

Overview of existing standards and standards under development

First column: type of standard

A - General Information

B - Test Methods

C - Safety or EMC requirements

D - Miscellaneous

Second column: rough classification by relevance

1) Utmost important 2) Important 3) May have some interest 4) Superseded

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		Electric road vehicle – Vocabulary							
A	2	Electric road vehicles – Vocabulary			ISO 8713:2005 under revision				
A	3	Electrically propelled road vehicles - Terminology	EN 13447:2001		ISO 8713				
A	2	Graphical symbols for use on equipment				IEC 60417			
A	2	Basic and safety principles for man-machine interface, marking and identification. Identification of conductors by colours or numerals		EN 60446		IEC 60446			
A	3	Degrees of protection provided by enclosures (IP Code)		EN 60529		IEC 60529			

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		Cycles, Mopeds and Motorcycles Applications							
A	1	Electrically propelled mopeds and motorcycles — Terminology			ISO/WD 13062				Vehicles of Category L
A	1	Electrically propelled mopeds and motorcycles - Safety specifications			ISO/WD 13063				Vehicles of Category L
A	1	Battery-electric mopeds and motorcycles, Performance - Reference energy consumption and range			ISO/WD 13064-1				Vehicles of Category L
B	1	Battery-electric mopeds and motorcycles, Performance - Road operating characteristics			ISO/WD 13064-2				Vehicles of Category L
B	1	Cycles - Electrically power assisted cycles - EPAC Bicycles	EN 15194:2009-01						Vehicles of Category L
C	2	Safety requirements for secondary batteries and battery installations. Batteries for use in portable appliances		EN 50272 -4					Vehicles of Category L
A	2	Secondary cells and batteries containing alkaline or other non-acid electrolytes Mechanical tests for sealed portable secondary cells and batteries				IEC 61959			Vehicles of Category L
A	2	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications				IEC 61960			Vehicles of Category L
C	2	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications		EN 62133		IEC 62133			Vehicles of Category L
A	2	Secondary cells and batteries containing alkaline or other non acid electrolytes – Design and manufacturing recommendations for portable batteries made from sealed secondary cells				IEC/TR 62188			Vehicles of Category L
		Batteries							
A	2	General requirements for battery powered trucks	EN 1175 -1						
C	3	Safety requirements for secondary batteries and battery installations. Stationary batteries		EN 50272 -1					
C	3	Safety requirements for secondary batteries and battery installations. Stationary batteries		EN 50272 -2					
C	2	Safety requirements for secondary batteries and battery installations. Traction batteries		EN 50272 -3					
C	1	Electric road vehicles - Safety specifications - Part 1: On-board rechargeable energy storage system (RESS)			ISO 6469-1:2009 Ed. 2				
B	1	Electrically propelled road vehicles — Test specification for lithium-ion traction battery packs and systems — Part 1: High power applications			ISO/DIS 12405-1 under Revision				
B	1	Electrically propelled road vehicles — Test specification for lithium-ion traction battery packs and systems — Part 1: High energy applications			ISO/WD 12405-2 under development				
A	1	Preferred sizes and voltages of battery monoblocs for electric vehicle applications				IEC 61894			
C	3	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for large format secondary lithium cells and batteries for use in industrial applications				IEC 62619			
A	2	International Electrotechnical Vocabulary (IEV) - Part 482: Primary and secondary batteries				IEC 60050-482			
A	2	International Electrotechnical Vocabulary (IEV) - Chapter 486:Secondary cells and batteries				IEC 60050-486			
A	3	Secondary cells and batteries containing alkaline or other non-acid electrolytes Sealed nickel-cadmium prismatic rechargeable single cells		EN 60622		IEC 60622			
A	3	Secondary cells and batteries containing alkaline or other non-acid electrolytes Vented nickel-cadmium prismatic rechargeable single cells		EN 60623		IEC 60623			
A	2	Secondary cells and batteries containing alkaline or other non-acid electrolytes Guide to the designation of current in alkaline secondary cell and battery standards		EN 61434		IEC 61434			
D	1	Marking of secondary cells and batteries with the international recycling symbol ISO 7000-1135		EN 61429		IEC 61429			

