



**SLOVENSKI STANDARD**  
**SIST EN 1591-1:2002+A1:2009/AC:2011**  
**01-november-2011**

**Nadomešča:**  
**SIST EN 1591-1:2002+A1:2009/AC:2010**

---

**Prirobnice in prirobnični spoji - Pravila za načrtovanje okroglih prirobničnih spojev s tesnili - 1. del: Način izračuna - Popravek AC**

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

Flansche und Flanschverbindungen - Regeln für die Auslegung von Flanschverbindungen mit runden Flanschen und Dichtung - Teil 1: Berechnungsmethode  
(standards.iteh.ai)

Brides et leurs assemblages - Règles de calcul des assemblages à brides circulaires avec joint - Partie 1: Méthode de calcul  
log/standards/sist/f7e035fb-bff1f48a9-90e3-f3e2d2b7d20a/sist-en-1591-1-2002a1-2009-ac-2011

**Ta slovenski standard je istoveten z: EN 1591-1:2001+A1:2009/AC:2011**

---

**ICS:**

23.040.60 Prirobnice, oglavki in spojni elementi Flanges, couplings and joints

**SIST EN 1591-1:2002+A1:2009/AC:2011 en,fr,de**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 1591-1:2002+A1:2009/AC:2011

<https://standards.iteh.ai/catalog/standards/sist/f7e035fb-b1f4-48a9-90e3-f3e2d2b7d20a/sist-en-1591-1-2002a1-2009-ac-2011>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 1591-  
1:2001+A1:2009/AC**

April 2011  
Avril 2011  
April 2011

ICS 23.040.60

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.

(standards.iteh.ai)

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

[SIST EN 1591-1:2002+A1:2009/AC:2011](https://standards.iteh.ai/catalog/standards/sist/f7e035fb-b1f4-48a9-90e3-13e4b1720115/en-1591-1:2001+1009/2011)

<https://standards.iteh.ai/catalog/standards/sist/f7e035fb-b1f4-48a9-90e3-13e4b1720115/en-1591-1:2001+1009/2011>

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

© 2011 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.  
Tous droits d'exploitation sous quelque forme et de quelque manière que ce soit réservés dans le monde entier aux membres nationaux du CEN.  
Alle Rechte der Verwertung, gleich in welcher Form und in welchem Verfahren, sind weltweit den nationalen Mitgliedern von CEN vorbehalten.

Ref. No.: EN 1591-1:2001+A1:2009/AC:2011 D/E/F

## EN 1591-1:2001+A1:2009/AC:2011 (E)

**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  $\Phi_B, \Phi_F, \Phi_G, \Phi_L, \Phi_X$** 

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 " $\gamma$ " with " $\lambda$ ".

**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 " $d_{Ge}$ ".

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

**4.3.3, Equation (42)**

Replace Equation (20) completely with the following: "<https://standards.iteh.ai/catalog/standards/sist/f7e035fb-b1f4-48a9-90e3-20a1-2002a1-2009-ac-2011>

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

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

**5.4.1, 3<sup>rd</sup> paragraph**

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

**5.4.2, 2<sup>nd</sup> 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  $\psi$  in round brackets**

Replace " $\psi_{\text{opt}} \times \psi$ " with " $\psi_{\text{opt}} \times \psi_Z$ ".  
<http://standards.iteh.ai/catalog/standards/sist/f7e035fb-bff1-f48a9-90e3-f3e2d2b7d20a/sist-en-1591-1-2002a1-2009-ac-2011>

**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: "

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

**6.4, Equation (84), left side of equation**

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

**EN 1591-1:2001+A1:2009/AC:2011 (E)****5 Modifications to Annex E****E.3, Equation (E.7)**

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

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

**E.3, Equation (E.8)**

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

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

**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: "

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

ITEH STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN 1591-1:2002+A1:2009/AC:2011

<https://standards.iteh.ai/catalog/standards/sist/f7e035fb-bff1f-48a9-90e3-f3e2d2b7d20a/sist-en-1591-1-2002a1-2009-ac-2011>