
**Vitreous and porcelain enamels —
Glass-lined apparatus for process
plants —**

**Part 1:
Quality requirements for apparatus,
components, appliances and accessories**

*Émaux vitrifiés — Appareils émaillés pour les installations
industrielles —*

*Partie 1: Exigences de qualité relatives aux appareillages, composants,
appareils et accessoires*



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



COPYRIGHT PROTECTED DOCUMENT

© ISO 2008

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.....	iv
1 Scope	1
2 Normative references	1
3 Requirements	2
4 Testing	5
5 Manufacturing stages and inspections	7
6 Repairing defects	8
7 Test report	10
8 Packaging and transportation	11
9 Inspection at delivery	11
Annex A (informative) Examples of test reports	12
Bibliography	19

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.

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 28721-1 was prepared by the European Committee for Standardization (CEN) (as EN 15159-1) and was adopted, under a special "fast-track procedure", by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, in parallel with its approval by the ISO member bodies.

ISO 28721-1 consists of the following parts, under the general title *Vitreous and porcelain enamels — Glass-lined apparatus for process plants*:

- *Part 1: Quality requirements for apparatus, components, appliances and accessories*
- *Part 2: Designation and specification of resistance to chemical attack and thermal shock*
- *Part 3: Thermal shock resistance*

Vitreous and porcelain enamels — Glass-lined apparatus for process plants —

Part 1:

Quality requirements for apparatus, components, appliances and accessories

1 Scope

This part of ISO 28721 specifies the quality requirements for apparatus, components, appliances and accessories of glass-lined steel (including semi-crystallized enamel coatings) and glass-lined steel castings used for process plants. It specifies the quality requirements and the tests to be carried out by the manufacturer as well as the action to be taken to repair defects.

It is also applicable to glass-lined pumps, pump components and fittings.

It is not applicable to glass-lined flanged steel pipes or glass-lined flanged steel fittings.

NOTE 1 Provisions for glass-lined flanged steel pipes and glass-lined flanged steel fittings are given in DIN 2876 ^[1].

The test methods specified cover checking the enamel, the dimensional accuracy and the performance of apparatus and components.

This part of ISO 28721 applies to new apparatus and components as well as used items that have been re-enamelled.

It does not contain requirements regarding the chemical or physical properties of vitreous and porcelain enamels.

NOTE 2 Examples of test reports are given in Annex A.

2 Normative references

The following referenced documents are indispensable for the application 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 780, *Packaging — Pictorial marking for handling of goods*

ISO 2178, *Non-magnetic coatings on magnetic substrates — Measurement of coating thickness — Magnetic method*

ISO 28721-2, *Vitreous and porcelain enamels — Glass-lined apparatus for process plants — Part 2: Designation and specification of resistance to chemical attack and thermal shock*

ISO 28721-3, *Vitreous and porcelain enamels — Glass-lined apparatus for process plants — Part 3: Thermal shock resistance*

EN 14430, *Vitreous and porcelain enamels — High voltage test*