

## International Standard



4628/4

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

**Paints and varnishes — Evaluation of degradation of paint coatings — Designation of intensity, quantity and size of common types of defect —**  
**Part 4 : Designation of degree of cracking**

*Peintures et vernis — Évaluation de la dégradation des surfaces peintes — Désignation de l'intensité, de la quantité et de la dimension des types courants de défauts — Partie 4 : Désignation du degré de craquelage*

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Descriptors : paints, varnishes, surface defects, designations, cracking (fracturing).

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4628/4 was developed by Technical Committee ISO/TC 35, *Paints and varnishes*.

This International Standard, formerly section four of draft Addendum 1 to International Standard ISO 4628/1-1978, was submitted to the member bodies in December 1979 and approved by the member bodies of the following countries :

Australia	Israel	South Africa, Rep. of
Austria	Italy	Spain
Brazil	Kenya	Sweden
China	Korea, Rep. of	Switzerland
France	Netherlands	United Kingdom
Germany, F. R.	Norway	USSR
India	Poland	
Ireland	Romania	

No member body expressed disapproval of the document.

# Paints and varnishes — Evaluation of degradation of paint coatings — Designation of intensity, quantity and size of common types of defect —

## Part 4 : Designation of degree of cracking

### 0 Introduction

This International Standard is one of a series of standards dealing with the sampling and testing of paints, varnishes and related products.

The other parts of ISO 4628 already published or in course of preparation are :

Part 1 : General principles and rating schemes.

Part 2 : Designation of degree of blistering.

Part 3 : Designation of degree of rusting.

Part 5 : Designation of degree of flaking.

Part 6 : Designation of degree of chalking.<sup>1)</sup>

Part 1 of ISO 4628 defines the system for designating the quantity and size of common types of defects of paint coatings and outlines the basic principles of the system in respect of designation of the quantity and size of defects, in particular the defects caused by ageing and weathering.

Parts 2 to 6 provide auxiliary pictorial or other reference scales for rating particular types of defect. As far as possible, these scales are based on existing well-established schemes.

### 1 Scope and field of application

This part of ISO 4628 provides pictorial standards for designating the degree of cracking of paint coatings.

### 2 Reference

ISO 4628/1, *Paints and varnishes — Evaluation of degradation of paint coatings — Designation of intensity, quantity and size of common types of defect — Part 1 : General principles and rating schemes.*

### 3 Rating

Rate the quantity of cracking by reference to table 2 of ISO 4628/1 and using as examples figures 1 or 2, depending on the type of cracking.

NOTE — Figure 1 shows cracking without preferential direction and figure 2 shows cracking in one preferential direction which occurs with anisotropic substrates such as wood. Other forms of cracking occur, but the principles of rating of quantity remain the same.

Designate the average size of the cracks according to the classification given in the table.

Table — Rating scheme for the designation of the size of cracks

Class	Size of cracks
0	not visible under X 10 magnification
1	only visible under magnification up to X 10
2	just visible with normal corrected vision
3	clearly visible with normal corrected vision
4	large cracks generally up to 1 mm wide
5	very large cracks generally more than 1 mm wide

If possible, indicate the depth of cracking by reference to the level in the coating system to which the cracks penetrate.

Three main types of failure by cracking are to be distinguished :

- surface cracks which do not fully penetrate the top coat;
- cracks which penetrate the top coat, the underlying coat(s) being substantially unaffected;
- cracks which penetrate the whole coating system.

<sup>1)</sup> At present at the stage of draft.

