PD ISO/TS 18684:2015

BSI Standards Publication

Timekeeping instruments — Watch external parts made of hard materials -- General requirements and test methods

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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Instruments horaires — Habillages de montre en matériaux durs — Exigences générales et méthodes d'essais

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Foreword

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The committee responsible for this document is ISO/TC 114, *Horology*.

Introduction

In recent years, hard materials such as tungsten carbide, ceramics, etc., have found several applications in the horological industry, particularly for the external parts of watches, and more particularly in watchcases and some of their accessories such as bezels, crowns, wristbands and clasps.

Their properties in terms of hardness, of wear resistance or of finish quality (brightness) bring many undeniable advantages for this type of application.

This Technical Specification deals with constitutive components of external parts of watches. Given the variety of possibilities in the mounting of these elements, it is not possible to define and to specify "a complete watch made of hard material".

Manufacturers of hard materials have developed know-how with the aim of satisfying the legal requirements and the criteria of horological standardization, without standards nor specifications that can serve as references. The aim of this Technical Specification is to clarify the general requirements and the test methods for the horological external parts made of hard material.

TECHNICAL SPECIFICATION ISO/TS 18684:2015(E)

Timekeeping instruments — Watch external parts made of hard materials — General requirements and test methods

1 Scope

This Technical Specification concerns whole watches, in which all or some of the components of the external parts are made of hard material, with the exception of watch glasses.

It applies to all elements made in massive material whose hardness is greater than or equal to 1 200 Vickers.

It describes the performance in terms of resistance to mechanical and thermal shocks, to corrosion, to scratches, to sunlight exposure and also to the wear of its components.

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.

ISO 1413:—[1)], *Horology — Shock-resistant watches*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 23160:2011, *Watch cases and accessories — Tests of the resistance to wear, scratching and impacts*

SN 289 120:2013, *Definition of linear types shocks for the wristwatches components*

SN 289 650:2013, *Process to estimate the resistance to chemical and climatic agents of a horological external part*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
external part
<horological context> the watchcase, the bezel, the crown, the push buttons, the wristband and the clasp

3.2
hard material
material whose Vickers hardness is equal to or higher than 1 200 HV1

3.3
massive
<component> having a composition that is macroscopically homogeneous across its entire section

3.4
brittleness
<material or component> susceptibility to breaking, under the effect of a static or dynamic stress, without being significantly plastically deformed

1) To be published. Revises ISO 1413:1984.