INTERNATIONAL STANDARD

ISO 13988

First edition
2008-08-01

Passenger vehicle wheels — Clip balance weight and rim flange nomenclature, test procedures and performance requirements

Roues pour véhicules particuliers — Nomenclature des masselottes d'équilibrage clippées et des rebords de jantes, méthodes d'essai et exigences de performance

Reference number
ISO 13988:2008(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 13988 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 19, *Wheels*.

Introduction

This International Standard addresses clip balance weights used on passenger car wheels. It provides general features and configurations of the clip balance weights and rim dimensions and defines terms used to describe these features.

This International Standard provides test procedures to evaluate weight retention on the wheel.

Passenger vehicle wheels — Clip balance weight and rim flange nomenclature, test procedures and performance requirements

1 Scope

This International Standard specifies procedures and minimum performance requirements for testing without tyres the retention of clip balance weights for use on wheels for passenger vehicles. It also specifies general features for configurations of clip balance weights and rim flanges for light alloy and steel wheels intended for use on passenger cars. Alternative materials and geometries can be considered in the future.

2 Normative reference

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3911, *Wheels and rims for pneumatic tyres — Vocabulary, designation and marking*

ISO 4000-1, *Passenger car tyres and rims — Part 1: Tyres (metric series)*

ISO 4000-2, *Passenger car tyres and rims — Part 2: Rims*

ISO 4223-1, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres*

3 Terms and definitions

For the purposes of this document, the definitions given in ISO 4223-1, ISO 4000-1, ISO 4000-2, ISO 3911 and the following apply.

3.1
balance weight assembly
assembly of the weight and the clip, which is intended for mounting on the rim flange to balance the tyre/wheel assembly about its axis of rotation and thus minimize vibrations due to the rotation of the tyre/wheel assembly

NOTE Figure 1 gives the terminology and nomenclature of balance weight assembly.

3.1.1
weight
material of a specified mass with contours to conform to the surface of the rim flange

3.1.2
clip
specially formed metal affixed to the weight to mount the balance weight on the rim flange

3.1.3
spur
optional part of a clip that protrudes from its surface interfacing with the rim flange

3.1.4
balance weight coating
non-corrosive material coating to avoid corrosion

EXAMPLE Polyester, nylon.

3.1.5
balance weight key dimensions
dimensions that are essential for fitting the balance weight on the rim flange

3.1.6
balance weight size
size determined by the magnitude of the balance weight mass, expressed in grams

3.1.7
balance weight retention force
static force required to remove the balance weight from the rim flange, expressed in newtons

3.1.8
balance weight retention
ability of the balance weight to maintain its secure position on the rim flange in various service conditions

3.1.9
interference
measure of balance weight press fit computed as the difference between the flange thickness and the weight gap

3.2
rim flange
part of the rim where the balance weight is mounted

NOTE 1 Figure 2 gives the terminology and nomenclature of rim flange features for light alloy wheels.

NOTE 2 Figure 3 gives the terminology and nomenclature of rim flange features for wheels with roll formed rim.

NOTE 3 Figure 4 gives the terminology and nomenclature of rim flange features for fullface wheels.

NOTE 4 Figure 5 gives the terminology and nomenclature of rim flange features for clad wheels.

3.2.1
rim flange key dimensions
dimensions that are essential for fitting the balance weight on the rim flange

