

# Deutsche Akkreditierungsstelle GmbH

## Annex to the Accreditation Certificate D-PL-18416-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 10.01.2022

Date of issue: 10.01.2022

Holder of certificate:

**ACTS-Advanced Car Technology Systems GmbH & Co.KG  
Kurfürst-Eppstein-Ring 11, 63877 Sailauf**

Tests in the fields:

**Tests in the test areas Electrics/Electronics and Passive Safety of systems, components and separate technical units for motor vehicles and their trailers within the scope of Regulation (EU) 2018/858 as well as national test procedures and other test procedures of the Member States or third countries**

Based on the authorization of the Kraftfahrt Bundesamt according to § 31 (2) EG-Fahrzeuggenehmigungsverordnung (EG-FGV) in connection with Art. 67 (1) set 2 Regulation (EU) 2018/858 it is confirmed that the certificate holder is competent to perform tests according to DIN EN ISO/IEC 17025:2018 in the scope of application of the Regulation (EU) 2018/858 in the areas mentioned below and fulfils the requirements for technical services of category A according to Art. 68 to 71 of the Regulation (EU) 2018/858.

*The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.*

*The certificate together with the annex reflects the status as indicated by the date of issue.  
The current status of any given scope of accreditation may be found respectively in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH <https://www.dakks.de/en/content/accredited-bodies-dakks>.*

Abbreviations used: see last page

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**This document is a translation. The definitive version is the original German annex to the accreditation certificate.**

**Within the specified legal acts marked with <sup>x</sup> and the respective assigned fields of competence<sup>xx</sup> according to the KBA's index catalogue, the testing laboratory is permitted to use the standardised test methods or those that are equivalent to them, without requiring prior information and approval by the DAkkS, insofar as these are named in the legal act. The testing laboratory is permitted to use the aforementioned test methods in the respective valid editions.**

**The testing laboratory has an up-to-date list of all test methods in the flexible accreditation area.**

**<sup>xx</sup> Fields of Competence**

D = Geometrical Issues incl. Mounting Tests, Masses  
E = Strength of Components and Structure  
F = Energy Absorption  
G = Electrics / Electronics  
J = Environmental Simulation

**Within the given testing field marked with <sup>xxx</sup>, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the free choice of standard or equivalent testing methods. The listed testing methods are exemplary.**

**The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.**

**Annex to the accreditation certificate D-PL-18416-01-00**

**1. Tests of systems, components and separate technical units for motor vehicles and their trailers within the scope of Regulation (EU) 2018/858 (according to the KBA index catalogue)<sup>x</sup>**

<b>Electrics/Electronics</b>		<b>08</b>	
<b>Electric Vehicles</b>		<b>08-04</b>	
UN-R 100 (Part II) Rechargeable energy storage system (REESS) SA 03 06-2021	Uniform provisions concerning the approval of vehicles with regard to specific requirements for the electric power train [2015/505]; Part II (Paragraph 6.2 in connection with Annex 9A, Paragraph 6.3 in connection with Annex 9B, Paragraph 6.4 in connection with Annex 9C und 9D, Paragraph 6.7 in connection with Annex 9G, Paragraph 6.8 in connection with Annex 9H, Paragraph 6.9 in connection with Annex 9I)	08-04-23	G J
<b>Passive Safety</b>		<b>10</b>	
<b>Tank for Liquid Fuel</b>		<b>10-01</b>	
UN-R 34 (Part I) SA 03 05-2019	Uniform provisions concerning the approval of vehicles with regard to the prevention of fire risks [2016/1428]; PART I	10-01-11	J
<b>Interior Equipment, Arrangement Actuating Device, Roof, Sunroof, Backrest and Rear Part of the Seat, Double Control Device in Motor Vehicles for Training of Applicants for a Driver's License</b>		<b>10-02</b>	
UN-R 21 SA 01 05-2020	Uniform provisions concerning the approval of vehicles with regard to their interior fittings (without Annex VI „Method of measuring projections“)	10-02-11	D F
<b>Interior Equipment, Behavior of the Steering System in the Event of Impact</b>		<b>10-04</b>	
UN-R 12 SA 04 07-2018	Uniform provisions concerning the approval of vehicles with regard to the protection of the driver against the steering mechanism in the event of impact	10-04-11	F

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<b>Interior, Seats, Resistance and their Anchorage; Head Restraints Large Passenger Vehicles</b>		<b>10-05</b>	
UN-R 17 SA 10 06-2021	Uniform provisions concerning the approval of vehicles with regard to the seats, their anchorages and any head restraints	10-05-11	D F
UN-R 25 SA 04 06-2015	Uniform provisions concerning the approval of head restraints (headrests), whether or not incorporated in vehicle seats	10-05-12	D F
UN-R 80 SA 04 05-2020	Uniform provisions concerning the approval of seats of large passenger vehicles and of these vehicles with regard to the strength of the seats and their anchorages	10-05-21	D F
<b>Anchorage of the Safety Belts</b>		<b>10-06</b>	
UN-R 14 SA 09 12-2018	Uniform provisions concerning the approval of vehicles with regard to safety-belt anchorages	10-06-11	D E
UN-R 145 SA 00 07-2018	Uniform provisions concerning the approval of vehicles with regard to ISOFIX anchorage systems ISOFIX top tether anchorages and i-Size seating positions	10-06-12	D E
<b>Safety Belts and Restraint Systems</b>		<b>10-07</b>	
UN-R 44 SA 04 05-2020	Uniform provisions concerning the approval of restraining devices for child occupants of power-driven vehicles ("Child Restraint Systems")	10-07-21	D F J
<b>Installation of Safety Belts</b>		<b>10-08</b>	
UN-R 16 (Annex 17) SA 08 05-2019	Uniform provisions concerning the approval of: I. Safety-belts, restraint systems, child restraint systems and ISOFIX child restraint systems for occupants of power-driven vehicles II. Vehicles equipped with safety-belts, safety-belt reminders, restraint systems, child restraint systems and ISOFIX child restraint systems and i-Size child restraint systems [2018/629]; Annexes (17)	10-08-11	D

