TECHNICAL REPORT

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RAPPORT TECHNIQUE

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English Version

Flanges and their joints - Design rules for gasketed circular flange connections - Part 5: Calculation method for full face gasketed joints

Brides et leurs assemblages - Règles de calcul des assemblages à brides circulaires avec joint - Partie 5: Méthode de calcul pour assemblages avec joints pleine face

Flansche und ihre Verbindungen - Regeln für die Auslegung von Flanschverbindungen mit runden Flanschen und Dichtung - Teil 5: Berechnungsmethode für Verbindungen mit vollflächiger Dichtung

This Technical Report was approved by CEN on 12 December 2011. It has been drawn up by the Technical Committee CEN/TC 74.

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Foreword

This document (CEN/TR 1591-5:2012) has been prepared by Technical Committee CEN/TC 74 "Flanges and their joints", the secretariat of which is held by DIN.

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

EN 1591 "*Flanges and their joints — Design rules for gasketed circular flange connections*" consists of the following parts:

— *Part 1: Calculation method;*

— *Part 2: Gasket parameters;*

— *Part 3: Calculation method for metal to metal contact type flanged joint* (CEN/TS);

— *Part 4: Qualification of personnel competency in the assembly of bolted joints fitted to equipment subject to the Pressure Equipment Directive;*

— *Part 5: Calculation method for full face gasketed joints* (CEN/TR).

1 Scope

This Technical Report gives guidance for the calculation of full face gasketed joints on the basis of the calculation method given in EN 1591-1.

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 1591-1:2001+A1:2009, *Flanges and their joints — Design rules for gasketed circular flange connections — Part 1: Calculation method*

3 Symbols and abbreviated terms

A_{Ge} effective gasket area (= $\pi * d_{Ge} * b_{Ge}$), [mm^2], see Equation (26)

b_{Ge} effective gasket width, (mm), see Figure 2

b_{Gi} interim value of effective gasket width, [mm]

b_{Gseal} effective sealing gasket width, [mm], Figure 9

b_{GQ} compressed gasket width, [mm], Figure 2

d_{F1} gasket force acting diameter for zone A, Equations (12), (14)