

TECHNICAL REPORT

**ISO/TR
14121-2**

Second edition
2012-06-01

Safety of machinery — Risk assessment — Part 2: Practical guidance and examples of methods

Sécurité des machines — Appréciation du risque —

Partie 2: Lignes directrices pratiques et exemples de méthodes



Reference number
ISO/TR 14121-2:2012(E)

© ISO 2012

ISO/TR 14121-2:2012(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2012

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
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Preparation for risk assessment	1
4.1 General	1
4.2 Using the team approach for risk assessment	2
5 Risk assessment process	3
5.1 General	3
5.2 Determination of the limits of the machinery	3
5.3 Hazard identification	4
5.4 Risk estimation	6
6 Risk estimation tools	9
6.1 General	9
6.2 Risk matrix	9
6.3 Risk graph	12
6.4 Numerical scoring	14
6.5 Hybrid tool	15
7 Risk evaluation	19
8 Risk reduction	19
8.1 General	19
8.2 Inherently safe design	19
8.3 Safeguarding	20
8.4 Complementary protective/risk reduction measures	21
8.5 Information for use	21
8.6 Standard operating procedures	22
9 Risk assessment iteration	22
10 Documentation of risk assessment	22
Annex A (informative) Example application of the process of risk assessment and risk reduction	23
Bibliography	38