

# Fishplates for flat bottom rails

## Dimensions and materials

**DIN**  
**5902**

ICS 93.100

Descriptors: Rails, fishplates, flat bottom rails, dimensions, materials.

Supersedes DIN 5901-2, March 1965 edition, and DIN 5902, July 1968 edition.

Laschen für rillenlose Breitfußschienen – Maße und Stahlsorten

*In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.*

### Foreword

This standard has been prepared by Technical Committee *Gleisoberbauerzeugnisse* of the *Normenausschuß Eisen und Stahl* (Steel and Iron Standards Committee).

### Amendments

The following amendments have been made to DIN 5901-1, March 1963 edition, and DIN 5902, July 1968 edition.

- a) Both standards have been combined to form a single standard.
- b) Some fishplate types (angle types and types FI 7, FI 12 and FI 14) have been dropped.
- c) Specifications regarding cast or wrought fishplates and tolerances for rolled fishplates have been included for the first time, and an appendix illustrating the use of referee gauges added.

### Previous editions

DIN 5901-2: 1938-01, 1948-03, 1965-03; DIN 5902-2: 1942-12, 1944-04, 1965-06, 1968-07.

Dimensions in mm

## 1 Scope and field of application

This standard covers the design, material, dimensions and tolerances for rolled, cast or wrought fishplates for use with grooveless flat bottom rails, such as those specified in DIN 5901 (i.e. with a mass per unit length of up to 54 kg/m).

For steel grades, see subclause 5.1 and for dimensions of rolled fishplates, see table 1 and figures 1 to 10, as well as figures 11 to 13 for cast or wrought fishplates.

Specifications regarding fishbolts may be found in DIN 5903-1 and DIN 5903-2.

## 2 Normative references

This standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the titles of the publications are listed below. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated into it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

DIN 1685-1 Rough castings of nodular graphite grey iron – General tolerances and machining allowances

DIN 1693-1 Spheroidal graphite cast iron – Unalloyed and low alloy grades

Continued on pages 2 to 13.

Translation by DIN-Sprachendienst.

In case of doubt, the German-language original should be consulted as the authoritative text.

DIN 1693-2	Spheroidal graphite cast iron – Unalloyed and low alloy grades – Properties of cast-on test piece
DIN 5901	Flat bottom rails – Dimensions, static properties and materials
DIN 5903-1	Round head fishbolts with oval neck
DIN 5903-2	Square head fishbolts
EN 10025	Hot rolled unalloyed structural steel products – Technical delivery conditions (includes Amendment A1 : 1993)
ISO 2768-1 : 1981 <sup>1)</sup>	General tolerances – Tolerances for linear and angular dimensions without individual tolerance indication
ISO 6305-1 : 1981 <sup>1)</sup>	Railway components – Technical delivery requirements – Rolled steel fishplates

### 3 Dimensions, tolerances and mass

#### 3.1 Dimensions and tolerances

**3.1.1** The dimensions and tolerances for rolled fishplates as illustrated in figures 1 and 2 shall comply with those given in tables 1 and 2. In cases where tolerances have not been specified, refer to ISO 2768-1.

The dimensions and tolerances for cast or wrought fishplates with differing cross sections shall be as specified in figures 11 to 13. In cases where tolerances have not been specified, refer to DIN 1685-1 and ISO 2768-1.

#### 3.2 Mass

The mass of rolled fishplates is specified in table 1, that of cast or wrought fishplates in table 3.

### 4 Designation

The standard designation for fishplates in compliance with this standard shall include the following details in the order given below:

- name of item (fishplate);
- ‘DIN 5902’;
- designation of fishplate type (see table 1, and figures 2 to 15);
- steel designation (steel grade or material number).

The designation for a fishplate of type 30 (Fl 30), made of grade E295 steel (material number 1.0050), shall read:

Fishplate DIN 5902 – Fl 30 – E295

or

Fishplate DIN 5902 – Fl 30 – 1.0050

### 5 Materials

**5.1** Depending on the fishplate type selected, the following steel grades are to be used:

- for rolled fishplates, types Fl 10 to Fl 20: grade S235JR as specified in EN 10025;
- for all other rolled fishplates: grade E295 as specified in EN 10025;
- for cast or wrought fishplates, types Fl 38 and Lk 12: grade E360 as specified in EN 10025, or grade GGG 60 as specified in DIN 1693-1;
- for type Nl 31: grade E295 as specified in EN 10025, or grade GGG 60 as specified in DIN 1693-1.

#### 5.2 Freedom of defects

Fishplates shall be free of defects adversely affecting their performance in service.