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		Batteries (Continuation)							
A	3	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells – Part 1: Nickel-cadmium		EN 61951		IEC 61951-1			
A	2	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells – Part 2: Nickel-metal hydride		EN 61952		IEC 61951-2			
A	3	Secondary cells and batteries containing alkaline or other non-acid electrolytes Mechanical tests for sealed portable secondary cells and batteries		EN 61959		IEC 61959			
A	2	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications		EN 61960		IEC 61960			
B	2	Secondary batteries (except lithium) for the propulsion of electric road vehicles - Part 1: Test parameters		EN 61982-1		IEC 61982-1 under revision			
B	1	Secondary batteries for the propulsion of electric road vehicles - Part 2: Dynamic discharge performance test and dynamic endurance test		EN 61982-2		IEC 61982-2			
B	1	Secondary batteries for the propulsion of electric road vehicles - Part 3: Performance and life testing (traffic compatible, urban use vehicles)		EN 61982-3		IEC 61982-3			
C	2	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications				IEC 62133			
A	2	Secondary cells and batteries containing alkaline or other non acid electrolytes – Design and manufacturing recommendations for portable batteries made from sealed secondary cells				IEC/TR 62188			
A	3	Secondary cells and batteries containing alkaline or other non-acid electrolytes Nickel-cadmium prismatic secondary single cells with partial gas recombination		EN 62259		IEC 62259			
C	1	Safety of primary and secondary lithium cells and batteries during transport		EN 62281		IEC 62281			
B	1	Secondary batteries for the propulsion of electric road vehicles - Performance testing for lithium-ion cells and batteries		EN 62660-1		IEC 62660-1			
B	1	Secondary batteries for the propulsion of electric road vehicles - Reliability and abuse testing for lithium-ion cells		EN 62660-2		IEC 62660-2			
B	1	Electric Double-Layer Capacitors for Use in Hybrid Electric Vehicles -Test Methods for Electrical Characteristics (IEC 69/155/CD:2008)		EN 625576		IEC 62576			
C	3	Safety requirements for secondary batteries and battery installations – Part 1: Stationary batteries				IEC 62485-1			
C	3	Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries				IEC 62485-2			
C	1	Safety requirements for secondary batteries and battery installations – Part 3: Traction batteries				IEC 62485-3			
A	2	Possible safety and health hazards in the use of alkaline secondary cells and batteries and health hazards in the use of alkaline secondary cells and batteries Guide to equipment manufacturers and users				IEC/TS 61438			

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		Batteries (Continuation)							
A	3	cells and batteries – Guide to equipment manufacturers and users				IEC/TS 61382-1			
B	2	Life Test for Automotive Storage Batteries					J 240		
A	2	Storage Batteries					J 537		
B	2	Test Procedure for Battery Flame Retardant Venting Systems					J 1495		
A	2	Recommended Practice for Packaging of Electric Vehicle Battery					J 1797		
A	2	Recommended Practice for Performance Rating of Electric Vehicle					J 1798		
A	3	Battery Modules					J1766:2005		
B	3	Life Test for Heavy-Duty Storage Batteries					J 2185		
B	2	Comprehensive Life Test for 12 V Automotive Storage Batteries					J 2801		
B	2	Life Cycle Testing of Electric Vehicle Battery Modules					J 2288		
A	2	Electric Driver Battery Pack System Functional Guidelines					J2289:2000		
B	2	Electric Vehicle Battery Abuse Testing					J 2464:1999		
B	2	Vibration Testing of Electric Vehicle Batteries					J 2380		
C	1	Electric and Hybrid vehicle propulsion battery system standard - Lithium based rechargeable cells					J2929		
B	1	Safety of Lithium-Ion Batteries – Testing						UL1642:2005	
A	1	Outline of Investigation for Batteries for use in Electric Vehicles						UL 2580:2009	
		Charging Systems							
C	1	Type-tested low-voltage switchgear and controlgear assembly		EN 60439-1		IEC 60439-1			
A	1	Low-voltage switchgear and controlgear – Part 1: General rules		EN 60947-1		IEC 60947-1			
A	1	Low-voltage switchgear and controlgear – Part 2 : Circuit-breakers		EN 60947-2		IEC 60947-2			
A	1	Low-voltage switchgear and controlgear -- Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination unit:		EN 60947-3		IEC 60947-3			
A	1	Electric vehicle conductive charging system - Part 1: General requirements		EN 61851-1		IEC 61851-1 2nd edition			EMC requirements are included into this standard and part of them are safety requirements
C	1	Electric vehicle conductive charging system - Part 21: Electric vehicle requirements for conductive connection to an a.c./d.c. supply		EN 61851-21		IEC 61851-21 under revision			
C	1	Electric vehicle conductive charging system - Part 22: AC electric vehicle charging station		EN 61851-22		IEC 61851-22 under revision			EMC requirements are included into this standard and part of them are safety requirements
A	1	Electric vehicle conductive charging system - Part 23: d.c. electric vehicle charging station				IEC 61851-23 New Work Item approved			
A	2	Electric vehicle conductive charging system - Part 24: Communication protocol between off-board charger and electric vehicle				IEC 61851-24			
D	3	Uninterruptible power systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements		EN 62040-2		IEC 62040-2			
A	1	Plugs, socket-outlets, vehicle couplers and vehicle inlets - Conductive charging of electric vehicles - Part 1: Charging of electric vehicles up to 250 A a.c. and 400 A d.c.		EN 62196-1:2003		IEC 62196-1 under revision			
A	1	Plugs, socket-outlets and vehicle couplers – Conductive charging of electricity vehicles – Part 2: Dimensional interchangeability requirements for a.c. pin and contact-tube accessories				IEC 62196-2 under development			
A	1	Conductive charging for electric vehicles -- Part 1: D.C. charging station		CLC/prTS 50457-1:2006					
A	1	Conductive charging for electric vehicles -- Part 2: Communication protocol between off-board charger and electric vehicle		CLC/prTS 50457-2:2006					

