CEN/TC 267/WG 8/MHD « *Maintenance of EN 13480 series* »
MHD Answers on 2016 Questions

MHD Question N°	Subjects	MHD answers doc. N°	Subsequent actions	MHD answers to questioners
0-001-2016	ASME B 31.3	N081	—	2016-11-09
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3-001-2016	Clause 8.3.8	N081	in EN 13480-3:2012/FprA1	2016-11-09
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3-007-2016	Clause 13.1.2	N081	in EN 13480-3:2012/FprA1	2016-11-09
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3-010-2016	Clause 12.3.3	N081	in EN 13480-3:2012/prA2	2016-05-19
3-011-2016	Proprietary Fitting	N081	—	2016-11-09
3-012-2016	Clause 11	N081	to WG 3	2016-11-09
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3-015-2016	Annex Q	N081	to WG 3	2016-11-09
3-016-2016	Clauses 5.1 to 5.3	N081	—	2016-11-09
3-017-2016	Clause 8.3.8	N081	—	2016-11-09
4-001-2016	Clause 9.14.6	N081	in EN 13480-4:2012/A3	2016-02-23
5-001-2016	Clause 8.2.1	N081	—	2016-11-09
5-002-2016	Clause 8.1.2	N081	—	2016-11-09
6-001-2016	Annex A	N081	to WG 1	2016-11-09

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 0-001_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
0-001-2016	06/01/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
All Parts			EN 13480:2012

Question

Two international science laboratories, CERN and Fermi National Accelerator Laboratory in the United States, have formed a collaboration related to the construction of future large neutrino detectors. We have one issue that we do not know how to resolve. While all pressure piping in the US is done per ASME B31 codes, the EU piping is done per EN 13480 standards. We need to understand if the safety of the piping manufactured per EU EN 13480 is adequate per US ASME B31.

I wonder if CEN/TC 267 has any information, materials or studies done to compare EU and US codes for the pressure piping. Any lead or information would be useful. Maybe one of the members of the CEN community have done such comparison? If you have any info on this subject, could you please let me know.

Answer proposed by the author of the question

Answer of the maintenance group

EN 13480 is a harmonized standard and offers presumption of conformity to the European regulation (PED – Pressure Equipment Directive).

Question from:
Name Michael Geynisman
Company Fermilab/Neutrino Division/Argon Cryogenics ***Country*** USA
Date 2016-01-06

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 0-002_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
0-002-2016	22/02/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
All Parts			EN 13480:2012

Question

Our company is an experienced user of the BS EN codes, being a South African subsidiary of a British conglomerate. In doing some design work based on EN 13480, Metallic Industrial Piping, I have noticed a difference in symbols for what we see as the same thing. The differing symbols are given in section 2 (materials – table 1) and section 3 (design – table 3.2-1) for creep rupture strength. From looking into other EN standards, EN 13445 and EN 12952, it would appear that the symbols for creep rupture strength at temperature and ultimate tensile strength at temperature are somewhat confusing across the EN suite of codes. My observations are as follows:
T is used either as time (design life in hours) or temperature, as is t.
Rm is used either as creep rupture strength or UTS.
t_c is given as calculation temperature, elsewhere t_d is given as design temperature, which is essentially the same thing.
Note that in material data sheets (such as the DIN 17175 sheets), Rm is always UTS (at temperature where applicable).
On these data sheets, the creep rupture strength is defined as a function of a design life of 10 000, 100 000 or 200 000 hours.
For design of a piping system or vessel/boiler component operating within the creep range of the material, certain properties have to be extracted from the material specifications and/or data sheets, therefore the confusion created may lead to errors in the design calculations. Attached are snips of some of the relevant code sections.

Answer proposed by the author of the question

Please clarify if possible, or refer my query to someone in the BSI Group who can assist.

Answer of the maintenance group

Symbols describing time dependent material behavior. This issue is under discussion in TC 54, TC 267, and TC 269 at least since 2012. Responsible for a unification of part 3 of the concerned standards (EN 12952-3, EN 13445-3, EN 13480-3) is CEN/TC 269/WG 1. This WG prepared the prCEN/TR 764-9:2014. Unfortunately the work got stuck with the discussion of this document in spring 2014.

Question from:
Name Alan Stewart
Company Babcock International Group ***Country*** UK
Date 2016-02-22

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 2-001_2016_ACP

Type of question: **Correction**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
2-001-2016	09/03/2016	31/03/2016	31/03/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
2			EN 13480-2:2012

Question

Some errors have been noticed in the core text for **EN 13480-2:2012**
In Contents, B.2.1 Method 1 – Code of practice' is given at page 21, whereas inside the Pdf, it is given as 'B.2.1 General' on page 21, 'B.2.2 Method 2's given at page 21, whereas inside the Pdf, it is given as 'B.2.2 Method 1 – Code of Practice' and 'B.2.3 Method 3 — Fracture mechanics analysis' is given at page 30, whereas inside the PDf is given as Method 2.

