

CONTECComissão de Normalização
Técnica**SC-14**Paintwork and
Anticorrosive Coatings**Surface Tolerant Solvent Free Epoxy Paint
for Wet Surfaces**

Revalidation

Revalidated em 05/2014.Replace PETROBRAS N-1288 by ABNT [NBR 15442](#).

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Normalização Técnica**SC-14**Paintwork and
Anticorrosive Coatings

Surface Tolerant Solvent Free Epoxy Paint for Wet Surfaces

2nd Amendment

This is the 2nd Amendment to PETROBRAS N-2680, incorporated the 1st amendment and it is used to alter the text of the Standard in the parts indicated below:

NOTE 1 The news pages with the performed amendments are placed in its corresponding positions.

NOTE 2 The amended pages, indicated the date of the amendment, are placed at the end of this standard, in chronological order, and shall not be used.

- Chapter 2: **(2^a Amendment)**

Inclusion of ABNT [NBR 15877:2010](#);
Alteration of ASTM D 4541 to ASTM [D 4541:2009](#);
Exclusion of PETROBRAS [N-1363](#);
Inclusion of ABNT [NBR 15742](#).

- Table 1: **(2^a Amendment)**

Replacement of reference.

- Table 2: **(2^a Amendment)**

Alteration and inclusion of reference.

- Note of item 4.3.5: **(2^a Amendment)**

Alteration and inclusion of reference.

- Item 5.2.2.9: **(1^a Amendment)**

Change the paragraphs order.

SURFACE TOLERANT SOLVENT FREE EPOXY PAINT FOR WET SURFACES

Specification

CONTEC

Comissão de Normalização
Técnica

SC - 14

Paintwork and Anticorrosive
Coatings

The CONTEC - Authoring Subcommittee provides guidance on the interpretation of this Standard when questions arise regarding its contents. The Department of PETROBRAS that uses this Standard is responsible for adopting and applying the clauses thereof.

Technical Requirement: a provision established as the most adequate and which shall be used strictly in accordance with this Standard. If a decision is taken not to follow the requirement ("non-conformity" to this Standard) it shall be based on well-founded economic and management reasons, and be approved and registered by the Department of PETROBRAS that uses this Standard. It is characterized by the verb forms "shall," "it is necessary...," "is required to...," "it is required that...," "is to...," "has to...," "only ... is permitted," and other equivalent expressions having an imperative nature.

Recommended Practice: a provision that may be adopted under the conditions of this Standard, but which admits (and draws attention to) the possibility of there being a more adequate alternative (not written in this Standard) to the particular application. The alternative adopted shall be approved and registered by the Department of PETROBRAS that uses this Standard. It is characterized by the verbal form "should" and equivalent expressions such as "it is recommended that..." and "ought to..." (verbs of a nonmandatory nature). It is indicated by the expression: **[Recommended Practice]**.

Copies of the registered "non-conformities" to this Standard that may contribute to the improvement thereof shall be submitted to the CONTEC - Authoring Subcommittee.

Proposed revisions to this Standard shall be submitted to the CONTEC - Authoring Subcommittee, indicating the alphanumeric identification and revision of the Standard, the clause(s) to be revised, the proposed text, and technical/economic justification for revision. The proposals are evaluated during the work for alteration of this Standard.

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Foreword

PETROBRAS Technical Standards are prepared by Working Groups - WG (consisting of specialists from PETROBRAS and its Subsidiaries), are commented by PETROBRAS Units and PETROBRAS Subsidiaries, are approved by the Authoring Subcommittees - SCs (consisting of specialists from the same specialty, representing the various PETROBRAS Units and PETROBRAS Subsidiaries), and ratified by the Executive Nucleus (consisting of representatives of the PETROBRAS Units and PETROBRAS Subsidiaries). A PETROBRAS Technical Standard is subject to revision at any time by its Authoring Subcommittee and shall be reviewed every 5 years to be revalidated, revised or cancelled. PETROBRAS Technical Standards are prepared in accordance with PETROBRAS N-1 standard. For complete information about PETROBRAS Technical Standards see PETROBRAS Technical Standards Catalog.

FOREWORD

This Standard is the English version (issued in MAY/2007) of PETROBRAS N-2680 standard MAI/2007.

1 SCOPE

1.1 This Standard establishes the characteristics, verifiable in the laboratory, required for surface tolerant solvent free epoxy paint for wet surfaces, supplied in 2 containers: one containing the epoxy resin (component A) and the other containing the polyamine-based curing agent (component B).

1.2 The paint mentioned in the item 1.1 shall be used to paint steel surfaces and can be applied on dry surfaces, surfaces with residual humidity and wet surfaces, in ambients without restriction to relative humidity and dew point.