**ISO 4628/4-1982 (E)****4 Test report**

The test report shall contain at least the following information :

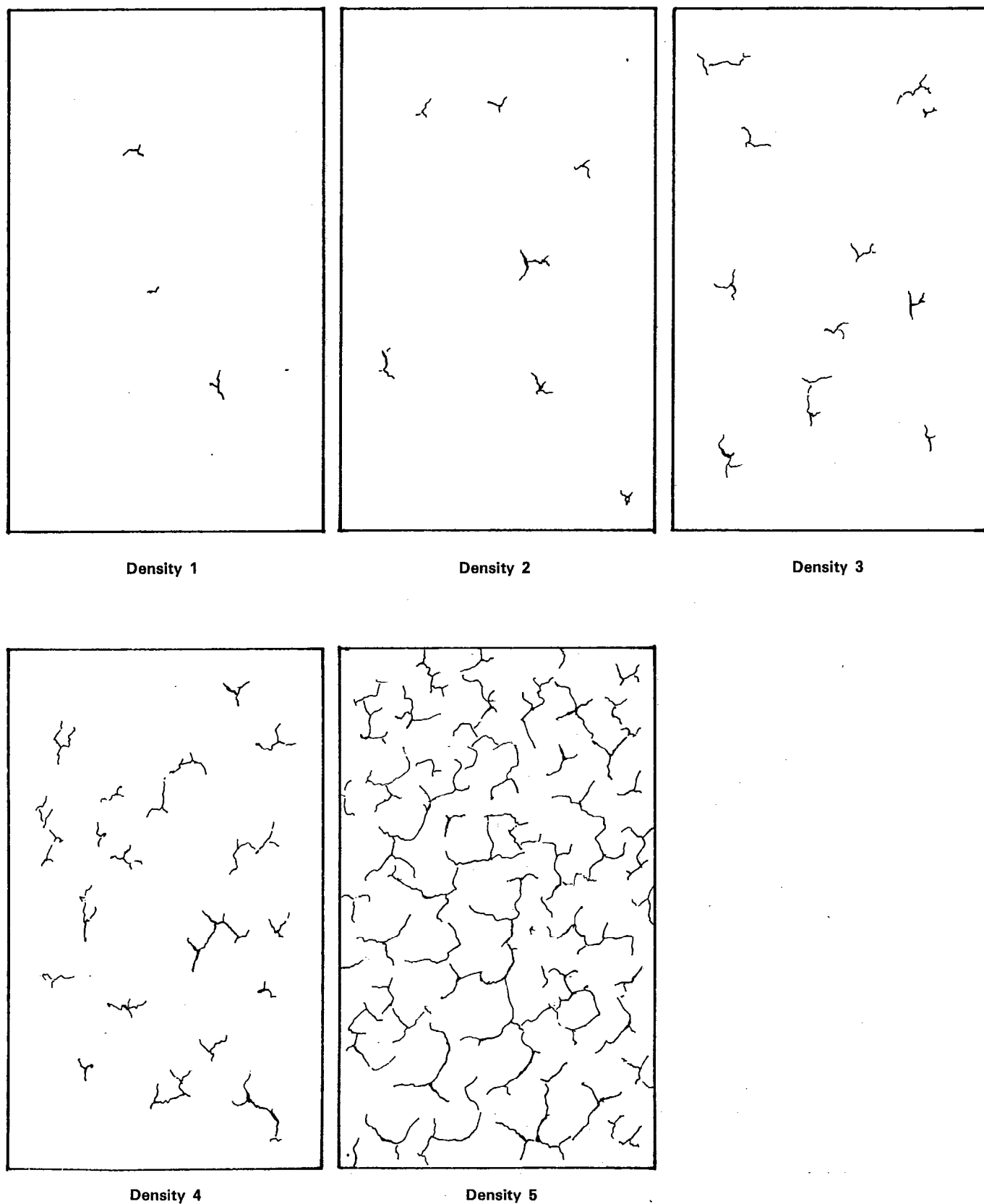
- a) the type and identification of the product tested;
- b) a reference to this International Standard (ISO 4628/4);
- c) the numerical rating of the quantity of cracking;
- d) the numerical rating of the size of cracking;