Answer proposed by the author of the question

Could you please have a look at the errors and if necessary raise a corrigendum to correct them?

Answer of the maintenance group

Answer from CEN/TC 267/WG 8/MHD Secretariat:
Appropriate correction to be inserted into the next Issue (June or July 2016) of the English and French versions of EN 13480-2:2012.

The content will be updated with the following: add B.2.1 General / B.2.1 Généralités, and the current B.2.1 will become B.2.2, the current B.2.2 will become B.2.3 and the current B.2.3 will become B.2.4.

No necessity for the German version, which is correct.

Question from:

Name Charlie Duncombe
Company BSI
Country UK
Date 2016-03-09

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 2-002_2016_ACP

Type of question: **Correction**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
2-002-2016	13/06/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
2			EN 13480-2:2012, Annex B

Question

Subject: Charpy Test / Prevention of brittle fracture at low temperatures

Question/comment:

In order to determine T_{kv} for piping components (pipes, fittings, flanges, valves, etc.) made of X10CrMoVNb9-1 (1.4903) material, Method 2 has been applied following the figure B.2-5 (Re ≥ 460 MPa ; KV = 40J) for a given Tr = -29 °C and for thicknesses equal to or less than 30 mm.

Question 1: Considering that X10CrMoVNb9-1 (1.4903) is a harmonized material and assuming that this material is included in the group for which method 2 applies, the use of this method for the prevention of brittle fracture at low temperatures in products of this material is correct. Is this assumption wrong?

Question 2: In such case, method 3 applies. Method 3 imply fracture mechanics assessments but it does not clarify if the results establish a correlation between fracture toughness and Charpy as in Method 2, in order to obtain a Tkv for different design reference temperatures and thicknesses. To comply with requirements of paragraph 7.5 of Annex A of PED, a Tkv value must be defined in certain cases. Please clarify if a Tkv value for impact testing could be obtained applying Method 3.

Answer proposed by the author of the question

Question 1: No, it isn't. Method 2 shall be followed for determining the test temperature.

Question 2: No. T_{kv} shall not be greater than 20 ºC but not higher than the lowest minimum design temperature.

Answer of the maintenance group

Q1: No, refer to Clause B.5 of EN 13480-2:2012.

Q2: Yes, you can apply fracture mechanics (e.g. BS 7910 to derive toughness requirement) Correlation between Charpy energy and fracture toughness can be used if available.

Question from:
Name Sanz Barrios, Jesús
Company Técnicas Reunidas S.A.BSI ***Country*** Spain
Date 2016-06-13

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 2-003_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
2-003-2016	13/06/2016	31/07/2016	07/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
2			EN 13480-2:2012, Clause 4

Question

Subject: X10CrWMoVNb9-2 (1.4901) material

Question/comment:

Below question/comment assumes the use of material X10CrWMoVNb9-2 (1.4901).

This material is listed in the harmonized standard for seamless pipe EN 10216-2, therefore it keeps a presumption of conformity with PED.

On the other hand, other harmonized standards such as EN 10222-2 (Steel Forgings), EN 10028-2 (Steel Flat Products), EN 1092-1 (Steel Flanges), EN 12516-1 (Industrial Valves) and EN 10253-2 (Buttwelding Pipe Fittings) does not include X10CrWMoVNb9-2 (1.4901) material. For using equivalent products and components as those defined in the standards listed above, made of X10CrWMoVNb9-2 (1.4901), would it be necessary an assessment through PMA to comply with the requirements of EN 13480 and PED?

Answer proposed by the author of the question

Yes,this material can only be used with a PMA and it shall consider requirements of EN 13480 and PED.

Answer of the maintenance group

Yes, this material can only be used with a PMA and it shall consider requirements of EN 13480 and PED.

Question from:

Name Sanz Barrios, Jesús

Company Técnicas Reunidas S.A. ***Country*** Spain

Date 2016-06-13

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 2-004_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
2-004-2016	13/06/2016	31/07/2016	07/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
2			EN 13480-2:2012, Clause 4

Question

Subject: 1C15 ASTM/ASME material group

Question/comment:
In Annex I paragraph I.2 of EN 12516-1 there is a definition of ASTM/ASME material groups which are similar to those included in ASME B16.5 and ASME B16.34. The text limits ASTM/ASME material groups from 1C1 to 1C14 and 2C1 to 2C7 but groups 1C15 and 2C8, which are in the list below, are not included. This text seems to be incorrect and 1C15 and 2C8 material groups shall be included in this paragraph.

Regarding to ASTM material A217 C12A, which belongs to 1C15 material group, if a valve is specified and fabricated in this material, a Particular Material Appraisal (PMA) shall be done to comply with Essential Safety Requirements (ESR) of PED and EN 13480 requirements

Answer proposed by the author of the question

Yes,this paragraph will be updated in the next revision of EN 12516-1.

