

BS EN 3866:2013



BSI Standards Publication

Aerospace series — Non-metallic materials — Glass transparencies — Test methods — Determination of ream and surface ripple

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ACE/65, Non-metallic materials for aerospace purposes.

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

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English Version

**Aerospace series - Non-metallic materials - Glass transparencies
- Test methods - Determination of ream and surface ripple**

This European Standard was approved by CEN on 17 November 2012.

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Foreword

This document (EN 3866:2013) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2013, and conflicting national standards shall be withdrawn at the latest by July 2013.

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Introduction

This standard is part of the series of EN non-metallic material standards for aerospace applications. The general organisation of this series is described in EN 4385. This standard is a level 3 document as defined in EN 4385. It has been prepared in accordance with EN 4386.

1 Scope

This European Standard defines a qualitative method for the determination of the beam and surface ripple in glass transparencies for aircraft applications.

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.

EN 4385, *Aerospace series — Non-metallic materials — General organisation of standardisation — Links between types of standards* ¹⁾

EN 4386, *Aerospace series — Non-metallic materials — Rules for the drafting and presentation of test method standards* ¹⁾

3 Terms, definitions, symbols and abbreviations

Not applicable.

4 Health, safety and environment

This European Standard does not necessarily include all health, safety and environment requirements, associated with its use.

Persons using this European Standard shall be familiar with normal laboratory / test house practices.

It is the responsibility of the user to establish satisfactory health, safety and environment practices and to ensure conformity with any European, National or local laws / regulations.

5 Principle/technique

The shadow of the glass transparency, by a homogeneous high intensity light may be viewed on a matt screen, when illuminated as in 6.1. The distortions and the optical defects are revealed on the screen by the shadow.

1) Published as ASD-STAN Prestandard at the date of publication of this standard (www.asd-stan.org).

6 Resources

6.1 Apparatus/facilities

A dark room.

A high intensity point light source with an output of 200 W to 250 W, able to create a homogeneous field.

A matt white screen to receive the shadow of the glass transparency.

6.2 Materials/reagents

Not applicable.

6.3 Qualification of personnel

Not applicable.

7 Test samples/test pieces

Not applicable – test to be done on actual plies.

8 Test procedure

See Figure 1.

The glass transparency under test shall be held parallel to a matt white screen at a distance of 1 000 mm.

The high intensity light shall set at a distance of 3 000 mm from the glass transparency, then shone through the transparency to produce shadows on the screen. The transparency may be angled slightly away from the screen in order to determine whether a fault exists.

9 Expression of results

This is a qualitative method only - see scope.

10 Measurement uncertainties

The precision of this test method is not known because inter-laboratory data are not available.

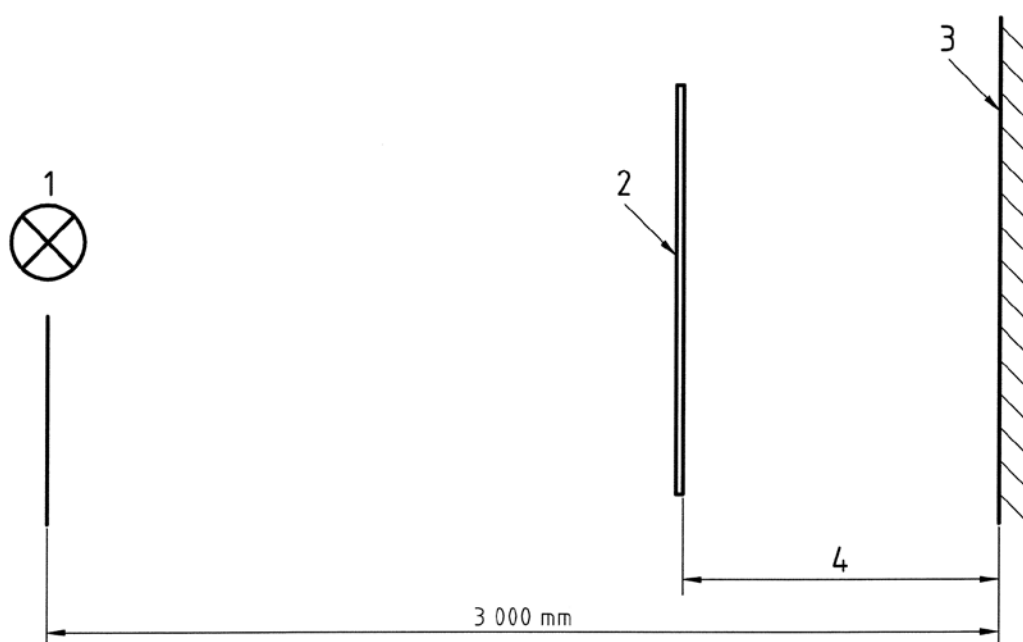
11 Designation

Not applicable.

12 Test report

The test report shall include:

- reference to the test method designation;
- designation of the apparatus;
- any other information relevant to the test method;
- identification and traceability of the semi-finished product to be tested, in accordance with the technical specification;
- traceability to test apparatus used;
- traceability to individual performing the test work;
- any incident which may have affected the results;
- any deviation from the test method standard;
- date of test.



Key

- 1 light source
- 2 part of glass under test
- 3 matt white screen
- 4 e.g. 1 000 mm.

Figure 1 — Shadowgraph apparatus

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