

English version
Version Française
Deutsche Fassung

Flanges and their joints - Design rules for gasketed circular flange
connections - Part 1: Calculation method

Brides et leurs assemblages - Règles de
calcul des assemblages à brides circulaires
avec joint - Partie 1: Méthode de calcul

Flansche und Flanschverbindungen -
Regeln für die Auslegung von
Flanschverbindungen mit runden
Flanschen und Dichtung - Teil 1:
Berechnungsmethode

This corrigendum becomes effective on 13 April 2011 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 13 avril 2011 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 13. April 2011 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Modifications due to EN 1591-1:2001+A1:2009/AC:2010

1 Modifications to Clause 3

3.3, line with symbol n_B

Replace "Number of bolts, equations (1), (4), (33), (34)" with "Number of bolts, Equations (1), (4), (33), (34), (56a), (56b), (58a), (58b), (D.1), (D.2), (D.8), (D.9), (D.10)".

3.3, line with symbols Φ_B , Φ_F , Φ_G , Φ_L , Φ_X

Replace "(72)" with "(72c)".

2 Modifications to Clause 4

4.1.3.3, Note

Replace " h_N " with " h_H ".

4.1.4.1, Equation (19)

Replace " γ " with " λ ".

4.1.4.1, Equation (20)

Replace Equation (20) completely with the following editorially improved one: "

$$c_F = (1 + \gamma \vartheta) / \{1 + \gamma \vartheta [4 (1 - 3 \lambda + 3 \lambda^2) + 6 (1 - 2 \lambda) \vartheta + 6 \vartheta^2] + 3 \gamma^2 \vartheta^4 \} \quad (20)".$$

4.1.4.2, Equation (29)

Replace " D_{Ge} " with " d_{Ge} ".

4.3.3, Equation (42)

Replace Equation (20) completely with the following: "

$$X_G = (e_G / A_{Gt}) \times (b_{Gt} + e_G / 2) / (b_{Ge} + e_G / 2) \quad (42)".$$

4.3.3, Table 1, line "Type 1", last column, line below equation for b_{Gi}

Replace complete sentence with the following: "

$E_{Gm} = E_{G0}$, where the value for E_{G0} will be calculated for the pressure of $Q_{G0} = F_{G0} / A_{Ge}$, for flat metallic ring gaskets with rectangular cross section."

4.3.3, Table 1, line "Type 2", last column, first equation, $b_{Gi} = \dots$

Replace " Q_{max} " with " $Q_{max,y}$ ".

3 Modifications to Clause 5

5.1.2.3, Equation (45), first line

Replace " e_B " with " l_B ".

5.1.2.3, line below Equation (45), equation after "Herein shall hold:"

Replace " $\tilde{e}_{Ft} + \tilde{e}_{Ft} + e_L + \tilde{e}_L + e_G = e_B$ "

with " $e_{Ft} + \tilde{e}_{Ft} + e_L + \tilde{e}_L + e_G = l_B$ ".

5.3.2, Equation (50)

Replace " $Q_{smin(L)I}$ " with " $Q_{Smin(L)I}$ ".

5.4.1, 3rd paragraph

Replace "repeated from equation (38)," with "repeated from Equation (37),".

5.4.2, 2nd paragraph

Replace " n_b " with " n_B ".

5.4.2, Equations (56a), (56b), (58a) and (58b)

Replace four times " n_b " with " n_B ".

4 Modifications to Clause 6**6.2, Equation (71)**

Replace Equation (71) completely with the following: "

$$\Phi_B = \frac{1}{f_B} \sqrt{\left(\frac{F_B}{A_B}\right)^2 + 3\left(C \frac{M_{t,B}}{I_B}\right)^2} \leq 1 \quad (71)".$$

6.2, first note

Replace ", see 6.1)" with ", see 5.4.2)".

6.3, Equation (72a)

Replace Equation (72a) completely with the following: "

$$Q_{\max,Y} = Q_{S\max} / \{1 + c_1 \times (b_G/e_G)_{\text{ref}}\} \quad (72a)".$$

6.3, Equation (72b)

Replace Equation (72b) completely with the following: "

$$Q_{\max} = Q_{S\max} \times \{1 + c_1 \times (b_G/e_G)_{\text{actual}}\} / \{1 + c_1 \times (b_G/e_G)_{\text{ref}}\} \quad (72b)".$$

6.4, Equation (74), symbol ψ in round brackets

Replace " $\psi_{\text{opt}} \times \psi$ " with " $\psi_{\text{opt}} \times \psi_Z$ ".

6.4, Equation (77), second equation

Replace " $\delta_R = F_R / (f_E \times d_E \times \cos \varphi_S)$ " with " $\delta_R = F_R / (f_E \times \pi \times d_E \times e_D \times \cos \varphi_S)$ ".

6.4, Equation (79), upper line

Replace " $-0,75 \times \delta_R$ " with " $-0,75 \times \delta_Q$ ".

6.4, Equation (79), lower line

Replace " $-0,25 \times \delta_R$ " with " $-0,25 \times \delta_Q$ ".

6.4, Equation (82)

Replace complete Equation (82) with the following: "

$$\begin{aligned} \Psi_{(j_S, k_M, k_S)} &= \frac{f_E \times d_E \times e_D \times \cos \varphi_S}{f_F \times 2 \times b_F \times e_F} \\ &\times \left\{ (0,5 \times \delta_Q + \delta_R) \times \tan \varphi_S - \delta_Q \times 2 \times e_P / d_E + j_S \times k_S \times \sqrt{\frac{e_D \times c_M \times c_S \times (1 + j_S \times k_M)}{d_E \times \cos^3 \varphi_S}} \right\} \quad (82)". \end{aligned}$$

6.4, Equation (84), left side of equation

Replace " $\Psi_{\text{opt}} =$ " with " $\Psi_0 =$ ".

5 Modifications to Annex E

E.3, Equation (E.7)

Replace complete Equation (E.7) with the following: "

$$F_{GI \min} = \left\{ F_{G0 \min} \times Y_{G0} \times P_{QRI} - [F_{QI} \times Y_{QI} + (F_{RI} \times Y_{RI} - F_{R0} \times Y_{R0}) + \Delta U_I] \right\} / Y_{GI} \quad (E.7)".$$

E.3, Equation (E.8)

Replace complete Equation (E.8) with the following: "

$$F_{GI \max} = \left\{ F_{G0 \max} \times Y_{G0} \times P_{QRI} - [F_{QI} \times Y_{QI} + (F_{RI} \times Y_{RI} - F_{R0} \times Y_{R0}) + \Delta U_I] \right\} / Y_{GI} \quad (E.8)".$$

Modification due to EN 1591-1:2001+A1:2009/AC:2011

6 Modification to Clause 6

6.5, Equation (85)

Replace Equation (85) completely with the following: "

$$\Phi_F = \max \left\{ \left| F_B \times h_G + F_Q \times (1 - \rho^3) \times d_{Ge} / 6 + F_R \times (1 - \rho) \times d_{Ge} / 2 \right|; \left| F_B \times h_G + F_Q \times (1 - \rho^3) \times d_{Ge} / 6 \right|; \left| F_R \times (1 - \rho) \times d_{Ge} / 2 \right| \right\} / W_F \leq 1,0 \quad (85)".$$