

E DIN EN 17019:2016-09 (E)

Weigh-in-Motion of road vehicles - Requirements; English version FprEN 17019:2016

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms, definitions, symbols and abbreviations	7
3.1	Terms and definitions taken from the Vocabulary of International Metrology	7
3.2	Specific statistical and metrological terms and definitions	10
3.3	Terms and definitions related to vehicles	11
3.4	Terms and definitions related to WIM systems	13
3.5	List of symbols and abbreviations	14
4	Site selection criteria	15
4.1	Road geometry	15
4.2	Pavement characteristics	15
4.3	WIM site classes (not for B-WIM)	15
4.4	Particular requirements for bridges	17
5	Operating conditions and environmental requirements	18
5.1	General conditions	18
5.2	Sensors requirements	19
5.3	Electronics requirements	20
6	Accuracy class tolerances with respect to the weights	20
6.1	General clauses - Detailed procedure	20
6.2	General - Simplified procedure	21
6.3	Accuracy classes	21
6.4	Other tolerances	24
6.5	Reference gross weights and axle loads measured statically	24
7	On-site system checks and calibration	25
7.1	General clauses	25
7.2	Definitions of test conditions	25
7.3	Minimum required test conditions	26
7.4	Calibration methods	26
8	Type (model) approval	29
8.1	General	29
8.2	Choice of test site	29
8.3	Installation and pre-calibration of the system	29
8.4	Test plan	30
8.5	Reference static loads and weights	30
8.6	Test analysis and report	31
9	Initial and in-service verifications	31
9.1	Initial verification	31
9.2	In-service verification	31
10	Procedure to check the accuracy of a WIM system by testing	32

10.1	General rules - Detailed procedure	32
10.2	General rules - Simplified procedure	32
E	DIN EN 17019:2016-09 - Entwurf - FprEN 17019:2016 (E) 10.3 Test plans - Detailed procedure	32
10.4	Test plans - Simplified procedure	33
10.5	Minimum required confidence levels - Detailed procedure	33
10.6	Minimum required confidence levels - Simplified procedure	34
10.7	Test results analysis - Detailed procedure	34
10.8	Test results analysis - Simplified procedure	38
11	Data storage and transmission	38
11.1	Data storage	38
11.2	Data transmission	40
11.3	Operating ranges and information	40
Annex A	(informative) Comparison of this Standard and the OIML R 134-1 International Recommendation	41
A.1	General	41
A.2	Scope and application	41
A.3	Detailed comparison of the OIML R 134-1 and this EN standard scope and requirements	42
Annex B	(informative) Standard test plans and simplified acceptance procedures	44
B.1	Examples of standardized test plans	44
B.2	Charts for acceptance tests	47
B.3	Acceptance tests: simplified procedures	48
Annex C	(informative) Calibration methods	50
Annex D	(informative) Standard results' format and computer tools for accuracy assessment, and implementation (example)	53
D.1	Standard results' format and computer tools for accuracy assessment	53
D.2	Example of implementation of the checking procedures	54
Annex E	(informative) Comments	61
E.1	Scope	61
E.2	Terms and definitions	61
E.3	User and performance requirements	62
E.4	Criteria for the choice of WIM sites	64
E.5	Operating conditions and environmental requirements	68
E.6	Accuracy class tolerances with respect to the weight	68
E.7	On-site system checks and calibration by testing	69
E.8	Type (model) approval of a WIM system	71
E.9	Procedure to check the accuracy of a WIM system	72
E.10	Data storage and transmission	72
E.11	COST 323 vehicle classification	73
Bibliography	74