- e) the depth of cracking (a, b, or c), where possible, for example :

cracking 2 (S3) b

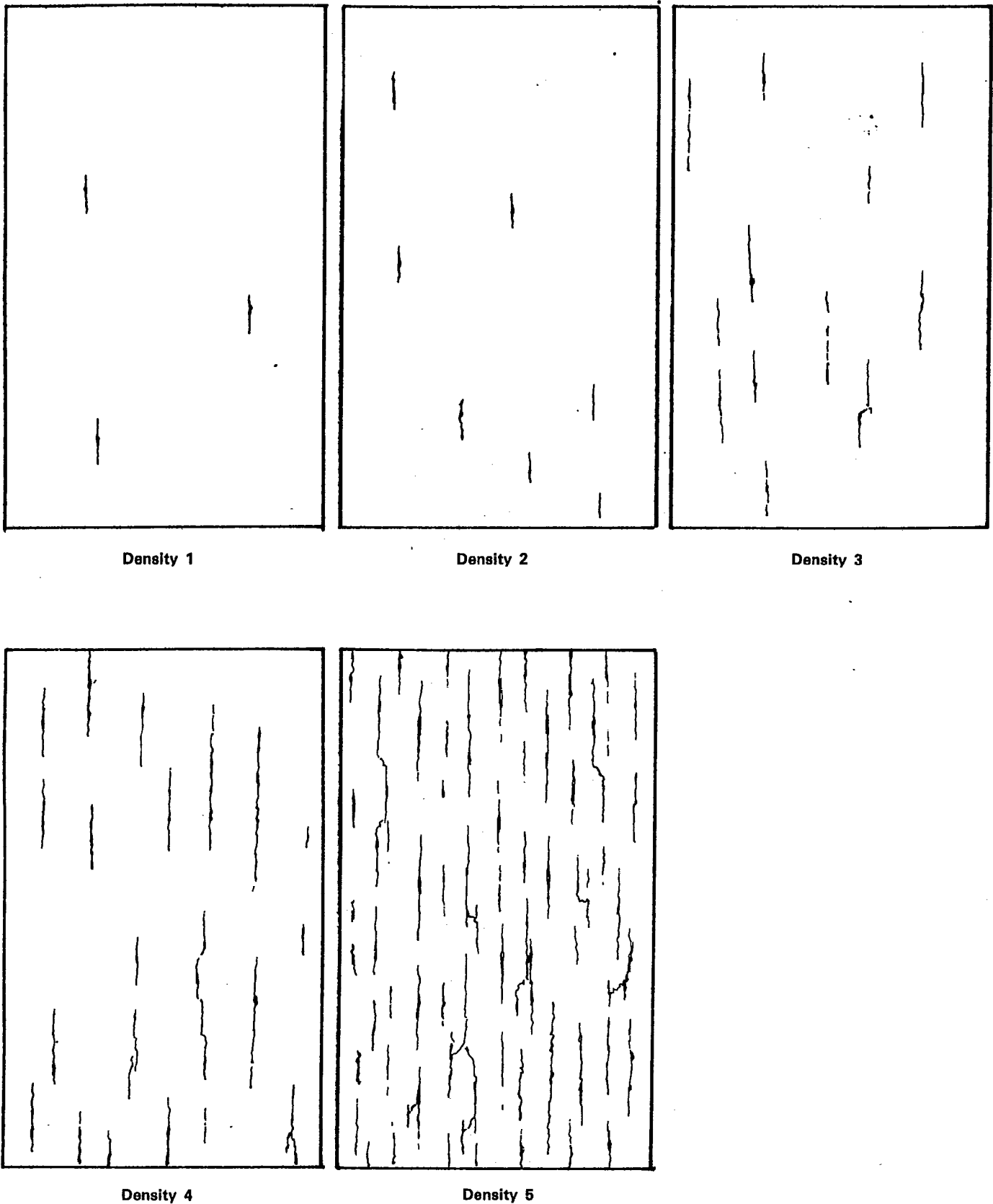
If necessary, the standard assessment may be amplified in words, for example "linear cracking". The use of such comments shall, however, be avoided wherever possible;

- e) the date of the examination.



**Figure 1 — Cracking without preferential direction**  
[Panels of 1 to 2 dm<sup>2</sup> (see table 2 of ISO 4628/1)]

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**Figure 2 — Cracking with one preferential direction**  
(for example due to brush marks or wood grain)  
[Panels of 1 to 2 dm<sup>2</sup> (see table 2 of ISO 4628/1)]