1.3 If there is conflicts between the Technical Requirements and Recommended Practices established in this Standard and in other standards mentioned in the Chapter 2, the requirements of this Standard shall prevail.

1.4 This Standard is applied to specifications started as of its date of issuance.

1.5 This Standard contains Technical Requirements and Recommended Practices.

2 SUPPLEMENTARY DOCUMENTS

The documents listed below are mentioned in the text and contain valid requirements for the present Standard.

PETROBRAS N-13	- Technical Requirements for Paintwork;
PETROBRAS N-1219	- Cores;
PETROBRAS N-1288	- Inspeção de Recebimento de Recipientes Fechados;
ABNT NBR 15742	- Tintas e Vernizes – Determinação de Vida Útil da Mistura (“pot-life”);
ABNT NBR 15877:2010	- Pintura Industrial – Ensaio de Aderência por Tração;
ISO 2808	- Paints and Varnishes - Determination of Film Thickness;
ISO 4624	- Paints and Varnishes - Pull-Off Test for Adhesion;
ISO 8501-1	- Preparation of Steel Substrates Before Application of Paints and Related Products;
ISO 9227	- Corrosion Tests in Artificial Atmospheres - Salt Spray Tests;
ISO 20340	- Paints and Varnishes - Performance Requirements for Protective Paint Systems for Offshore and Related Structures;
ASTM D 56	- Standard Test Method for Flash Point by Tag Closed Cup Tester;
ASTM D 523	- Standard Test Method for Specular Gloss;
ASTM D 562	- Standard Test Method for Consistency of Paints Using the Stormer Viscometer;

ASTM D 1141	- Standard Practice for the Preparation of Substitute Ocean Water;
ASTM D 1308	- Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes;
ASTM D 1475	- Standard Test Method for Density of Paint, Varnish, Lacquer and Related Products;
ASTM D 1640	- Standard Test Methods for Drying Curing or Film Formation of Organic Coatings at Room Temperature;
ASTM D 4214	- Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films;
ASTM D 4400	- Standard Test Method for Sag Resistance of Paints Using a Multinotch Applicator;
ASTM D 4541:2009	- Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers;
ASTM D 5894	- Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal;
ASTM G 8	- Standard Test Methods for Cathodic Disbonding of Pipeline Coatings;
ASTM G 85	- Standard Practice for Modified Salt Spray (Fog) Testing;
ASTM G 154	- Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.

Note: For documents referred in this Standard and for which only the Portuguese version is available, the PETROBRAS department that uses this Standard should be consulted for any information required for the specific application.

3 GENERAL CONDITIONS

3.1 Appearance of Components A and B

Components A and B shall be homogeneous and show no skinning and thickening in a freshly-opened can.

3.2 Packaging

3.2.1 Containers shall be straight circular cylindrical in shape.

3.2.2 For sealing packaging, any material capable of causing degradation or contamination of the paint shall not be used.

3.3 Conditions and Filling of Containers

3.3.1 The containers holding the components of the surface tolerant solvent free epoxy paint for wet surfaces shall be in good conditions and duly labeled or marked on the side, in accordance with the requirements of this Standard and PETROBRAS [N-1288](#) standard.

3.3.2 The containers shall contain at least the quantity mentioned in the respective indicated information.

3.4 Storage Stability

3.4.1 Components A and B shall demonstrate stability during storage in a closed container at a temperature below 40 °C, ensuring their use for at least 12 months from the date of manufacture.

3.4.2 This period of use may be extended for 2 additional periods of 6 months, through repetition and prior approval of the tests performed at the time of supply, in accordance with PETROBRAS [N-13](#) standard. **[Recommended Practice]**

3.5 Dilution

The surface tolerant solvent free epoxy paint for wet surfaces paint shall not be diluted.

3.6 Mixture of Components A and B

The mixture of components shall be done in the suitable proportion recommended by the paint producer.

3.7 Total Paint Cure

The paint shall be completely cured in 7 d, at temperatures near to 25 °C.

3.8 Marking

The label or body of the containers shall bear at least the following information:

- a) PETROBRAS N-2680 standard;
- b) surface tolerant solvent free epoxy paint for wet surfaces;
- c) identification of components: A or B;
- d) quantity contained in container, in L and in kg;
- e) manufacturer's name, address and phone number;
- f) lot number or identifying signal;
- g) product expiration date;
- h) mixing ratio by mass and volume;
- i) "Munsell" notation.

3.9 Color

The surface tolerant solvent free epoxy paint for wet surfaces shall be supplied in any colours mentioned in PETROBRAS [N-1219](#) standard.