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SIST EN 13445-10:2016/oprA1:2019

01-julij-2019

Neogrevane (nekurjene) tlačne posode - 10. del: Dodatne zahteve za tlačne posode iz niklja in nikljevih zlitin - Dopolnilo A1

Unfired pressure vessels - Part 10: Additional requirements for pressure vessels of nickel and nickel alloys

Unbefeuerte Druckbehälter - Teil 10: Zusätzliche Anforderungen an Druckbehälter aus Nickel und Nickellegierungen

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Récipients sous pression non soumis à la flamme - Partie 10 : Exigences complémentaires pour les récipients sous pression en nickel et alliages de nickel

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Ta slovenski standard je istoveten z: EN 13445-10:2015/prA1:2019

ICS:

23.020.32	Tlačne posode	Pressure vessels
77.150.40	Nikljevi in kromovi izdelki	Nickel and chromium products

SIST EN 13445-10:2016/oprA1:2019 en,fr,de

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

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ICS 23.020.30

English Version

Unfired pressure vessels - Part 10: Additional requirements for pressure vessels of nickel and nickel alloys

Récipients sous pression non soumis à la flamme - Partie 10 : Exigences complémentaires pour les récipients sous pression en nickel et alliages de nickel

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This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 54.

This draft amendment A1, if approved, will modify the European Standard EN 13445-10:2015. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (EN 13445-10:2015/prA1:2019) has been prepared by Technical Committee CEN/TC 54 “Unfired pressure vessels”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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1 Modification to Table 8.3-1

Replace Table 8.3-1 "**Table 8.3-1 – Extent of non-destructive testing**" with the following updated table (to correct minor editorial issues):

Type of weld [a]			**Testing** [b]	**Extent for testing group**		
				1	**2**	**3**
Full penetration butt weld	1	Longitudinal joints	RT or UT MT or PT	100 % 10 %	(100–10) % 10 %	25 % 10 %
	2a	Circumferential joints on a shell	RT or UT MT or PT	100 % 10 %	(100–10) % 10 %	10 % 10 %
	2b	Circumferential joints on a shell with backing strip [c]	RT or UT MT or PT	NA NA	NA NA	NA NA
	2c	Circumferential joggle joint [c]	RT or UT MT or PT	NA NA	NA NA	NA NA
	3a	Circumferential joints on a nozzle $d_i > 150$ mm or $e > 16$ mm	RT or UT MT or PT	100 % 10 %	(100–10) % 10 %	10 % 10 %
	3b	Circumferential joints on a nozzle $d_i > 150$ mm or $e > 16$ mm with backing strip [c]	RT or UT MT or PT	NA NA	NA NA	NA NA
	4	Circumferential joints on a nozzle $d_i \leq 150$ mm and $e \leq 16$ mm	RT or UT MT or PT	0 100 %	0 (100–10) %	0 10 %
	5	All welds in spheres, heads and hemispherical heads to shells	RT or UT MT or PT	100 % 10 %	(100–10) % 10 %	25 % 10 %
	6	Assembly of a conical shell with a cylindrical shell without a knuckle (large end of the cone) [d, e]	RT or UT MT or PT	100 % 100 %	(100–10) % 100 %	10 % 100 %
	7	Assembly of a conical shell with a cylindrical shell without a knuckle (small end of the cone)	RT or UT MT or PT	100 % 10 %	(100–10) % 100 %	10 % 10 %
Circumferential lapped joints [c]	8a	General application shell to head	RT or UT MT or PT	NA NA	NA NA	NA NA
	8b	Bellows to shell $e \leq 8$ mm	MT or PT RT or UT	100 % 0 %	100 % 0 %	25 % 0 %

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Type of weld [a]			Testing [b]	Extent for testing group		
				1	2	3
Assembly of a flat head or a tubesheet, with a cylindrical shell Assembly of a flange or a collar with a shell	9	With full penetration	RT or UT MT or PT	100 % 10 %	(100–10) % 10 %	25 % 10 %
	10	With partial penetration if a > 16 mm [f]	RT or UT MT or PT	NA NA	NA NA	NA NA
	11	With partial penetration if a ≤ 16 mm [f]	RT or UT MT or PT	NA NA	NA NA	0 10 %
Assembly of a flange or a collar with a nozzle	12	With full penetration	RT or UT MT or PT	100 % 10 %	(100–10) % 10 %	25 % 10 %
	13	With partial penetration [f]	RT or UT MT or PT	NA NA	NA NA	NA NA
	14	With full or partial penetration d_i ≤ 150 mm and e ≤ 16 mm [f]	RT or UT MT or PT	0 10 %	0 10 %	0 10 %
Nozzle or branch [e]	15	With full penetration d_i > 150 mm and e > 16 mm	RT or UT MT or PT	100 % 10 %	(100–25) % 10 %	25 % 10 %
	16	With full penetration d_i ≤ 150 mm or e ≤ 16 mm.	RT or UT MT or PT	0 100 %	0 (100–10) %	0 100 %
	17	with partial penetration for any d_i a > 16 mm	RT or UT MT or PT [f]	100 % 10 %	(100–25) % 10 %	25 % 10 %
	18	with partial penetration d_i > 150 mm a ≤ 16 mm	RT or UT MT or PT [f]	NA NA	NA NA	0 10 %
	19	With partial penetration d_i ≤ 150 mm	RT or UT MT or PT [f]	0 100 %	0 (100–10) %	0 100 %
Tube ends into tubesheet	20		MT or PT	100 %	100 %	25 %
Permanent attachments [g]	21	With full penetration or partial penetration	RT or UT MT or PT	25 % 100 %	10 % 100 %	10 % 100 %

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Type of weld [a]			Testing [b]	Extent for testing group		
				1	2	3
Pressure retaining areas after removal of temporary attachments	22		MT or PT	100 %	100 %	100 %
Cladding by welding[h]	23		MT or PT	100 %	100 %	100 %
Repairs	24		RT or UT MT or PT	100 %	100 %	100 %

a Annex A of EN 13445-3: 2014gives design limitations on welds.

b RT = Radiographic testing, UT = Ultrasonic testing, MT = Magnetic particle testing, PT = Penetrant testing

c For limitations of application see EN 13445-3: 2014, 5.7.3.2.

d Unless the design is such that the thickness at the weld exceeds 1,4 ej (See Clause 7.6.6 of EN 13445-3: 2014). In which case, use NDT of line 2a.

e For connections with a knuckle, case 2a applies

f In exceptional cases or where the design or load bearing on the joint is critical, it may be necessary to employ both techniques (i.e. RT and UT, MT and PT). See Table 6.6.3–1 for other circumstances for use of both techniques

g No RT or UT for weld throat thickness ≤ 16 mm

h Volumetric testing if risks of cracks due to parent material or heat treatment

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2 Modification to Table A.3

Replace Table A.3 with the following updated table to reflect changes in the availability of EAMs.

Table A.3 – Materials covered by EAM

CEN ISO/TR 15608 group no.	EN and ISO materials designation	Product form	EAM Reference
41	–* –* NW2201** Ni99,0-LC**	Hot and cold rolled plates, sheets and strips	0879–1:2001/05
		Forgings	0879–2:2001/05
		Bars	0879–3:2001/05
		Seamless tubes	0879–4:2001/05
		Forgings	
	2.4600* NiMo29Cr* –**	Flat products	
* EN designation; ** ISO designation			

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