Yes, a PMA shall be done for using this material in the body of a valve.

Answer of the maintenance group

This question is out of the scope of the Maintenance Help Desk for EN 13480 series.
This concerns CEN Technical Committee CEN/TC 69 on industrial valves.
See also EN 764-4, Annex V, for PMA and EN 16668, 5.2.4.

Question from:
Name Sanz Barrios, Jesús
Company Técnicas Reunidas S.A. ***Country*** Spain
Date 2016-06-13

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-001_2016_ACP

Type of question: **Technical**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-001-2016	17/12/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 8.3.8

Question

Tees according to EN 13480-3

See attached sheet in annex.

Answer proposed by the author of the question

I would like to propose to state clearly whether or not the requirements in the EN13480-3 §8.3.8 and §8.4.8 are applicable for 'forged' tees. When design code is EN 13480, do we have to design *forged* tees according EN13480-3 or is it allowed to use EN10253-2/-4?
Is it allowed to use equal *forged* tees according EN10253-2/4 in the creep range?

Answer of the maintenance group

The draft Amendment EN 13480-3:2012/FprA1 under development in CEN/TC 267 answers this question.

Quotation from EN 13480-3:2012/FprA1:
"**8.3.9 Forged tee**
The restrictions of 8.3.8 are not valid for forged tees, provided that the assumed wall thickness at the intersection can be guaranteed, see Figures 8.3.9-1 and 8.3.9-2."

Yes, it is allowed to use equal forged tees according EN10253-2/4 in the creep range.

Question from:

Name Mark Stijffs

Company Tebodin Netherlands BV ***Country*** The Netherlands

Date 2016-12-17

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-002_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-002-2016	20/11/2014	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 9.1 and 9.2

Question

Subject : Out of roundness

Question/comment :
Were out-of-roundness , μ (see EN 13480-4, 7.4.1) is less than or equal to 1 %, and local flat deviation is less than or equal to e.
That means **you can** use a standard pipe with tolerance D2 acc. to EN ISO 1127.
But if you look at NOTE 1 The rules of clause 9 apply to cylindrical shell that are circular to within 0.5 %
on the radius, measured from the true center.
Shall this only be applied when calculations on the following pages (94-98) are used ?
That means **you can´t** use a standard pipe with tolerance D2 (+/- 1.0 %) acc. to EN ISO 1127 ! If you use the formula on pages 94-98.
Example ISO pipe OD 610 mm wall thickness will be > 6.1 mm and the next standard thickness is 7.1mm and no stiffeners is needed.
If calculations are made the thickness 6.0 (+/- 10 %) is OK if stiffener are applied with L = 10200 mm and the pipe are circular to within 0.5 % on the radius, measured from the true center.
Is my assumption correct?

Answer proposed by the author of the question

Answer of the maintenance group

For the question above, further investigation by CEN/TC 267/WG 3 is needed.

Question from:

Name Sören Nytomt

Company SIMFA CP&M ***Country*** Sweden

Date 2016-02-02

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-003_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-003-2016	10/02/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 4.5

Question

In clause 4.5 of EN 13480-3:2012, it is mentioned as follows:

"*The joint coefficient z shall be used in the calculation of the thicknesses of components which include one or several butt welds, other than circumferential, …*"

Could you explain why the concept of joint coefficient must only be used for circumferential welds?

Therefore, for the calculation of the thickness, if we have to calculate the size of a tube without longitudinal seam, which joint coefficient z shall we take? 0.85?

Answer proposed by the author of the question

Answer of the maintenance group

Clause 4.5 joint coefficient – for a seamless pipe or tube the joint coefficient for thickness calculation (dimensioning) is always z = 1,0. Concept of joint efficiency is for longitudinal joints.

Question from:

Name Dominique BELDA

Company SOFINEL ***Country*** France

Date 2016-02-10

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-004_2016_ACP

Type of question: **Correction**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-004-2016	29/02/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, Fig.7.2.3-4

Question

Subject : Figure 7.2.3.4

Question/comment :

The values on the curves of Fig 7.2.3.4 appear to be incorrect.

This could lead to errors if C2 is extracted from the Curves. Comparing to the graph in BS EN 13445-3 (Fig 10.4-5) it is obvious that the es/D value of 0.0300 should be 0.025. i.e (the curves are incorrectly identified).

Answer proposed by the author of the question

Proposed answer(s)/correction(s) * :

Correct the Figure to be in line with Fig 10.4-5. of EN 13445-3.

Answer of the maintenance group

To be corrected and all the curves must be moved up to the last curve which shall correspond to the value es/D of 0,065.

Question from:

Name Denis S Brennan

Company Doosan Babcock ***Country*** UK

Date 2016-02-29

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-005_2016_ACP

Type of question: **Correction**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-005-2016	10/03/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012

Question

Subject : Use of Socket Welding and Socket Weld Fittings

Question/comment :

Q1. EN 13480-3 Code does not mention the use/limitations of Socket Weld construction. Is socket welding allowed for the construction of piping systems in EN 13480?