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
Charging Systems (Continuation)									
A	1	Electric vehicle conductive charging system -- Part 22: AC electric vehicle charging station		EN 61851-22:2002					
C	1	Electric vehicle conductive charging system -- Part 21: Electric vehicle requirements for conductive connection to an a.c./d.c. supply		EN 61851-21:2002					
C	1	Electric vehicle conductive charging system -- Part 1: General requirements		EN 61851-1:2001					
A	2	Conductive charging for electric vehicles -- Part 1: General considerations		ENV 50275-1:1998					
A	2	Conductive charging for electric vehicles -- Part 2-1: Connection of an electric vehicle to an a.c./d.c. supply		ENV 50275-2-1:1998					
A	2	Conductive charging of electric vehicles -- Part 2-2: A.C. charging station		ENV 50275-2-2:1998					
A	2	Conductive charging for electric vehicles -- Part 2-3: D.C. charging station		ENV 50275-2-3:1998					
A	2	Conductive charging for electric vehicles -- Part 2-4: Communication protocol between off-board charger and electric vehicle		ENV 50275-2-4:1998					
D	3	Industrial battery chargers						UL 1564:2006	
A	2	Electric vehicle Charging System Equipment (2nd edition)						UL 2202:2009	
D	2	Outline of Investigation for Electric Vehicle Supply Circuit						UL 2594:2009	
A	2	Vehicle On-Board Charging Power Quality					J 2894		
Wiring, Connectors, Controllers, Rotating machines									
	1	Semiconductor converters - General requirements and line commutated converters - Part 1-1: Specifications of basic requirements	EN 60146-1						
C	1	Road vehicles – 60 V and 600 V single-core cables – Dimensions, test methods and requirements			ISO 6722				
C	1	Multi-core connecting cables – Part 1: Test methods and requirements for basic performance sheathed cables			ISO 4141-1				
C	1	Multi-core connecting cables – Part 2: Test methods and requirements for high performance sheathed cables			ISO 4141-2				
A	1	Multi-core connecting cables – Part 3: Construction, dimensions and marking of unshielded sheathed low-voltage cables			ISO 4141-3				
C	1	Multi-core connecting cables – Part 4: Test methods and requirements for coiled cable assemblies			ISO 4141-4				
C	1	Road vehicles – Round, unshielded 60 V and 600 V multicore sheathed cables – Test methods and requirements for basic and high performance cables			ISO 14572				
D	2	Road vehicles – Data cables – Test methods and requirements			ISO/TS 16553				
C	1	Road vehicles – Circuit breakers – Part 1: Definitions and general test requirements			ISO 10924-1				
A	1	Road vehicles – Circuit breakers – Part 4: Medium circuit breakers with tabs (blade type), Form CB15			ISO 10924-4				
A	1	Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V - Cables for general applications High flexibility braided cables		EN 50525-xx... under development		IEC 50525-xx... under development			
A	2	(all parts) Plugs, socket-outlets and couplers for industrial purposes		EN 60309		IEC 60309			
A	1	Plugs, socket-outlets and couplers for industrial purposes – Part 1: General requirements		EN 60309-1		IEC 60309-1			
A	1	Plugs, socket-outlets and couplers for industrial purposes – Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories		EN 60309-2		IEC 60309-2			
A	1	Plugs, socket-outlets and couplers for industrial purposes – Part 4: Switched socket-outlets and connectors with or without interlock		EN 60309-4		IEC 60309 -4			
A	1	Wiring and connectors for electric road vehicles				IEC/TR 60783			
A	1	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5: Flexible cables (cords)		EN 60227-5		IEC 60227-5			
A	1	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 7: Flexible cables screened and unshielded with two or more conductors				IEC 60227-7			