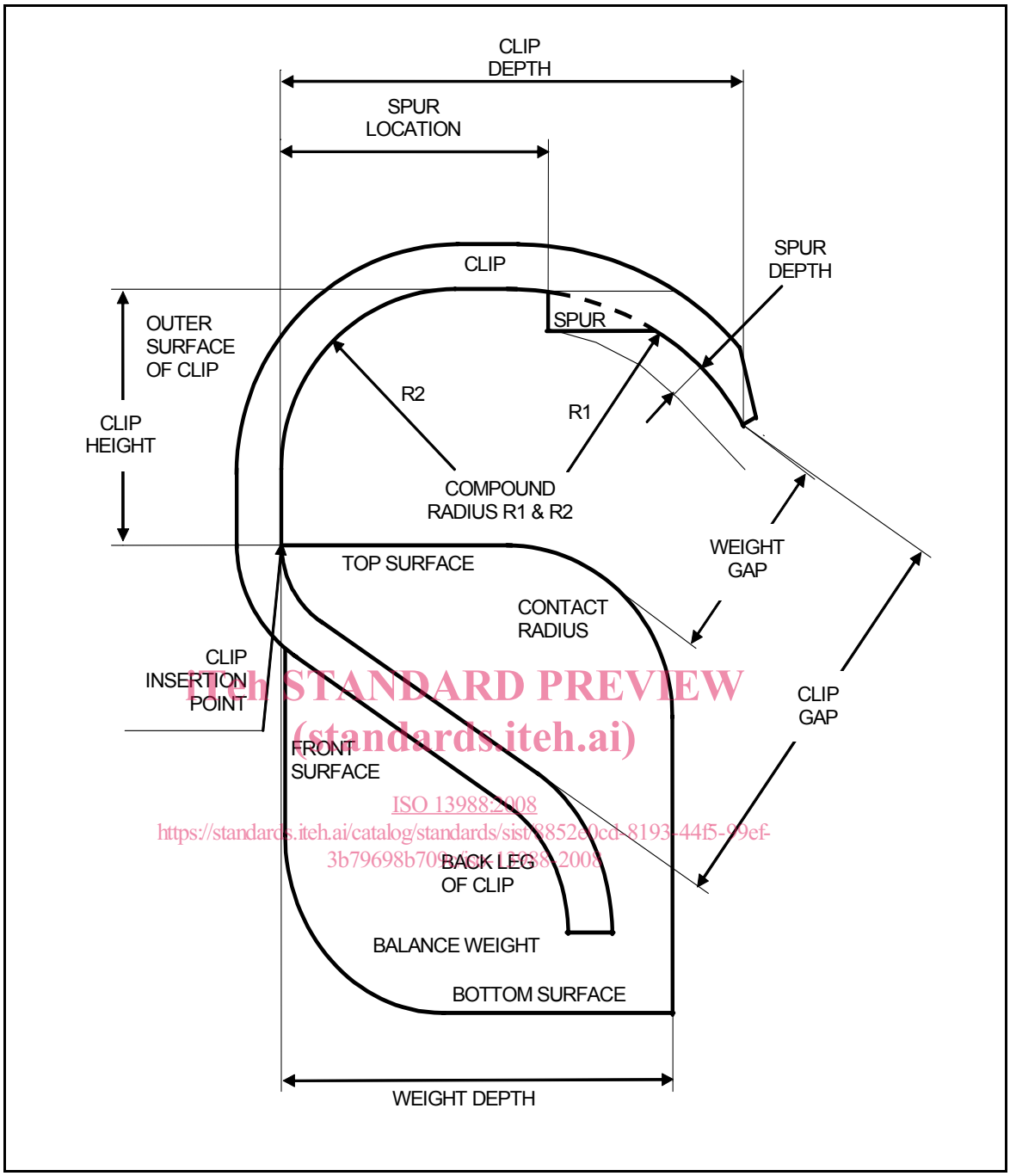

Figure 1 — Balance weight assembly terminology

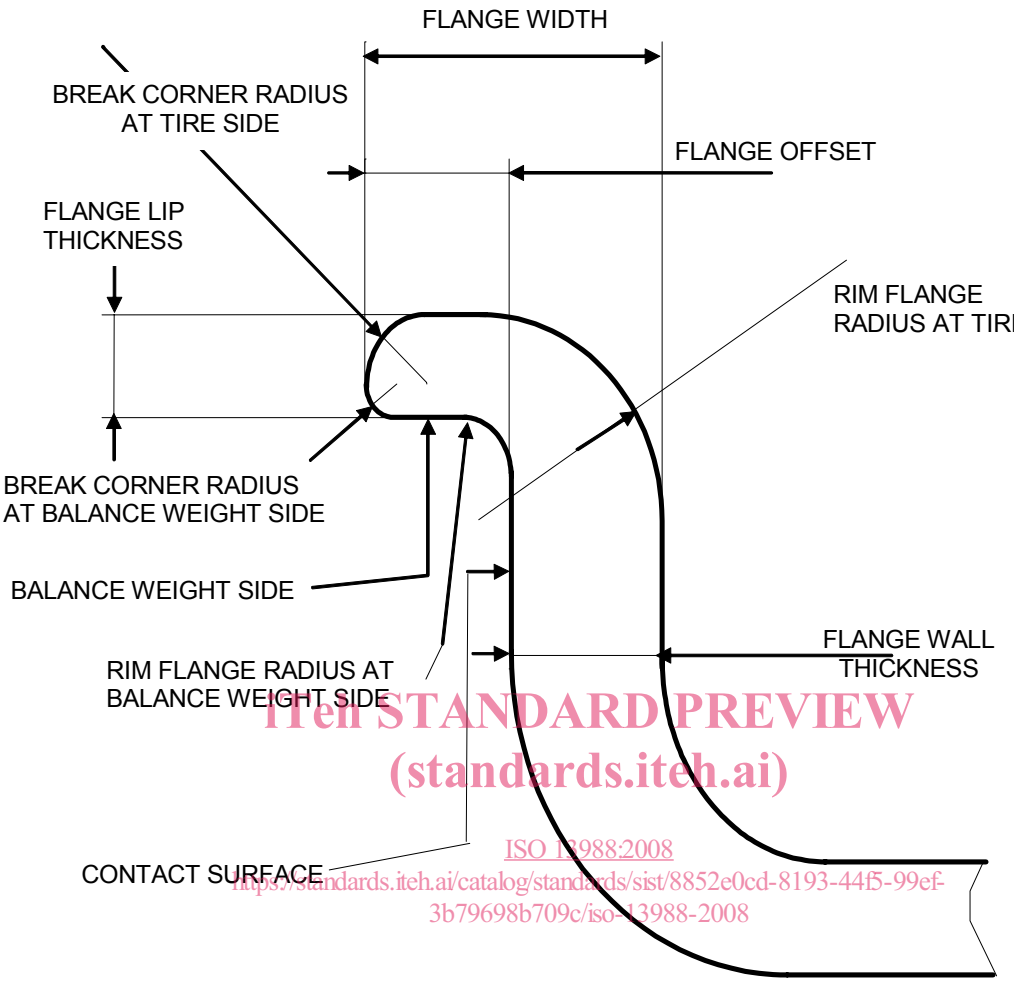