Q2. If the answer to Q1 is Yes then please advise what are the limitations for the use of socket welding.

Q3. If the answer to Q1 No then why does EN 13480-5 Table 8.2.1 stipulate NDE for Socket/fillet welds?

Answer proposed by the author of the question

Proposed answer(s)/correction(s) * :

Add a statement in EN 13480 – 3 regarding the exclusion of socket welding piping or the limitations of socket welding for piping systems. Clearly identify that Socket Welding may be used.

Answer of the maintenance group

Q1: Yes, socket welds are mentioned in Table 8.2-1 and Table 9.3.3-1 of EN 13480-5.

Q2: There is no limitation in the standard but engineering design should review if socket welding is appropriate for fatigue, creep or piping with critical thermal extension and shrinkage

Q3: /

Question from:
Name Denis S Brennan
Company Doosan Babcock ***Country*** UK
Date 2016-03-10

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-006_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-006-2016	17/03/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012

Question

Subject : Pipe supports designed to BS EN 13480-3

Question/comment :

Q1. Do pipe supports designed in accordance with BS EN 13480-3 clause 13 have to meet the requirements of EN 1090-1 in respect of being CE marked?

Answer proposed by the author of the question

Proposed answer(s)/correction(s) * :

Provide guidance of when Pipe supports need to be CE marked.

Answer of the maintenance group

Answer: No. Pipe supports need not to be CE marked. EN 1090-1 is not applicable for pipe supports. (see 13.1.4. The boundaries between the support and the surrounding structure shall be as shown in Figures 13.1.4-1 to 13.1.4-3.)

Question from:

Name Denis S Brennan

Company Doosan Babcock ***Country*** UK

Date 2016-03-17

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-007_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-007-2016	18/03/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 13.1.2

Question

Subject : Classification of Pipe Supports to BS EN 13480-3

Question/comment :

Q1. Para 13.1.2 states that Supports shall be classified according to three levels….. However there are no distinctions made in EN 13480 as to what requirements the classification means. What, if anything, does the classification mean as regards design fabrication and inspection?

Answer proposed by the author of the question

Proposed answer(s)/correction(s) * :

Provide guidance of what support classification is used for.

Answer of the maintenance group

The classification of pipe supports is given by the "Category *of the piping* according to PED", see table 13.1.2-1 modified in EN 13480-3:2012/FprA1 under development in CEN/TC 267.

Question from:

Name Denis S Brennan

Company Doosan Babcock ***Country*** UK

Date 2016-03-18

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-008_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-008-2016	29/03/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012

Question

Subject : EN 13480-3 / questions / clarifications

Question/comment :

Various question/clarification have been compiled and recorded within next page no 2,3,4.

Answer proposed by the author of the question

Proposed answer(s)/correction(s) * :

Various answers have been compiled and recorded within next page no 5.

Answer of the maintenance group

Your proposal is beyond the task of this Maintenance Help Desk.

You kindly invited to make a proposal to CEN/TC 267/WG 4 "Fabrication" through Swiss National Standardization Office (SNV).

Please note that this proposal shall be detailed, supported by technical reasons and refer to the dedicated clauses that should be revised.

Question from:

Name Amitkumar Shukla

Company Alstom power Switzerland ***Country*** Switzerland

Date 2016-03-29

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-009_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-009-2016	31/03/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 13.3.6.1

Question

Subject: Pipe supports designed to EN 13480-3 – Clauses 13.3.6.1 and 13.3.3.9

Question/comment:

Q.1. Both Clauses 13.3.6.1 & 13.3.3.9 states …the dimensioning of intermediate or secondary steelwork supplied for supporting the pipe shall be based on good industrial practice as e.g. defined in EN 1993. Since EN 1993 incites the use of EN 1090 does this imply that the secondary steelwork needs to be CE marked?

Answer proposed by the author of the question

Proposed answer(s)/correction(s) *:

Provide guidance of when Pipe supports need to be CE marked.

Answer of the maintenance group

Answer: No. Pipe supports need not to be CE marked. EN 1090-1 is not applicable for pipe supports. (see 13.1.4. The boundaries between the support and the surrounding structure shall be as shown in Figures 13.1.4-1 to 13.1.4-3.)

Question from:

Name Denis S Brennan

Company Doosan Babcock ***Country*** UK

Date 2016-03-31

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-010_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-010-2016	19/05/2016	19/05/2016	19/05/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 12.3.3

Question

Subject: Classification of Pipe Supports to BS EN 13480 – Clause 12.3.3

Question/comment:

Q1. In Equation 12.3.3-1 for the Sustained plus Occasional Load case where the occasional load can be acting when the pipe is not under pressure such that pressure stiffening of the bends is not applicable (and hence the system is more flexible) and the bend SIF's are greater than with pressure which would result in the highest occasional stresses (especially at bends).