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		Wiring, Connectors, Controllers, Rotating machines (continuation)							
A	1	Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 3: Heat resistant silicone rubber cables				IEC 60245-3			
A	1	Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 4: Cords and flexible cables				IEC 60245-4			
A	1	Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 8: Cords for applications requiring high flexibility				IEC 60245-8			
A	1	Insulation coordination for equipment within low-voltage systems Part 2-1: Application guide - Explanation of the application of the IEC 60664 series, dimensioning examples and dielectric testing	EN 60664-1			IEC 60664-1			
A	1	Electric vehicle conductive charging system - Part 21: Electric vehicle requirements for conductive connection to an a.c./d.c. Suppl)				IEC 60664-2-1			
A	1	Wiring and connectors for electric road vehicles				IEC/TR 60783			
A	1	Instrumentation for electric road vehicles				IEC/TR 60784			
A	1	Rotating machines for electric road vehicles				IEC/TR 60785			
B	2	Electric and optical fibre cables – Test methods for non-metallic materials		EN 60811-serie		IEC 60811-serie			
A	1	Plugs and socket-outlets for households and similar purposes				IEC 60884			
A	3	Conductors of insulated cables – Data for AWG and kcmil sizes 1 SAE J 2183 60 V and 600 V Single-Core Cables 1				IEC/TR 62602			
A	2	High Voltage Primary Cable					J1654:2004		
A	2	High Voltage Automotive Wiring Assembly Design					J1673:1996		
A	2	Connections for High Voltage On-Board Road Vehicle Electrical Wiring					J1742:2005		
A	2	SAE Electric Vehicle Conductive Charge Coupler					J1772:2010		
A	2	SAE Electric Vehicle Inductively Coupled Charging					J1773:1999		
B	2	60 V and 600 V Single Core Cables – Test Methods					J2183:2006		
A	2	Round, Screened and Unscreened, 60 V and 600 V Multi;Core Sheathed Cables					J2501:2007		
A	2	Plugs, Receptacles and Couplers for EVs						UL 2251:2002	
A	2	Electric Vehicle Inductively Coupled Charging					J 1773		
C	2	Electric equipment for the supply of energy to electric road vehicles using an inductive coupling – Part 1: General requirements				IEC 61980-1			
A	2	Electric equipment for the supply of energy to electric road vehicles using an inductive coupling – Part 2: Manual connection system using a paddle				IEC 61980-2			
A	2	On board electric power equipment for electric road vehicles				IEC 61981			
A	1	Road vehicles - Intelligent power switches - Part 1: High-side intelligent power switch			ISO 10483-1				
A	1	Road vehicles – Intelligent power switches – Part 2: Low-side intelligent power switch			ISO 10483-2				
A	1	Controllers for electric road vehicles				IEC/TR 60786			
		Electric road vehicles : Communication							
A	1	Road vehicles - Communication protocol between electric vehicle and grid Part 1: Definitions and use-case, Part 2: Sequence diagrams and communication layers			ISO/IEC 15118-2				
A	1	Road vehicles - Communication protocol between electric vehicle and grid - Part 2: Sequence diagrams and communication layers			ISO 15188-2				
A	1	Information processing systems -- Open Systems Interconnection -- Basic Reference Model - Part 1: The Basic Mode			ISO/IEC 7498-1	ISO/IEC 7498-1			
C	1	Information processing systems -- Open Systems Interconnection --Basic Reference Model -- Part 2: Security Architecture			ISO/IEC 7498-2	ISO/IEC 7498-2			
A	1	Information processing systems -- Open Systems Interconnection --Basic Reference Model - Part 3: Naming and addressing			ISO/IEC 7498-3	ISO/IEC 7498-3			
A	1	Information technology – Telecommunication and information exchange between systems – Power line communication (PLC) – High speed PLC medium access & control (MAC) and physical layer (PHY) – Part 1: General requirements			ISO/IEC 121391	ISO/IEC 121391			
A	1	Road vehicles – Extended data link security			ISO 15764				

