

PUBLICLY
AVAILABLE
SPECIFICATION

**ISO/PAS
22574**

First edition
2007-02-01

Road vehicles — Brake linings frictions materials — Visual inspection

*Véhicules routiers — Matériaux de friction des garnitures de freins —
Inspection visuelle*



Reference number
ISO/PAS 22574:2007(E)

© ISO 2007

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

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.....	v
Introduction	vi
1 Scope	1
2 Characteristic features for friction materials	1
2.1 Characteristic features for disc brake pads	1
2.1.1 Gapping (between material and plate)	1
2.1.2 Edge chipping	2
2.1.3 Splits	2
2.1.4 Minor splits	3
2.1.5 Plucked and indented spigots	3
2.1.6 Poor consolidated spigot holes	4
2.1.7 Excess adhesive on plate	4
2.1.8 Material flash on plate	5
2.1.9 Abrasive coating	5
2.1.10 Anti-noise coating runs	6
2.1.11 Skin crazing	6
2.1.12 Underlayer distribution	7
2.1.13 Marking	7
2.1.14 Unground material surface	8
2.1.15 Paint on friction material surface	8
2.1.16 Surface blisters	9
2.1.17 Surface indentations	9
2.1.18 Grinding marks on friction material surface	10
2.1.19 Higher porosity area	10
2.1.20 Poorly consolidated friction material	11
2.1.21 Surface contamination with foreign matter	11
2.1.22 Surface contamination with similar friction material	12
2.1.23 Friction surface structure	12
2.2 Characteristic features for drum brake linings	13
2.2.1 Chipped edges/corners	13
2.2.2 Edge splits	14
2.2.3 Drill hole chipping at lining ends	14
2.2.4 Drill hole burrs inside the surface	15
2.2.5 Drill hole burrs outside the surface	16
2.2.6 Cracks radiating from the rivet hole	16
2.2.7 Paint on surface – Lining for riveting and bonding	17
2.2.8 Surface cracks	17
2.2.9 Marking	18
2.2.10 Moulding skin on inside radius surface – Linings for bonding and riveting	18
2.2.11 Moulding skin on outside radius surface – linings for riveting or bonding	19
2.2.12 Surface blisters	19
2.2.13 Surface grind marks	20
2.2.14 Pitted surface (plucked surface)	20
2.2.15 Surface structure	21
2.2.16 Poor consolidation	21
2.2.17 Inside surface indentations	22
2.2.18 Outside surface indentations	22
2.2.19 Concentration of self contained ingredients unless typical of the formulation	23
2.2.20 High porosity area	24
2.2.21 Metal wire or plastic reinforcement	25
2.2.22 Foreign matter friction surface inclusion	26

2.3	Characteristics features for bonded lined shoes	26
2.3.1	Lining overhang on shoe platform edge	26
2.3.2	Faulty shoes	27
2.3.3	Restricted lever movement	27
2.3.4	Stencilled information	28
2.3.5	Excess adhesive exudation over shoe platform edges	28
2.3.6	Excess adhesive exudation from lining ends	29
2.3.7	Excess primer	29
2.3.8	Lining surface condition	30
2.3.9	Gaps between linings and shoe platform	32

This document is a preview generated by EVS

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.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years at which time it must either be transformed into an International Standard or be withdrawn.

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/PAS 22574 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Braking systems and equipment*.

Introduction

This Publicly Available Specification is based on the “Catalogue of characteristic features for friction materials” of the “FEMFM-Federation of European Manufacturers of Friction Materials” issued the first time in 1980. The FEMFM is a European organization of national associations formed by companies engaged in the development and production of friction materials of various product forms. The description of the characteristic features and their design was reviewed in 1996 when technological processes, especially safety aspects and the demands made by the brake and automobile industry, were given careful consideration.

This document is a preview generated by EVS

Road vehicles — Brake linings frictions materials — Visual inspection

1 Scope

Friction linings are composite materials with complex structure. Due to their composition and their production process, visual appearance characteristics can occur which in a precisely defined design are to be regarded as specific to the product. This International Standard defines visual aspect for the identification and assessment of such product characteristics in quality assurance, as well as a basis for commercial and technical agreements. The sequence of the product characteristics represents no order of priority. The brake linings are inspected in the “as supplied” condition, meaning unused. In some characteristic features, there are differences between brake linings with an effective lining pad surface $< 120 \text{ cm}^2$ and $\geq 120 \text{ cm}^2$. The acceptance criteria within the International Standard do not allow any characteristics which could impair the function and performance of brake linings and are applied unless there are other agreements between the customer and the supplier.

2 Characteristic features for friction materials

2.1 Characteristic features for disc brake pads

2.1.1 Gapping (between material and plate)

The gap shown in Figure 1 is not acceptable.

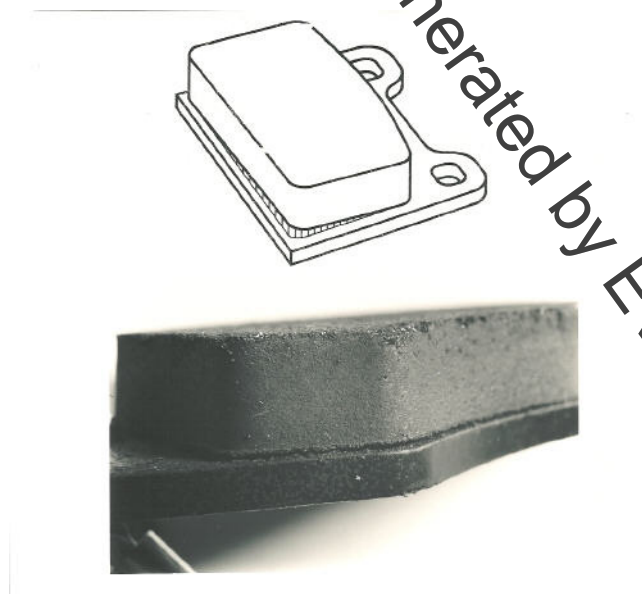


Figure 1 — Gapping (between material and plate)