Figure 2 — Light alloy rim flange terminology

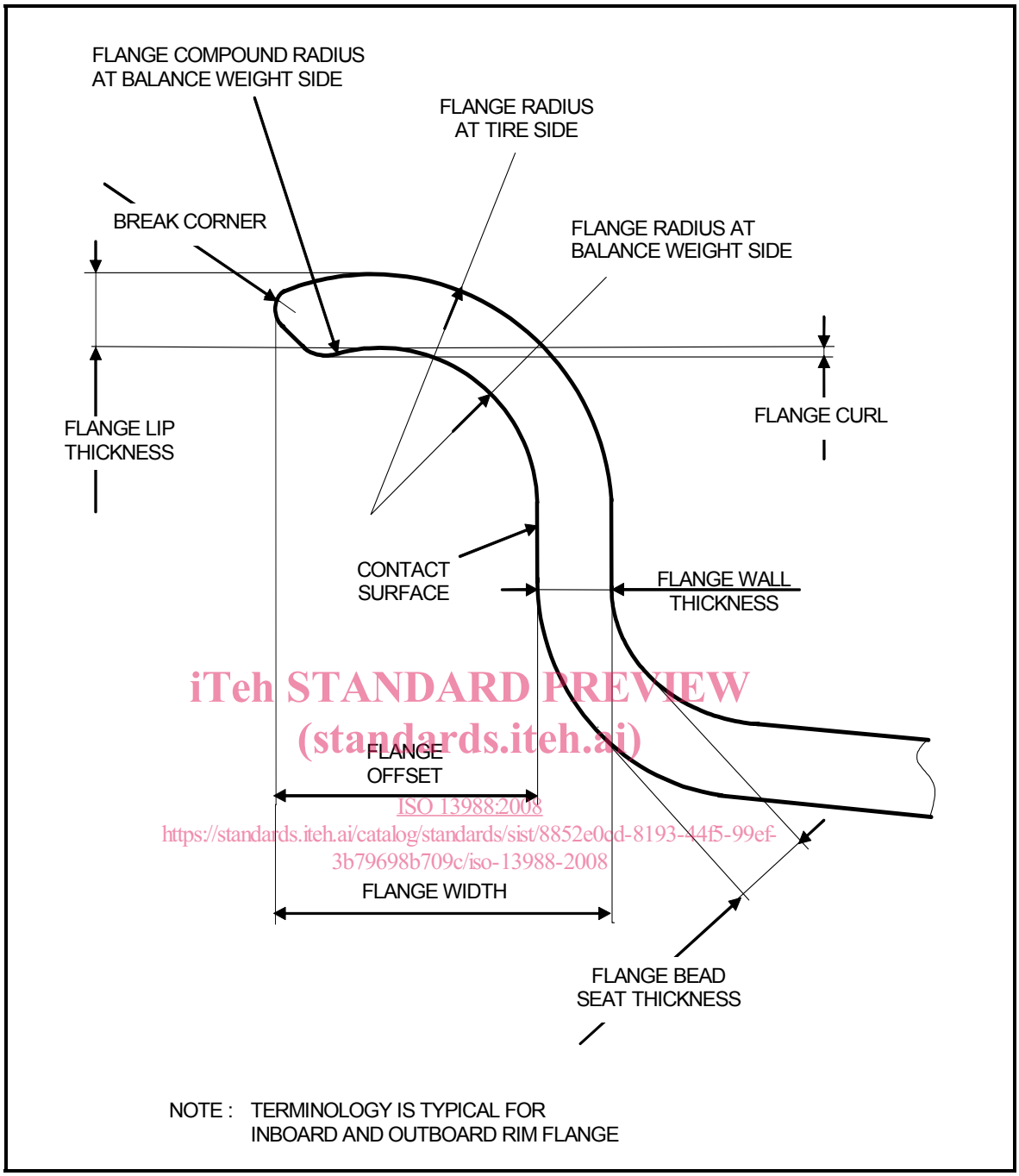

Figure 3 — Rolled formed rim flange terminology