Is it the intent of the Code to combine the sustained stress calculated with the design pressure Pc with the Maximum Occasional stress as indicated above?

Answer proposed by the author of the question

Proposed answer(s)/correction(s) *:

Provide guidance on the Sustained plus Occasional Stress calculation

Answer of the maintenance group

Yes you can use the maximum calculation pressure to calculate the stress resulting from sustained and occasional loads.
The reduced SIF (Stress Intensification Factor) due to the higher pressure is over compensated by higher stresses due to the overestimated internal pressure.

Question from:
Name Denis S Brennan
Company Doosan Babcock ***Country*** UK
Date 2016-05-19

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-011_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-011-2016	15/05/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012

Question

Subject: Proprietary Fitting

Question/comment:
A proprietary fitting that is machined from bar only is designed and fabricated to meet ASME B31.3. Burst testing was performed to establish the fitting's maximum allowable working pressure. What is required in EN-13480-3 or EN-13480 in general to establish this proprietary fitting as being compliant with this standard?

Answer proposed by the author of the question

Proposed answer(s)/correction(s) *:

Accept proprietary fittings that meet the requirements of ASME B31.3 as being equivalent to EN-13480

Answer of the maintenance group

You shall make a calculation according to EN 13480-3 and a PMA (Particular Material Appraisal) according to EN 13480-2.

Note: PED limits the use of experimental design (see paragraph 2.2.2 of Annex I of the PED).

Question from:
Name Edward De Rubeis

Company Zeton Inc ***Country*** Canada
Date 2016-05-15

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-012_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-012-2016	10/06/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, clause 11

Question

Subject: Equations for flexibility analysis in chapter 11

Question/comment:

From the 2011 edition of EN 13480-3 onwards the design stress for primary stresses in the equations (12.3.2-1), (12.3.3-1) and (12.3.4-2) was changed from "f_h" to "f_f".
I guess those changes should be applied to the corresponding equations (11.6-1), (11.6-2), (11.6-3) and (11.6-5) in chapter 11, too. It should also be applied to the allowable stresses given in chapter 11.2.

Answer proposed by the author of the question

Proposed answer(s)/correction(s) *:

Replace all occurrences of „f_h" in chapter 11.2 and 11.6 by "f_f".

Copy the sentence "f_f is the design stress for flexibility analysis in N/mm² (MPa) with $f_f = \min(f, f_{cr})$." (below equation (12.3.3-1)) to chapter 11.2 and to the equations (11.6-1), (11.6-2), (11.6-3) and (11.6-5) in chapter 11.6 and/or add f_f to Table 11.3-1

Answer of the maintenance group

Equations in clause 11 – in principal agreed with the proposed answer. On the other hand the use of f_h instead of f_f only in a few cases yields more conservative results. Issue will be discussed in CEN/TC 267/WG 3.

Question from:

Name Johann Dichtl
Company MAN Diesel & Turbo SE ***Country*** Germany
Date 2016-06-10

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-013_2016_ACP

Type of question: **Technical**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-013-2016	10/06/2016	01/07/2016	01/07/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 12.3.1

Question

Subject: Alternative equations

Question/comment:

For the alternative equations it is stated that the factor 0,75 *i* for the moment equations (12.3.2-1), (12.3.3-1), (12.3.4-2) and (12.3.5-1) shall be replaced by i_O and i_i.
Because those equations represent the primary stresses, I guess 0,75 *i* should be replaced by $0{,}75 \cdot i_O$ and $0{,}75 \cdot i_i$.

For torsion moments no statement is made. I guess torsion moments should be respected by a stress intensification factor of $i_T = 1{,}0$ in accordance with the similar ASME B31.3 (equations (17) to (20) and (23a) to (23c)).

Answer proposed by the author of the question

Replace: „In this case the factor 0,75 *i* for moment M_A, M_B and M_C in equations (12.3.2-1), (12.3.3-1), (12.3.4-2) and (12.3.5-1) shall be replaced by i_O and i_i respectively, in accordance with Table H-3. In the same way, the factor *i* for moments M_C and M_D in equations (12.3.4-1), (12.3.4-2), (12.3.5-1) and (12.3.6-1) shall be replaced by i_O and i_i. “

By: „In this case the factor 0,75 *i* for moment M_A, M_B and M_C in equations (12.3.2-1), (12.3.3-1), (12.3.4-2) and (12.3.5-1) shall be replaced by 0,75 i_O for out of plane bending moments, 0,75 i_i for in plane bending moments and ~~by 0,75 i_T = 1,0 for torsion moments. In the same way, the factor *i* for moments M_C and M_D in equations (12.3.4-1),~~ (12.3.4-2), (12.3.5-1) and (12.3.6-1) shall be replaced by i_O for out of plane bending moments, i_i for in plane bending moments and $i_T = 1{,}0$ for torsion moments. Determine the stress intensification factors i_O and i_i in accordance with Table H-3.“

Answer of the maintenance group

This issue is under study at the moment within the European working group CEN/TC 267/WG 3 "*Metallic industrial piping - Design and calculation*".

