, *Valves — Terminology — Part 1: Definition of types of valves*

EN 736-2, *Valves — Terminology — Part 2: Definition of components of valves*

EN 736-3, *Valves — Terminology — Part 3: Definition of terms*

EN 1092-1, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

ASME B16.25, *Buttwelding Ends*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 736-1, EN 736-2 and EN 736-3 apply.

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4 Symbols

<https://standards.iteh.ai/catalog/standards/sist/7ccdeb56-98bb-4e50-98b5-88d545a4b309/sist-en-12627-2018>

The symbols used in this standard are as follows:

$\varnothing A$ is the outside diameter of the valve butt welding end, in mm (see Table 2);

$\varnothing B$ is the inside diameter of the pipe, in mm;

T is the wall thickness of the pipe, in mm;

t_D is the thickness of the valve butt welding end, in mm;

t_n is the transition, in mm.

5 Requirements**5.1 Selection of angle α**

Angle α shall be selected from Table 1.

Table 1 — Selection of angle α

Type of weld-end	α	Deviation	Referred basic standard
A	30°	+5	EN 1092-1
B	37,5°	±2,5	ASME B16.25

5.2 Selection of other dimensions

Butt welding ends of steel valve bodies shall have the form and dimensions shown in Figures 1, 2, 3, 4 or 5, unless otherwise stated that the weld to the pipe is to be ultrasonically tested.

Where the weld to the pipe is to be ultrasonically tested, butt welding ends of steel valve bodies shall have the form and dimensions shown in Figures 4 and 5, except that for globe valves of "Z" form the 10° maximum angle can be increased to 20° maximum.

For pipe wall thickness, T , greater than 4 mm and less than or equal to 22 mm, Figures 2 or 4 shall be used. For valves having a wall thickness, t_D , of less than or equal to 4 mm, the butt welding ends can be cut square as shown in Figure 1.

For pipe wall thickness of more than 22 mm, Figures 3 or 5 shall be used.

The inside and outside surfaces of the butt welding end shall be machined all over. The internal profile of the body is at the discretion of the manufacturer unless otherwise specified by the purchaser.

The outside diameter, $\varnothing A$, of the butt welding end shall have the dimensions and tolerances as shown in Table 2 when the allowable stress of the valve butt welding end material is greater than or equal to that of the pipe material.

Table 2 — Dimensions and tolerance of outside diameter, $\varnothing A$, of butt welding ends

Valve nominal size	DN 8	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	
$\varnothing A$ in mm	14	18	22	28	35	44	50	62	78	91	117	
Tolerance in mm	+2,5 -1		+2,5 -1,5		+2,5 -2			+2,5 -2,5				
https://standards.iteh.ai/catalog/standards/sist/7ccdeb56-98bb-4e50-98b5-88d545a4b309/sist-en-12627-2018												
Valve nominal size	DN 125	DN 150	DN 200	DN 250	DN 300	DN 350	DN 400	DN 450	DN 500	DN 600	DN 700	DN 750
$\varnothing A$ in mm	144	172	223	278	329	362	413	464	516	619	721	772
Tolerance in mm	+4 -2,5											
Valve nominal size	DN 800	DN 900	DN 1 000	DN 1 200	DN 1 400							
$\varnothing A$ in mm	825	927	1 029	1 235	1 440							
Tolerance in mm	+4 -2,5											

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When the allowable stress of the valve butt welding end material is less than that of the pipe material the thickness of the valve butt welding end shall be increased to compensate as shown in Figure 6. The thickness of the valve butt welding end shall be determined according to both Formulae (1) and (2).

$$t_D = \frac{S_p}{S_v} \times T \quad (1)$$

$$t_D \leq 1,5 \times T \quad (2)$$

where

S_p is the allowable stress of pipe material;

S_v is the allowable stress of valve butt welding end material.

The inside diameter of the butt welding end shall be equal to the inside diameter of the pipe to which it is to be welded to within the tolerance stated in Table 3.

