

INTERNATIONAL
STANDARD

ISO
10111

Second edition
2019-01

**Metallic and other inorganic
coatings — Measurement of mass per
unit area — Review of gravimetric and
chemical analysis methods**

*Revêtements métalliques et autres revêtements inorganiques —
Mesurage de la masse surfacique — Présentation des méthodes
d'analyse gravimétrique et chimique*



Reference number
ISO 10111:2019(E)

© ISO 2019



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

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
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Special equipment	2
6 Preparation of test specimen	2
6.1 Size	2
6.2 Shape	2
6.3 Edge condition	2
6.4 Heat treatment	2
7 Measurement of coated area	3
7.1 Measurement method	3
7.2 Surface measuring equipment	3
7.2.1 Geometrical (projected) surface area	3
7.2.2 Surface area increase due to roughness (optional)	3
7.3 Number of measurements	3
8 Determination of mass of coating by chemical analysis	4
8.1 General	4
8.2 Restrictions	4
9 Gravimetric determination of mass of coating	4
9.1 Specimen size	4
9.2 Limitations	4
9.3 Restrictions	4
9.4 Gravimetric analysis equipment	4
9.5 Procedure	5
9.5.1 General	5
9.5.2 Difference method with dissolution of the coating	5
9.5.3 Direct weighing method with dissolution of the substrate	5
9.5.4 Difference method without dissolution	5
10 Calculations	6
10.1 Surface density	6
10.2 Thickness	6
Annex A (informative) Reagents for selective dissolution of metal layers	7
Bibliography	11