Clause 12 "*Flexibility analysis and acceptance criteria*" and Annex H "*Flexibility characteristics, flexibility and stress intensification factors and section moduli of piping components and geometrical discontinuities*" of EN 13480-3:2012 are under revision within the development of a draft Amendment EN 13480-3:2012/prA2 (work item 00267067 registered in the work program of CEN/TC 267). Clause 12.3 "*Flexibility analysis*" is therefore under revision.

This draft Amendment is at the moment a working document and is not ready yet for consultation at CEN level.

Question from:

Name Johann Dichtl

Company MAN Diesel & Turbo SE ***Country*** Germany

Date 2016-06-10

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-014_2016_ACP

Type of question: **Correction**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-014-2016	10/06/2016	01/07/2016	01/07/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, clause D.4.2

Question

Subject: Numbering in Annex D.4.2

Question/comment:

In the English edition of EN 13480-3 the numbering in Annex D.4.2 starts with “c”. I guess this should be corrected to fit i.e. with the German edition, where the numbering starts with “a”.

Answer proposed by the author of the question

Proposed answer(s)/correction(s) *:

Correct the numbering (“c” to “h”) to “a” to “f”.

Answer of the maintenance group

Answer from CEN/TC 267/WG 8/MHD Secretariat:

This correction needs to be inserted into the English version of EN 13480-3.
German and French versions are correct.

This correction will be carried out within the development of the Draft Amendment EN 13480-3:2012/prA1 (WI 00267043), which is dedicated to be submitted to CEN Enquiry at CEN level from 2016-07-21 to 2016-10-13.

Question from:

Name Johann Dichtl

Company MAN Diesel & Turbo SE ***Country*** Germany

Date 2016-06-10

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-015_2016_ACP

Type of question: **Technical**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-015-2016	10/06/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, Annex Q

Question

Subject: Errors in Annex Q

Question/comment:

The Annex Q is essentially a copy of the German standard AD 2000 HP 100 R and only some nomenclature was adjusted. Due to that some errors are produced:

- In the English edition the WORD formatting flags in Figure Q.2 are still visible.
- The allowable stress value is not calculated according to EN 13480-3, which would give a lower value but according to AD 2000.
- The allowable stresses in EXAMPLE 1 to 3 are taken from AD 2000 and are unequal to those, which EN 13480-3 would provide.

Answer proposed by the author of the question

Proposed answer(s)/correction(s) *:

Either correct Figure Q and the examples or add a statement, that the figures and examples in Annex Q are copied from AD 2000 HP 100 R and that the designer has to adjust the allowable stresses himself

Answer of the maintenance group

Annex Q – indeed the allowable stresses were taken from the German AD 2000-rules and are not in line with PED.

Issue to be discussed in CEN/TC 267/WG 3 for the future of this Annex Q

Question from:

Name Johann Dichtl

Company MAN Diesel & Turbo SE ***Country*** Germany

Date 2016-06-10

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-016_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-016-2016	18/07/2016	26/09/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 5.1, 5.2, 5.3

Question

Subject: *Time independent stress value for material 10CrMo9-10 (1.7380)*

Question/comment:

For designing a pipeline made of 10CrMo9-10 (1.7380) seamless pipe under creep conditions (550°C), design stress (f) must be determined using paragraphs 5.1, 5.2 and 5.3 of EN 13480-3.
Plus, attending paragraph 4.2.2.1 of EN 13480-2, materials shall only be used for pressure parts within the range of temperatures for which the material properties required by EN 13480-3 are defined in the technical specification for the material.
In this case, properties of 10CrMo9-10 (1.7380) seamless pipe are taken from EN 10216-2. When doing so, it is found that for 550°C, the standard EN 10216-2 does not provide yield strength values ($R_{p0.2}$), only creep rupture strength values (S_{RTt}). When determining the design stresses using the lowest of time dependent and time-independent stress values, only the creep rupture strength values and ultimate tensile strength (R_m) value are known.
In this context and considering paragraph 4.2.2.1, we assumes that thickness calculations for seamless pipes at certain temperatures could be done with the absence of yield strength values ($R_{p0.2}$), because a comparison between a time independent stress value (R_m) and a time dependent stress value (S_{RTt}) could be carried out. But is this an acceptable way of proceed as per EN 13480-3?

Answer proposed by the author of the question

Yes, there is enough information for thickness calculations, because time independent stress value is only defined by ultimate tensile strength (R_m).

Revise Yield strength ($R_{p0.2}$) values of EN 10216-2 values for 10CrMo9-10 (1.7380) material in the next edition

Answer of the maintenance group

EN 10216-2 will not be revised on this matter, for design at 550 °C, you shall use only the relevant creep properties.