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		Electric road vehicles : Communication (continuation)							
A	1	Coupling devices for power line carrier systems				IEC 60481			
A	1	Communication networks and systems in substations				IEC 61850 serie			
A	1	IntelliGrid Methodology for Developing Requirements for Energy Systems				IEC/PAS 62559			
A	2	Energy Transfer System for Electric Vehicles–Part 1: Functional Requirements and System Architectures					J 2293-1		
A	2	Energy Transfer System for Electric Vehicles–Part 2: Communication Requirements and Network Architecture					J 2293-2		
A	2	Power Line Carrier Communications for Commercial Vehicles					J 2487		
A	2	Use Cases for Communication between Plug-in Vehicles and the Utility Grid					J 2836/1		
A	2	Use Cases for Communication between Plug-in Vehicles and the Supply Equipment (EVSE)					J 2836/2		
A	2	Use Cases for Communication between Plug-in Vehicles and the Utility Grid for Reverse Power Flow					J 2836/3		
A	2	Communication between Plug-in Vehicles and the Utility Grid					J 2847/1		
A	2	Communication between Plug-in Vehicles and the Supply Equipment (EVSE)					J 2847/2		
A	2	Communication between Plug-in Vehicles and the Utility Grid for Reverse Power Flow					J 2847/3		
		vehicle safety & personnel protection							
C	1	Electrically propelled road vehicles - Specific requirements for safety - Part 1: On board energy storage	EN 1987-1:1997		ISO 6469-1				
C	2	Electrically propelled road vehicles - Specific requirements for safety - Part 2: Functional safety means and protection against failures	EN 1987-2:1997						
C	2	Electrically propelled road vehicles - Specific requirements for safety - Part 3: Protection of users against electrical hazards	EN 1987-3:1998						
A	3	Proposals for the braking of electrical vehicles	CR 1955:1995						
C	1	Electric road vehicles - Safety specifications - Part 2: Vehicle operational safety means and protection against failures			ISO 6469-2:2009 Ed. 2				
C	1	Electric road vehicles - Safety specifications - Part 3: Protection of persons against electric hazards			ISO 6469-3:2001 ISO 6469-3:2001/Cor 1:2003				
C	1	Electric road vehicles - Safety specifications - Part 3: Protection of persons against electric hazards			ISO/DIS 6469-3* ed. 2 under voting				
B	1	Road vehicles -- Fuse-links -- Part 1: Definitions and general test requirements			ISO 8820-1:2008				
A	2	Road vehicles -- Fuse-links -- Part 2: User's guide			ISO 8820-2:2005				
A	1	Road vehicles -- Fuse-links -- Part 3: Fuse-links with tabs (blade type) Type C (medium), Type E (high current) and Type F (miniature)			ISO 8820-3:2010				
A	1	Road vehicles -- Fuse-links -- Part 4: Fuse-links with female contacts (type A) and bolt-in contacts (type B) and their test fixtures			ISO 8820-4:2010				
B	1	Road vehicles -- Fuse-links -- Part 5: Fuse-links with axial terminals (Strip fuse-links) Types SF 30 and SF 51 and test fixtures			ISO 8820-5:2007				
A	1	Road vehicles -- Fuse-links -- Part 6: Single-bolt fuse-links			ISO 8820-6:2007				
A	1	Road vehicles -- Fuse-links -- Part 7: Fuse-links with tabs (Type G) with rated voltage of 450 V			ISO 8820-7:2007				
A	1	IEC standard voltages				IEC 60038			
A	1	EC standard current ratings				IEC 60059			
A	1	Basic and safety principles for man-machine interface, marking and identification – Coding principles for indicators and actuators				IEC 60073			
C	1	Protection against electrical shock – Common aspects for installation and equipment		EN 61140		IEC 61140			
A	1	Effects of current on human beings and livestock				IEC 60479			
A	1	Low-voltage fuses – Part 1 : General requirements		EN 60269-1		IEC 60269-1			
A	3	Uninterruptible power systems (UPS) - Part 1: General and safety		EN 62040-1		IEC 62040-1			

