

DIN EN 16207:2014-11 (E)

Railway applications - Braking - Functional and performance criteria of Magnetic Track Brake systems for use in railway rolling stock

Contents		Page
Foreword		4
1	Scope	5
2	Normative references	5
3	Terms, definitions and abbreviations	6
3.1	Terms and definitions	6
3.2	Abbreviations	7
4	Task and purpose of the MTB	8
5	Design requirements	10
5.1	Space envelope to be observed by the MTB	10
5.2	Retardation force	10
5.3	Guidance of the activated magnet when applied to the rails	11
5.4	Rest position of the magnet above the rail surface	11
5.5	Magnet elements	11
5.5.1	End pieces	11
5.5.2	Pole shoes	12
5.6	Clearance for wheel lathe machines and wheel skates	12
5.7	Strength requirements	13
5.8	Mechanical fastening of the MTB parts to the bogie	15
5.9	Additional requirements for permanent magnets	15
5.10	Control of the MTB	15
6	Load combinations for component tests	16
6.1	MTB performance considered in the emergency brake performance	16
6.2	MTB performance not considered in the emergency brake performance	17
7	MTB diagnostics	17
8	EMC and interfaces	17
8.1	Compatibility with train detection systems	17
8.2	Bogie components in the area of MTB	18
8.3	EMC-proof in accordance with EN 50121-3-2	18
9	Type and series production tests	18
9.1	Type test	18
9.1.1	General	18
9.1.2	Magnetic test	18
9.1.3	Electric test	18
9.1.4	Thermal test	19
9.1.5	Mechanical test	19
9.1.6	Other tests and proofs	19
9.2	Series production testing	20
10	Vehicle implementation tests	20
Annex A (normative)	Design loads (load assumptions) of the MTB	21

A.1	General	21
A.2	Rest position	21
A.3	Working position (brake application position)	23
A.4	Rail brakes	26
A.5	FME(C)A	27
A.6	Load collective for operational safety proof	27
A.7	Load collective for component tests on the example of 10 000 brake applications	29
A.8	Test procedure	29
A.9	Test result	29
Annex B (normative)	Measurement of the magnetic attractive force -- Functional test of brake magnets	30
B.1	Measurement of the magnetic attractive force of MTB magnets	30
B.2	Formation of the mean magnetic attractive force for rigid magnets	31
B.3	Formation of the mean magnetic attractive force for articulated magnets	31
Annex C (normative)	End pieces of MTB	33
Annex ZA (informative)	Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC	37
Bibliography		40