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Adhesives — Designation of main failure patterns

Adhésifs — Désignation des principaux faciès de rupture

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Application **1**

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Foreword

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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 11, *Products,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 193, *Adhesives,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 10365:1992), which has been technically revised.

The main changes compared to the previous edition are as follows:

— failure with stress whitening of adhesive (SWCF) has been added;

— debonding due to bondline corrosion (COR) has been added;

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Adhesives — Designation of main failure patterns

1 Scope

This document specifies the designations for the main types of failure pattern of bonded assemblies and illustrates, through diagrams, their respective appearances.

This document applies to all mechanical tests performed on a bonded assembly, regardless of the nature of the adherends and adhesive which make up the assembly.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 472, *Plastics — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 472 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
assembly
<for adhesives> group of materials or parts, including adhesive, which have been placed together for bonding or which have been bonded together

3.2
adhesion failure
adhesive failure
rupture of an adhesive bond in which the separation appears visually to be at the adhesive/adherend interface

3.3
cohesion failure
cohesive failure
rupture of a bonded assembly in which the separation appears visually to be in the adhesive or the adherend

4 Application

The designation of the failure patterns is provided to classify failures in order to understand better the result of any mechanical test of adhesion on a bonded assembly, which is usually expressed by quantitative measured values.

The failure patterns are designated in accordance with the illustrations in Table 1.

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