# INTERNATIONAL STANDARD

ISO 21164

First edition 2018-07

Metallic and other inorganic coatings — DC magnetron sputtered silver coatings for engineering purposes — Measurement of coating adhesion

Revêtements métalliques et autres revêtements inorganiques — Revêtements d'argent pulvérisés par magnétron à courant continu à des fins techniques — Mesurage de l'adhérence des revêtements

### Document Preview

ISO 21164:2018



### iTeh Standards (https://standards.iteh.ai) Document Preview

ISO 21164:2018

https://standards.iteh.ai/catalog/standards/iso/4b0b33c8-d83b-4502-aa90-0dfd62f7b57f/iso-21164-2018



#### **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Fax: +41 22 749 09 47 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Contents			Page
Fore	word		iv
Introduction			v
1	Scop	oe	1
2	Normative references		1
3	Terms and definitions		
4		reviated terms	
5	Info	rmation to be supplied by the purchaser to the manufacturer	2
6	Test methods for adhesion		
	6.1	Burnishing	
	6.2	Barrel burnishing	
	6.3	Peel test	2
	6.4	Bending test	3
	6.5	Thermal shock	3
7	Nano scratch test		3
	7.1	General	3
	7.2	Scratch test equipment	3
	7.3	Specimens	3
	7.4	Scratch test parameters	3
	7.5	Evaluation	3
	7.6	Scratch test report (Interport Standards Item at)	4

ISO 21164-2018

#### 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see <a href="www.iso.org/directives">www.iso.org/directives</a>).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see <a href="https://www.iso.org/patents">www.iso.org/patents</a>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

This document was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*.

ISO 21164:2018

#### Introduction

Silver coatings are often specified for their extremely good electrical conductivity for optical, electronic and electrical engineering applications. Silver coatings for optical and electronic applications have the minimal thickness of  $0.1 \, \mu m$  to  $1.0 \, \mu m$  depending on the applications type and demand from customers.

The adhesion test methods of the Ag coatings deposited by DC magnetron sputtering method, given in this document, are considered to have an adequate accuracy when properly used with test specimens suitable for the particular method.

The method chosen shall be one which is expected to yield the most reliable results considering the coating thickness, shape and size of the coating material, the basis material and its roughness, etc.

## iTeh Standards (https://standards.iteh.ai) Document Preview

ISO 21164:2018

## iTeh Standards (https://standards.iteh.ai) Document Preview

ISO 21164:2018