

INTERNATIONAL
STANDARD

ISO
26262-5

Second edition
2018-12

**Road vehicles — Functional safety —
Part 5:
Product development at the
hardware level**

*Véhicules routiers — Sécurité fonctionnelle —
Partie 5: Développement du produit au niveau du matériel*



Reference number
ISO 26262-5:2018(E)

© ISO 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
Foreword	v
Introduction	vii
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 Requirements for compliance	2
4.1 Purpose	2
4.2 General requirements	2
4.3 Interpretations of tables	3
4.4 ASIL-dependent requirements and recommendations	3
4.5 Adaptation for motorcycles	3
4.6 Adaptation for trucks, buses, trailers and semi-trailers	4
5 General topics for the product development at the hardware level	4
5.1 Objectives	4
5.2 General	4
6 Specification of hardware safety requirements	5
6.1 Objectives	5
6.2 General	6
6.3 Inputs to this clause	6
6.3.1 Prerequisites	6
6.3.2 Further supporting information	6
6.4 Requirements and recommendations	6
6.5 Work products	8
7 Hardware design	8
7.1 Objectives	8
7.2 General	9
7.3 Inputs to this clause	9
7.3.1 Prerequisites	9
7.3.2 Further supporting information	9
7.4 Requirements and recommendations	9
7.4.1 Hardware architectural design	9
7.4.2 Hardware detailed design	10
7.4.3 Safety analyses	11
7.4.4 Verification of hardware design	13
7.4.5 Production, operation, service and decommissioning	14
7.5 Work products	14
8 Evaluation of the hardware architectural metrics	14
8.1 Objectives	14
8.2 General	15
8.3 Inputs of this clause	16
8.3.1 Prerequisites	16
8.3.2 Further supporting information	16
8.4 Requirements and recommendations	16
8.5 Work products	20
9 Evaluation of safety goal violations due to random hardware failures	20
9.1 Objectives	20
9.2 General	20
9.3 Inputs to this clause	21
9.3.1 Prerequisites	21
9.3.2 Further supporting information	21
9.4 Requirements and recommendations	21

9.4.1	General.....	21
9.4.2	Evaluation of Probabilistic Metric for random Hardware Failures (PMHF).....	22
9.4.3	Evaluation of Each Cause of safety goal violation (EEC)	25
9.4.4	Verification review	29
9.5	Work products.....	30
10	Hardware integration and verification.....	30
10.1	Objectives.....	30
10.2	General	30
10.3	Inputs of this clause.....	30
10.3.1	Prerequisites	30
10.3.2	Further supporting information.....	30
10.4	Requirements and recommendations.....	30
10.5	Work products.....	32
Annex A (informative) Overview of and workflow of product development at the hardware level	33	
Annex B (informative) Failure mode classification of a hardware element	36	
Annex C (normative) Hardware architectural metrics	38	
Annex D (informative) Evaluation of the diagnostic coverage	44	
Annex E (informative) Example calculation of hardware architectural metrics:“single-point fault metric” and “latent-fault metric”	66	
Annex F (informative) Example for rationale that objectives of Clause 9 in accordance with 4.2 are met	75	
Annex G (informative) Example of a PMHF budget assignment for an item consisting of two systems	82	
Annex H (informative) Example of latent fault handling	86	
Bibliography	89	

如需获取标准全文请联系以下：

通讯地址：广州市番禺区石碁镇创运路 8号

联系电话： 18680502391

E-mail： yuanyf@grgtest. com