

Decorative physical vapor deposition (PVD) coatings on kitchen and sanitary ware fittings — Specification and test methods

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ISO copyright office

CP 401 • Ch. de ~~Blandonnet~~Blandonnet 8

CH-1214 Vernier, Geneva

Phone: + 41 22 749 01 11

~~Email~~E-mail: copyright@iso.org

Website: ~~www.iso.org~~www.iso.org

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Contents

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Decorative PVD coating process	1
4.1 Principle	1
4.2 Coating process	3
5 Requirements	3
5.1 Discoloration resistance	3
5.2 Abrasion resistance	3
5.3 Corrosion resistance	4
5.4 Adhesion	4
6 Test methods	4
6.1 Discoloration resistance	4
6.2 Abrasion resistance	5
6.3 Corrosion resistance	7
6.4 Adhesion	7
7 Test report	8
Bibliography	9

Document Preview

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Decorative PVD coatings Process	1
4.1 Principle.....	1
4.2 Coating process.....	2
5 Requirements	3
5.1 Discoloration resistance.....	3
5.2 Abrasion resistance.....	3
5.3 Corrosion resistance.....	3
5.4 Adhesion test.....	4
5.4.1 Metal substrate.....	4
5.4.2 Organic substrate.....	4
6 Test Methods	4
6.1 Discoloration resistance.....	4
6.2 Abrasion resistance.....	4
6.2.1 Brush requirements.....	4
6.2.2 Mud preparation.....	5
6.2.3 Test procedure.....	5
6.3 Corrosion resistance.....	5

6.4 Adhesion	5
6.4.1 Metal substrate	5
6.4.2 Organic substrate	6
7 Test report	6
Bibliography	7

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Foreword

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Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Physical vapor deposition (PVD) is a group of dry coating technologies used for decorative coating, tool coating and other substrate coatings under a vacuum environment. During the PVD process, the target material is transferred atom by atom from solid phase to vapor phase and back to solid phase as a thin film coating on the substrate. Thus, PVD is an eco-friendly technique which can produce coatings with a variety of colour, textures, and functions over traditional methods.

The PVD process is capable of producing bright and hard coatings on many metals and plastic substrates. A luxurious metallic finish and a wide range of colours can be obtained using various metal sputtering targets, such as chromium, zirconium, titanium, titanium—aluminium alloys and niobium. Therefore, PVD coatings have become a popular choice for decorative finishes for many products where durability, aesthetics and functionality are important considerations. In particular, PVD coatings are well established as decorative coatings on kitchen and sanitary wares.

Decorative PVD coatings are applied to the surface of objects in order to get better appearance and longer durability. Common kitchen and sanitary substrate including copper alloy, zinc alloy, stainless steel, aluminium alloy and ABS. The colour of PVD coating can include gold, bronze, rose gold, silver, black, smoke grey, copper, brown, purple, blue, wine red and others.

This document specifies and recommends test methods for discoloration resistance, corrosion, abrasion, and adhesion of the decorative PVD coatings applied on kitchen and sanitary wares.

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