Table 3 — Tolerance of inside diameter of butt welding ends

Valve nominal size	DN 8 to DN 250	DN 300 to DN 450	DN 500 to DN 1 400
Tolerance in mm	+1 -1	+2 -2	+3 -2

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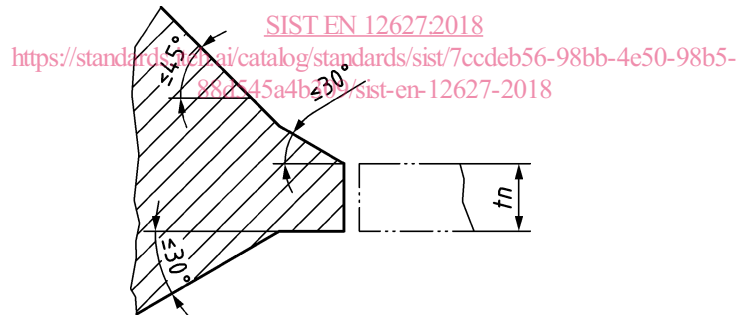


Figure 1 — Buttwelding ends preparation for valves and transitions $t_n \leq 4\text{mm}$

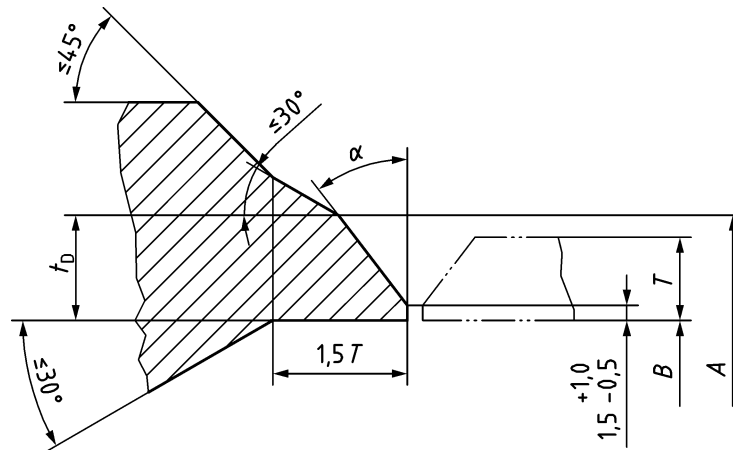


Figure 2 — Single-V butt weld end connection to pipe of wall thickness $4 \text{ mm} < T \leq 22 \text{ mm}$

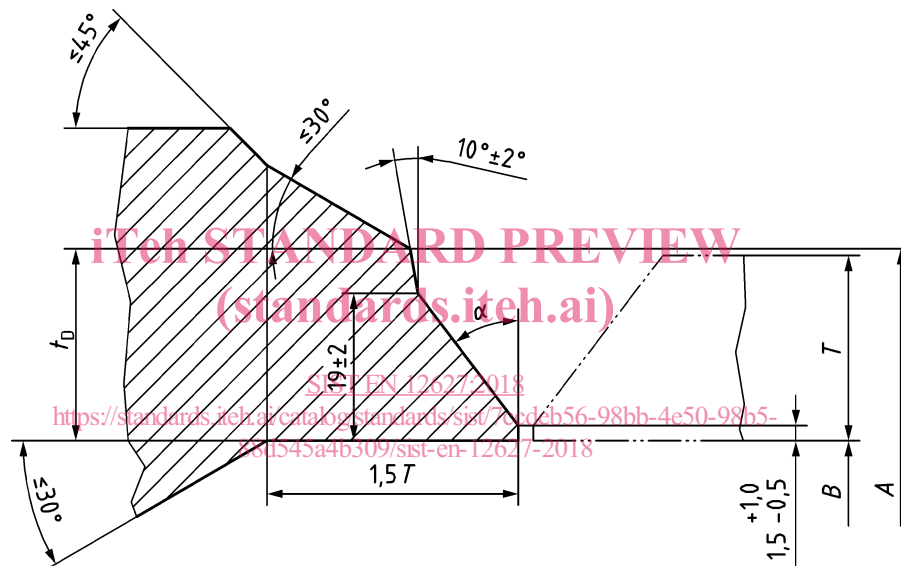


Figure 3 — Single-V butt weld end connection with V root to pipe of wall thickness $T > 22 \text{ mm}$