### 6 Testing

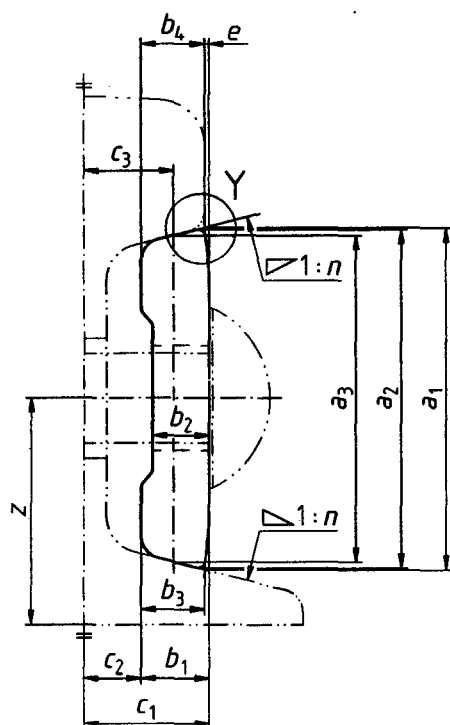
#### 6.1 Materials testing

The properties of the materials used for rolled or wrought fishplates shall be tested in accordance with DIN EN 10025, and those of cast fishplates in accordance with DIN 1693-2.

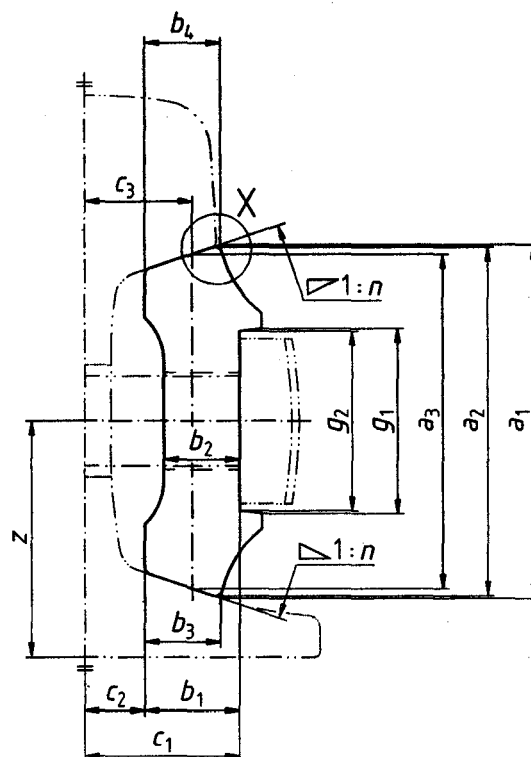
#### 6.2 Checking features and dimensions

While a calliper gauge may be used to check compliance with limit deviations, appendix A illustrates the usage of referee gauges (as specified in ISO 6305-1) to check the height of fishplates and the slope of the fishing surfaces.

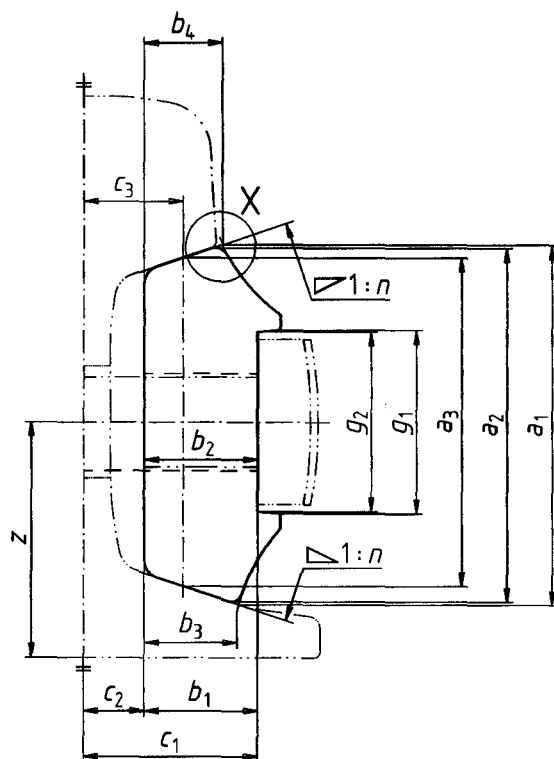
<sup>1)</sup> Obtainable from *Beuth Verlag GmbH (Auslandsnormenvermittlung)*, Burggrafenstraße 6, D-10787 Berlin.



Types FI 10 to 33



Types FI 41 to 49



Types FI 41 to 54

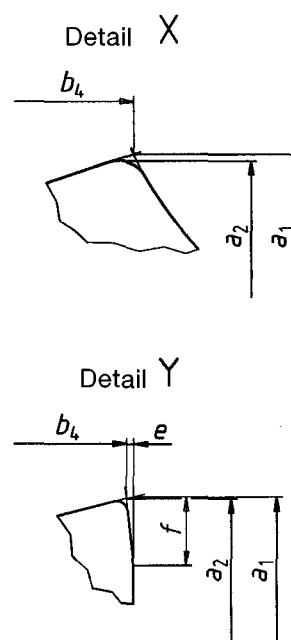


Figure 1: Main features of rolled fishplates (notation)