



BSI Standards Publication

# Aluminium and aluminium alloys — Classification of Defects and Imperfections in High Pressure, Low Pressure and Gravity Die Cast Products

**National foreword**

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## Aluminium and aluminium alloys - Classification of Defects and Imperfections in High Pressure, Low Pressure and Gravity Die Cast Products

Aluminium et alliages d'aluminium - Classification des défauts et imperfections des produits moulés par coulée à haute pression, basse pression et gravité

Aluminium und Aluminiumlegierungen - Klassifikation von Fehlern und Unvollkommenheiten für Druckguss, Niederdruckguss und Schwerkraftkokillenguss

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (CEN/TR 16749:2014) has been prepared by Technical Committee CEN/TC 132 "Aluminium and aluminium alloys", the secretariat of which is held by AFNOR.

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.

## 1 Scope

This Technical Report specifies the classification of the defects and imperfections may be present in cast products manufactured by high pressure, low pressure and gravity die casting of aluminium alloys.

## 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 12258-1:2012, *Aluminium and aluminium alloys - Terms and definitions - Part 1: General terms*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12258-1:2012 and the following apply.

### 3.1

#### **casting process**

process in which molten metal is introduced into a mould where it solidifies

[SOURCE: EN 12258-1:2012, 3.1.1]

### 3.2

#### **die casting process**

casting process in which molten metal is injected under substantial pressure, typically above 70 bars, into a metal die and solidifies under this pressure

Note 1 to entry: Die casting process is also referred to as “pressure die casting (process)” or “high pressure die casting (process)”.

[SOURCE: EN 12258-1:2012, 3.1.10]

### 3.3

#### **permanent mould casting process**

casting process in which molten metal is introduced by gravity or low pressure into a mould constructed of durable material, typically iron or steel

Note 1 to entry: A permanent mould casting process where the metal solidifies in a metal mould under low pressure (typically less than 1 bar above atmospheric pressure) is also referred to as a “low pressure die casting process”.

[SOURCE: EN 12258-1:2012, 3.1.9]

### 3.4

#### **casting**

product at or near finished shape, formed by solidification of the metal in a mould or a die

[SOURCE: EN 12258-1:2012, 2.5.1]

### 3.5

#### **dendrite**

crystal that has a tree-like, branching pattern, being most evident in cast metals slowly cooled through the solidification range

[SOURCE: EN 12258-1:2012, 4.5.17]