

ISO 8092-2:2023-09 (E)

Road vehicles - Connections for on-board electrical wiring harnesses - Part 2 : Terminology, test methods and general performance requirements

Contents		Page
Foreword		vi
1 Scope	1	1
2 Normative references		1
3 Terms and definitions		1
4 Test conditions and requirements		4
4.1 General		4
4.1.1 Preconditioning for environmental and mechanical durability test		4
4.1.2 Test conditions		4
4.1.3 Test sequences and sample quantities		5
4.2 Visual examination		9
4.2.1 Purpose		9
4.2.2 Test		9
4.2.3 Requirements		9
5 Mechanical tests		10
5.1 Connection and disconnection		10
5.1.1 Purpose		10
5.1.2 Test		10
5.1.3 Requirements		10
5.2 Mating force - measurement and classification		10
5.2.1 Purpose		10
5.2.2 Test		10
5.2.3 Requirement		10
5.3 Unlocking force - measurement and classification		11
5.3.1 Purpose		11
5.3.2 Test		11
5.3.3 Requirement		11
5.4 Unmating force - measurement and classification		11
5.4.1 Purpose		11
5.4.2 Test		11
5.4.3 Requirement		11
5.5 Locking device strength		11
5.5.1 Purpose		11
5.5.2 Test		11
5.5.3 Requirements		12
5.6 Unintentional lever release force		12
5.6.1 Purpose		12
5.6.2 Test		12
5.6.3 Requirements		12
5.7 Locking force for CPA function		12
5.7.1 Purpose		12
5.7.2 Test		12
5.7.3 Requirements		12
5.8 Disengage force for CPA function		13
5.8.1 Purpose		13
5.8.2 Test		13
5.8.3 Requirements		13

5.9	Locking force for TPA	13
5.9.1	Purpose	13
5.9.2	Test	13
5.9.3	Requirements	13
5.10	Disengage force for TPA	13
5.10.1	Purpose	13
5.10.2	Test	14
5.10.3	Requirements	14
5.11	Effectiveness of connector coding and polarization	14
5.11.1	Purpose	14
5.11.2	Test	14
5.11.3	Requirements	14
5.12	Connector engagement sound	14
5.12.1	Purpose	14
5.12.2	Test	14
5.12.3	Requirements	15
5.13	Terminal insertion force (TPA disengaged)	15
5.13.1	Purpose	15
5.13.2	Test	15
5.13.3	Requirements	15
5.14	Terminal insertion force (TPA engaged)	15
5.14.1	Purpose	15
5.14.2	Test	15
5.14.3	Requirements	15
5.15	Terminal insertion force with incorrect orientation	16
5.15.1	Purpose	16
5.15.2	Test	16
5.15.3	Requirements	16
5.16	Terminal extraction force	17
5.16.1	Purpose	17
5.16.2	Test	17
5.16.3	Requirements	17
5.17	Tensile strength of connection between terminal and wire	18
5.17.1	Purpose	18
5.17.2	Test	18
5.17.3	Requirements	19
6	Electrical tests	19
6.1	Connection resistance (voltage drop)	19
6.1.1	Purpose	19
6.1.2	Test	19
6.1.3	Requirements	21
6.2	Temperature rise	22
6.2.1	Purpose	22
6.2.2	Test	22
6.2.3	Requirements	23
6.3	Current cycling at ambient temperature	23
6.3.1	Purpose	23
6.3.2	Test	23
6.3.3	Requirements	23
6.4	Insulation resistance	24
6.4.1	Purpose	24
6.4.2	Test	24
6.4.3	Requirements	24
6.5	Withstand voltage	24
6.5.1	Purpose	24
6.5.2	Test	24
6.5.3	Requirements	25
7	Environmental tests	25
7.1	Thermal shock	25

7.1.1	Purpose	25
7.1.2	Test	25
7.1.3	Requirements	25
7.2	Thermal aging	26
7.2.1	Purpose	26
7.2.2	Test	26
7.2.3	Requirements	26
7.3	Temperature and humidity cycle	26
7.3.1	Purpose	26
7.3.2	Test	26
7.3.3	Requirements	29
7.4	Vibration with thermal cycling	29
7.4.1	Purpose	29
7.4.2	Test	29
7.4.3	Requirements	30
7.5	Mechanical shock	31
7.5.1	Purpose	31
7.5.2	Test	31
7.5.3	Requirements	31
7.6	Drop	31
7.6.1	Purpose	31
7.6.2	Test	31
7.6.3	Requirements	32
7.7	Water tightness	32
7.7.1	Purpose	32
7.7.2	Test	32
7.7.3	Requirements	34
7.8	Water tightness, dynamic	34
7.8.1	Purpose	34
7.8.2	Test	34
7.8.3	Requirement	36
7.9	High-pressure/steam-jet cleaning	36
7.9.1	Purpose	36
7.9.2	Test	36
7.9.3	Requirements	37
7.10	Salt spray	38
7.10.1	Purpose	38
7.10.2	Test	38
7.10.3	Requirements	38
7.11	Dust resistance	38
7.11.1	Purpose	38
7.11.2	Test	38
7.11.3	Requirements	38
7.12	Chemical loads	38
7.12.1	Purpose	38
7.12.2	Test	39
7.12.3	Requirements	39
7.13	Fretting corrosion	39
7.13.1	Purpose	39
7.13.2	Test	39
7.13.3	Requirements	39
7.14	Friction corrosion	39
7.14.1	Purpose	39
7.14.2	Test	40
7.14.3	Requirements	40
	Bibliography	41