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		vehicle safety & personnel protection (Continuation)							
C	2	Uninterruptible power systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements		EN 62040-2		IEC 62040-2			
B	3	Uninterruptible Power Systems (UPS) - Part 3: Method of Specifying the Performance and Test Requirements		EN 62040-3		IEC 62040-3			
A	1	Circuit breakers – Switched protective earth portable residual current devices for class I and battery powered vehicle applications				IEC 62335			
A	1	General requirements for residual current operated devices				IEC 60755			
A	1	Electrical accessories . Portable residual current devices without integral overcurrent protection for household and similar use (prods		EN 61540		IEC 61540			
A	3	requirements for UPS used in operator access areas					J 2344:1998		
C	2	Personnel Protection Systems for EV Supply Circuits: Part 1: General Requirements						UL 2231-1:2002	
C	2	Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Particular Requirements for Protection Devices for Use in Charging Systems						UL 2231-2:2002	
		Functional safety (Road vehicles)							
A	1	Road vehicles - Functional safety - Part 1: Vocabulary			ISO 26262-1				
A	1	Road vehicles – Functional safety – Part 2: Management of functional safety			ISO 26262-2				
A	1	Road vehicles – Functional safety – Part 3: Concept phase			ISO 26262-3				
A	1	Road vehicles – Functional safety – Part 4: Product development :system level			ISO 26262-4				
A	1	Road vehicles – Functional safety – Part 5: Product development : hardware level			ISO 26262-5				
A	1	Road vehicles – Functional safety - Part 6: Product development : software level			ISO 26262-6				
A	1	Road vehicles – Functional safety - Part 7: Production and operation			ISO 26262-7				
A	1	Road vehicles – Functional safety - Part 8: Supporting processes			ISO 26262-8				
C	1	Road vehicles – Functional safety - Part 9: ASIL-oriented and safety-oriented analyses			ISO 26262-9				
A	1	Road vehicles – Functional safety - Part 10: Guideline			ISO 26262-10				
		EMC (Electro-Magnetic-Compatibility)							
B	1	Test methods for electrical disturbances from electrostatic discharge			ISO 10605				
A	1	Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 1: General principles and terminology			ISO 11451-1				
B	1	Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy –Part 2: Off-vehicle radiation sources			ISO 11451-2				
B	1	Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy –Part 3: On-board transmitter simulation			ISO 11451-3				
A	1	Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy –Part 4: Bulk current injection (BCI)			ISO 11451-4				
B	1	Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 1: General principles and terminology			ISO 11452-1				
B	1	Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 2: Absorberlined shielded enclosure			ISO 11452-2				

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		EMC (Electro-Magnetic-Compatibility) (continuation)							
B	1	Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 3: Transverse electromagnetic mode (TEM) cell			ISO 11452-3				
B	1	Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 4: Bulk current injection (BCI)			ISO 11452-4				
B	1	Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 5: Stripline			ISO 11452-5				
B	1	Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 7: Direct radio frequency (RF) power injection			ISO 11452-7				
B	1	Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 8: Immunity to magnetic fields			ISO 11452-8				
B	1	Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 9: Portable transmitters			ISO 11452-9				
B	1	Part 10: Immunity to conducted disturbances in the extended audio frequency range			ISO 11452-10				
B	1	Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 11: Reverberation chamber			ISO 11452-11				
C	1	Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current < 16 A per phase		EN 61000-3-2: 2996 + A1:2009+A2:2009		IEC 61000-3-2			
C	1	Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage systems for equipment with rated current ≤ 16 A per phase and not subjected to conditional connector		EN 61000-3-3:1995+A1:2001+A2:2005+AC:1997 and EN 61000-3-3:2008		IEC 61000-3-3			
C	4	Electromagnetic compatibility (EMC) - Part 3-4 Limits – Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current > 16 A				IEC 61000-3-4			This technical report is replaced by standard IEC 61000-3-12 for equipment ≤ 75 A
C	1	Electromagnetic Compatibility (EMC) – Part 3-11 – Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage systems - Equipment with rated current ≤ 75 A per phase and subjected to conditional connector		EN 61000-3-11:2000		IEC 61000-3-11			
C	1	Electromagnetic Compatibility (EMC) – Part 3-12 – Limits for harmonic current emissions produced by equipment connected to public low-voltage systems with input current > 16 A and ≤ 75 A per phase		EN 61000-3-12:2005		IEC 61000-3-12			
A	2	Electromagnetic compatibility (EMC) – Part 4-1 – Testing and measurement techniques – Overview of IEC 61000-4 series				IEC 61000-4-1			
B	1	Electromagnetic compatibility (EMC) – Part 4-2 – Testing and measurement techniques – Electrostatic discharge immunity test				IEC 61000-4-2			
B	2	Electromagnetic compatibility (EMC) – Part 4-3 – Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test				IEC 61000-4-3			
B	1	Electromagnetic Compatibility (EMC) – Part 4-4 – Testing and measurement techniques – Electrical fast transients/burst immunity test				IEC 61000-4-4			
B	1	Electromagnetic Compatibility (EMC) – Part 4-5 – Testing and measurement techniques – Surge immunity test				IEC 61000-4-5			
B	2	Electromagnetic Compatibility (EMC) – Part 4-6 – Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields				IEC 61000-4-6			
B	2					IEC 61000-4-7			
B	1	Electromagnetic Compatibility (EMC) – Part 4-8 – Testing and measurement techniques – Power frequency magnetic field immunity test				IEC 61000-4-8			