Question from:
Name Sanz Barrios, Jesús
Company Técnicas Reunidas S.A.BSI ***Country*** Spain
Date 2016-07-18

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 3-017_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
3-017-2016	26/07/2016	26/09/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
3			EN 13480-3:2012, 8.3.8

Question

Subject: Extruded outlets

Question/comment:

SUBCLAUSE 8.3.8 IS ALSO RELATED TO TEES FABRICATED IN ACCORDANCE WITH EN-10253-2,4?

Answer proposed by the author of the question

Proposed answer(s)/correction(s) *:

NO

Answer of the maintenance group

Sub-clause 8.3.8 of EN 13480-3 is related to extruded tees (so-called "pulled tees") in EN 10253-4.

Question from:

Name JACEK MINCH

Company ATECHEM ***Country*** Poland

Date 2016-07-26

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 4-001_2016_ACP

Type of question: **Technical**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
4-001-2016	2016-01-27	2016-03-31	2016-03-31

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
4			EN 13480-4:2012, clause 9.14.6

Question

I am working for Bilfinger Africa and is a Heat treatment service provider for ESKOM power generation.
We have send a concern regarding the EN 13480 – 4 sub clause 9.14.6 “Local heat treatment” ,I would appreciate it if you can assist with regards to this mistake that was discovered in 2014.
Is the Amendment 3 of EN 13480 -4 published? , or is the board still working on it?
If the Amendment is published can you send me a copy of it ,reason I ask ,I am currently under allot of pressure with regards to compliance to this code and it has a substantial impact in the cost and effectiveness of the heat treatment service that is provided .
I thank you in advance for your assistance.

Answer proposed by the author of the question

Answer of the maintenance group

The answer of this question is given by the Maintenance Help Desk in **4-001-2015** (see attached sheet in annex for reminding).

The corresponding Draft Amendment EN 13480-4:2012/FprA3 is currently submitted to UAP vote at CEN level until 2016-05-24 for approval by CEN Members. Then, once this Draft Amendment is approved, it is dedicated to be integrated into EN 13480-4:2012.

Question from:

Name Albie Venter

Company Bilfinger Intervalve Africa (Pty) Ltd ***Country*** South Africa

Date 2016-01-27

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 4-001_2015_ACP

Type of question: **Technical**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
4-001-2015	2015-01-29	2015-02-28	2015-02-17

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
4			EN 13480-4:2012, clause 9.14.6

Question

Myself and a collegue (Marcel Rabie) have a query regarding BS EN 13480- 4;2012+A1:2013 section 9.14.16 Local heat treatment vs the General rules for local post weld heat treatment of welds in pipe stated in section 9.6 in BS EN ISO 17663:2009. BS EN 13480-4;2012+A1:2013 section 9.14.16 states the following: “When local heat treatment of circumferential welds is applied by heating a shielded area around the entire circumference, the heated area shall be such as to provide the specified temperature for a minimum 2.5.((2.D-4.t).t)^0.5 on either side of the fusion line of the weld”. BS EN ISO 17663:2009 section 9.6 states the following:” The width of the heated zone, Lw ,expressed in millimetres, shall not be less than the value L as given in Equation (1) nor more than 12t, with the weld being in the centre.” Equation 1 states: L=2,5.((2.D-4.t).t)^0.5. This equation is equivalent to the equation listed in BS EN 13480-4;2012+A1:2013 section 9.14.16. The query is: Why does the 2 specifications differ in the application zone width of PWHT (either side of fusion line vs width of the heated zone) but uses the equivalent equation to determine the section length of the heated zone?
Additionally:
BS EN ISO 17663:2009 section 9.6 states the following:” NOTE Equation 1 is equivalent to 5.(Rt)^0.5 as given in European standards”. BS EN 13445-4:2014 section 10.3.3 states the following: “It is permissible to heat treat circumferential welds in shells locally by heating a shielded band around the entire circumference, in which case the width of the heated band shall not be less than 5.(Ren)^0.5 with the weld in the centre”. This statement corresponds to BS EN ISO 17663:2009 section 9.6, which lets us to believe that there might be an issue with the wording used in BS EN 13480-4;2012+A1:2013 section 9.14.16 with regards to the application width of the heating zone. Your valued response will be appreciated.

Answer proposed by the author of the question

Is there a chance that BS EN 13480-4;2012+A1:2013 section 9.14.16 is stated wrongly in the sense that it was not supposed to state either side of the fusion line of the weld but rather indicate that the equation used shall be the total width of the heat band?

Answer of the maintenance group

This question is technical and was discussed during the last relevant European Working Group meeting CEN/TC 267/WG 4 in 2014-12.

The Working Group decided to revise the subclause 9.14.6 "Local heat treatment". The proposal is presented below for information:

When local heat treatment of circumferential welds is applied by heating a heated band around the entire circumference, the heated band shall be at minimum 5 (((D – t)/2) t) 0,5 .