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		EMC (Electro-Magnetic-Compatibility) (continuation)							
B	1	Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests				IEC 61000-4-11			
B	1	Electromagnetic compatibility (EMC) - Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity test				IEC 61000-4-13			
B	2					IEC 61000-4-15			
A	2	Electromagnetic Compatibility (EMC) – Part 6-1 – Generic standards Immunity for residential, commercial and light-industrial environment:		EN 61000-6-1:2007		IEC 61000-6-1:2005			
A	1	Electromagnetic Compatibility (EMC) – Part 6-2 – Generic standards Immunity for industrial environments		EN 61000-6-2:2005+AC:2005		IEC 61000-6-2			
A	1	Electromagnetic Compatibility (EMC) – Part 6-3 – Generic standards Emission standard for residential, commercial and light-industrial environments		EN 61000-6-3:2007		IEC 61000-6-3:2006			
A	2	Electromagnetic Compatibility (EMC) – Part 6-4 – Generic standards Emission standard for industrial environments		EN 61000-6-4:2007		IEC 61000-6-4:2006			
B	2	Electromagnetic compatibility (EMC) – Part 4-21: Testing and measurement techniques – Reverberation chamber test methods	EN 61000-4-21			IEC 61000-4-21			
A	1	Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz. General requirements, frequency bands and electromagnetic disturbances		EN 50065-1:2001 +A1:2010					
A	1	Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz -- Part 2-1: Immunity requirements for mains communications equipment and systems operating in the range of frequencies 95 kHz to 148,5 kHz and intended for use in residential, commercial and light industrial environments		EN 50065-2-1:2003 + A1:2005+ AC:2003					
A	1	Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz -- Part 2-2: Immunity requirements for mains communications equipment and systems operating in the range of frequencies 95 kHz to 148,5 kHz and intended for use in industrial environments		EN 50065-2-2:2003 + A1:2005 + AC:2003					
A	1	Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz -- Part 2-3: Immunity requirements for mains communications equipment and systems operating in the range of frequencies 3 kHz to 95 kHz and intended for use by electricity suppliers and distributors		EN 50065-2-3:2003+A1:2005+AC:2003					
A	3	Road vehicles -- Electrical disturbances from conduction and coupling -- Part 1: Definitions and general considerations			ISO 7637-1				
C	2	Road vehicles -- Electrical disturbances from conduction and coupling -- Part 2: Electrical transient conduction along supply lines on!			ISO 7637-2				
C	2	Road vehicles -- Electrical disturbances from conduction and coupling -- Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply line!			ISO 7637-3				
C	1	Information Technology Equipment -- Radio Disturbance Characteristics -- Limits and Methods of Measurement	EN 55022			CISPR 22			
C	1	Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment -- Electromagnetic Disturbance Characteristics -- Limits and Methods of Measurement	EN 55011			CISPR 11			
B	1	Specification for radio disturbance and immunity measuring apparatus and methods	EN 55016-X-X			CISPR 16-X-X			
C	1	Radio disturbance characteristics for the protection of receivers used on board vehicles, boats, and on devices - Limits and methods of measurement	EN 55025			CISPR 25			
C	1	Vehicles, boats and internal combustion engine driven devices - Radio disturbance characteristics - Limits and methods of measurement for the protection of receivers except those installed in the vehicle/boat/device itself or in adjacent vehicles/boats/devices.	EN 55012			CISPR 12			