This proposal will be forwarded to CEN/TC 267 for launching the procedure for the adoption of a new Amendment on EN 13480-4:2012. Be aware that this is only a first draft proposal for a new Amendment and it is not a final Standard or Amendment. This proposal may be subject to comments and changes from CEN Members during the CEN Enquiry process.

Question from:

Name DE VILLIERS Moll and RABIE Marcel

Company ESKOM ***Country*** South Africa

Date 2015-01-29

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 5-001_2016_ACP

Type of question: **Technical**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
5-001-2016	29/12/2015	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
5			EN 13480-5:2012, 8.2.1

Question

Subject : Extent of visual inspection of welds

Question/comment :

In the table 8.2-1 Extent of testing for circumferential, branch, fillet and seal welds, indicates, that the welds shall be 100% visual inspected.

Shall this inspection cover the inner and outer surface of the pipe (visual test of the root and last layer)?

Answer proposed by the author of the question

Considering that the VT is a surface inspection and the point 8.1.1.1 paragraph C) “surface examination stipulated in Table 8.2-1 shall be performed on the outer surface”. The 100% VT required in table 8.2-1, shall be done in the outer surface.

Answer of the maintenance group

Yes, but inner surfaces at welding roots shall be included if they can be exposed to view without using any technical device. See clause 8.4.4.1.

8.4.4.1 Visual inspection and testing
The term “visual inspection and testing” shall be understood to mean observation of the portion of components, joints, and other piping elements and supports ***that are or can be exposed to view before, during, or after manufacture, fabrication, assembly or installation****.*
NOTE This inspection may include verification of dimensions, weld edge, joint preparation, alignment, joining (welding, bonding, brazing, or other methods of joining) supports, assembly and installation.
Visual testing of welds shall be in accordance to EN ISO 17635:2010, Table A.1 (VT).

Question from:

Name Enrique Bandera Rodriguez

Company MONCOBRA S.A ***Country*** Spain

Date 2015-12-29

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 5-002_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
5-002-2016	31/01/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
5			EN 13480-5:2012, 8.1.2

Question

The batch of welds in case of the multi-welders

« *A batch of welds is a quantity of welds, welded by one welder or welding operator, in accordance with a specific welding procedure specification* » §8.1.2 of EN 13480-5:2002

Sometimes, welds are performed by a lot of welders. How can you establish the batch? The CODETI is clearer.

I propose an example below:

Welds

- W1 (welder A ; WPS 1)
- W2 (welders A + B ; WPS 1)
- W3 (welder B; WPS 1)

Answer proposed by the author of the question

❖ **Interpretation 1 :**

The multi-welder welds belong to batch of each welder

Batch (welder A) : W1; W2

Batch (welder B) : W2; W3

❖ **Interpretation 2 :**

The multi-welder welds belong to batch of welders group, like CODETI

Batch (welder A) : W1

Batch (welder A+B) : W2

Batch (welder B) : W3

❖ **Interpretation 3 :**

The multi-welder weld belong to 1 batch of 1 welder, like the literal sense

Batch (welder A) : W1; W2

Batch (welder B) : W3

Please could you provide me the right interpretation?

Answer of the maintenance group

A batch is referring to the WPS and the welder. Consequently, in the way clause 8.1.2 is written at the moment interpretation 1 is correct.

Question from:

Name Semi Zamouri

Company PONTICELLI ***Country*** France

Date 2016-01-31

European Committee for Standardization
Comité Européen de Normalisation
Europaïsches Komitee für Normung

EN 13480 MHD
form 6-001_2016_ACP

Type of question: **Interpretation**

Registration number	*Date of submission*	*Target date for answer*	*Date of acceptance*
6-001-2016	22/04/2016	31/07/2016	26/10/2016

Part number	*Page number*	*Subclause number*	*Reference of the standard used*
6			EN 13480-6:2012, Annex A

Question

Subject: A.3.3.2 Distributed live load - A.3.4 Determination of the moments acting upon the piping

Question/comment :

I present here my queries for the above mentioned code:

1. Rif. Para. A.3.3.2 Distributed live load:
'Is equation A.3.3.2-1 correct? What is the meaning of Rr = Area Load at the end of the paragraph?'
2. Rif. Para. A.3.4.1 Determination of the moments acting upon the piping - General:
'What is the meaning of ν in the equation of σ? Is this equation correct?'

Answer proposed by the author of the question

Answer of the maintenance group

1. This question needs further investigation from the Convenor of the working group CEN/TC 267/WG 1 "General".

2. In Clause A.3.4.1, "I/v" should be the sectional modulus. Further investigation from the Convenor of the working group CEN/TC 267/WG 1 "General".

Question from:

Name Sandra Glavina

Company SAIPEM ***Country*** Italy

Date 2016-04-22