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		EMC (Electro-Magnetic-Compatibility) (continuation)							
A	2	Low-Voltage Power Supplies, D.C. Output – Part 3: Electromagnetic Compatibility (EMC)				IEC 61204-3			
C	2	Uninterruptible power systems (UPS) – Part 2: Electromagnetic compatibility (EMC) requirements				IEC 62040-2			
D	3	International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility				IEC 60050 (161)			
A	2	Telecontrol equipment and systems – Part 2: Operating conditions – Section 1: Power supply and electromagnetic compatibility				IEC 60870-2-1			EMC of socket => IEC 61851-22
B	3	EMC measurements					J 1113-i		
B	3	GB/T 18387 : Limits and test methods of magnetic and electric field strength from electric vehicle, broadband, 9 kHz to 30 MHz.							
B	2	SAE J551-5 Performance Levels and methods of measurement of Magnetic and Electric Field Strength from Electric Vehicles, Broadband, 9 kHz to 30 MHz					J551-5		
		Environmental conditions							
B	1	Environmental conditions and testing for electrical and electronic equipment – Part 1: General			ISO 16750-1				
B	1	Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 2: Electrical loads			ISO 16750-2				
B	1	Environmental conditions and testing for electrical and electronic equipment – Part 3: Mechanical loads			ISO 16750-3				
B	1	Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 4: Climatic loads			ISO 16750-4				
B	1	ISO 16750-5 Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 5: Chemical loads			ISO 16750-5				
A	2	Environmental testing: IEC 60068 serie		EN 60068 serie		IEC 60068 serie			
A	2	Classification of environmental conditions : IEC 60811serie		EN 60721 serie		IEC 60721 serie			
B	2	Electric and optical fibre cables – Test methods for non-metallic materials : IEC 60811serie		EN 60811		IEC 60811			
		Measurements of Electrical vehicle performances							
A	1	Electric road vehicles - Road operating characteristics			ISO 8715:2001				
B	1	Electric road vehicles - Reference energy consumption and range - Test procedures for passenger cars and light commercial vehicles			ISO 8714:2002				
B	1	Electrically propelled road vehicles - Measurement of road operating ability - Part 1: Pure electric vehicles	EN 1821-1:1996		ISO 8715				
B	1	Electrically propelled road vehicles – Measurement of road operating ability – Part 2: Thermal electric hybrid vehicles	EN 1821-2						
B	1	Electrically propelled road vehicles - Measurement of energy performances - Part 1: Pure electric vehicles	EN 1986-1:1997		ISO 8714				
B	1	Electrically propelled road vehicles – Measurement of energy performances – Part 2: Thermal electric hybrid vehicles	EN 1986-2						
B	1	Electrically propelled road vehicles - Airborne acoustical noise of vehicle during charging with on-board chargers - Determination of sound power level	EN 12736:2001						
B	1	Electrically propelled road vehicles – Measurement of emissions of hybrid vehicles – Part 1: Thermal electric hybrid vehicles	EN 13444-1						

Type	Class.	Technical Domain \ Standardisation Corpus	EN (CEN)	EN (CENELEC)	ISO	IEC	SAE	UL	General Comments
		Measurements of Electrical vehicle performances (continuation)							
B	1	Hybrid-electric road vehicles – Exhaust emissions and fuel consumption measurements – Part 1: Non-externally chargeable vehicles			ISO 23274-1				
B	1	Hybrid-electric road vehicles – Exhaust emissions and fuel consumption measurements – Part 2: Externally chargeable vehicles			ISO 23274-2				
B	1	Hybrid-electric road vehicles – Exhaust emissions and fuel consumption measurements – Part 3: Forced charge mode			ISO 23274-3				
B	2	Recommended Practice for Measuring the Exhaust Emissions and Fuel Economy of Hybrid-Electric Vehicles					J 1711		
B	1	Electric road vehicles – Reference energy consumption and range Test procedures for passenger cars and light commercial vehicles			ISO 8714				
A	1	Utility Factor Definitions for Plug-In Hybrid Electric Vehicles Using 2001 U.S. DOT National Household Travel Survey Data					J 2841		
B	1	Electric traction - Rotating electrical machines for rail and road vehicles - Part 2: Electronic converter-fed alternating current motors		EN 60349-2		IEC 60349-2			
		Hybrid Electrical Vehicles							
A	1	Hybrid-electric road vehicles - Guidelines for charge balance measurement			ISO/TR 11955:2008				
B	1	Hybrid-electric road vehicles - Exhaust emissions and fuel consumption measurements - Non-externally chargeable vehicles			ISO 23274:2007				
B	1	Hybrid-electric road vehicles - Exhaust emissions and fuel consumption measurements - Part 2: Externally chargeable vehicles			ISO/WD 23274-2 New Work Item approved				
B	1	Electric double-layer capacitors for use in hybrid electric vehicles - Test methods for electrical characteristics				IEC 62576			
B	2	Electrically propelled road vehicles - Measurement of emissions of hybrid vehicles - Part 1: Thermal electric hybrid vehicles	EN 13444-1:2001						
B	2	Electrically propelled road vehicles - Measurement of road operating ability - Part 2: Thermal electric hybrid vehicles	EN 1821-2:1999						
B	2	Electrically propelled road vehicles - Measurement of energy performances - Part 2: Thermal electric hybrid vehicles	EN 1986-2:2001						
A	2	Hybrid Terminology					J 2787		
A	2	Hybrid Electric Vehicle (HEV) & Electric Vehicle (EV) Terminology					J 1715		
B	2	Recommended Practice for Measuring the Exhaust Emissions and Fuel Economy of Hybrid-Electric Vehicles					J 1711		
A	1	Definition of the Utility Factor for Plug-In Hybrid Electric Vehicles Using NHTS Data					J 2841		