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<b>Door Latch and Door Hinges</b>		<b>10-15</b>
UN-R 11 SA 04 05-2019	Uniform provisions concerning the approval of vehicles with regard to door latches and door retention components	10-15-11 E
<b>Occupant Protection in the Event of a Frontal Impact</b>		<b>10-16</b>
96/79/EC * 1999/98/EC	DIRECTIVE 96/79/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 1996 on the protection of occupants of motor vehicles in the event of a frontal impact and amending Directive 70/ 156/EEC	10-16-01 F
UN-R 94 SA 04 06-2021	Uniform provisions concerning the approval of vehicles with regard to the protection of the occupants in the event of a frontal collision	10-16-22 F
UN-R 137 SA 02 06-2021	Uniform provisions concerning the approval of passenger cars in the event of a frontal collision with focus on the restraint system [2020/576]	10-16-23 F
<b>Occupant Protection in the Event of a Side Impact</b>		<b>10-17</b>
96/27/EG	DIRECTIVE 96/27/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 May 1996 on the protection of occupants of motor vehicles in the event of a side impact and amending Directive 70/ 156/EEC	10-17-01 F
UN-R 95 SA 05 06-2021	Uniform provisions concerning the approval of vehicles with regard to the protection of the occupants in the event of a lateral collision	10-17-21 F
UN-R 135 SA 01 05-2020	Uniform provisions concerning the approval of vehicles with regard to their Pole Side Impact performance (PSI) [2020/486]	10-17-22 F
<b>Occupant Protection in the Event of a Rear Impact</b>		<b>10-18</b>
UN-R 34 (Part II in connection with Part I or Part IV) SA 03 05-2019	Uniform provisions concerning the approval of vehicles with regard to the prevention of fire risks; Part II in connection with Part I or Part IV	10-18-23 F

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<b>Pedestrian Protection, Frontal Protection Systems</b>		<b>10-20</b>	
REGULATION (EC) 78/2009 (Annex I Section 2 and 3 including REGULATION (EC) 631/2009 Annex Part II Chapter II-VII)	REGULATION (EC) No 78/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 January 2009 on the type-approval of motor vehicles with regard to the protection of pedestrians and other vulnerable road users, amending Directive 2007/46/EC and repealing Directives 2003/102/EC and 2005/66/EC Annex I, Section 2 and 3 including REGULATION (EC) 631/2009 Annex Part II, Chapter II – VII	10-20-03	D F
REGULATION (EC) 78/2009 (Annex I Section 5 including REGULATION (EC) 631/2009 Annex Part IV Chapter II-V)	REGULATION (EC) No 78/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 January 2009 on the type-approval of motor vehicles with regard to the protection of pedestrians and other vulnerable road users, amending Directive 2007/46/EC and repealing Directives 2003/102/EC and 2005/66/EC Annex I, Section 5 including REGULATION (EC) 631/2009 Annex Part IV, Chapter II – V	10-20-05	D F
UN-R 127 SA 02 06-2016	Uniform provisions concerning the approval of motor vehicles with regard to their pedestrian safety performance [2020/638]	10-20-11	D F

**2. National Test Procedures<sup>xxx</sup>**

**Roof Rack for Passenger Cars**

DIN 75302 06-2019	Roof racks for wheeled vehicle and its trailer – Requirements and test methods
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**3. Test Procedures of the Member States<sup>xxx</sup>**

**Electrics/Electronics**

<p>(EU) 2017/79 Annex I to III</p>	<p>COMMISSION DELEGATED REGULATION (EU) 2017/79 of 12 September 2016 establishing detailed technical requirements and test procedures for the EC type-approval of motor vehicles with respect to their 112-based eCall in-vehicles systems, of 112-based eCall in-vehicle separate technical units and components and supplementing and amending Regulation (EU) 2015/758 of the European Parliament and of the Council with regard to the exemptions and applicable standards Annex I to III (only dynamic test execution e.g. crash test and sled tests)</p>
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**Passive Safety**

**Occupant Protection in the Event of a Frontal Impact**

<p>UN-R 33 SA 00 06-2009</p>	<p>Uniform provisions concerning the approval of vehicles with the regard to the structure of the impacted vehicle in a head-on collision</p>
<p>EuroNCAP FW v 1.2 06-2019</p>	<p>Full Width Frontal Impact Testing Protocol</p>
<p>EuroNCAP MPDB v 1.1.1 10-2019</p>	<p>MPDB Frontal Impact Testing Protocol</p>
<p>EuroNCAP Knee Mapping v 4.1 12-2020</p>	<p>Sled Test Procedure For Assessing Knee Impact Areas</p>

**Occupant Protection in the Event of a Side Impact**

<p>EuroNCAP AEMDB v 8.1.2 06-2020</p>	<p>Side Impact Mobile Deformable Barrier Testing Protocol</p>
<p>EuroNCAP Pole v 7.1.1 11-2019</p>	<p>Oblique Pole Side Impact Testing Protocol</p>

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**Occupant Protection in the Event of a Rear Impact**

UN-R 32 SA 00 06-2009	Uniform provisions concerning the approval of vehicles with regard to the behavior of the structure of the impacted vehicle in a rear-end collision
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**Pedestrian Protection, Frontal Protection Systems**

REGULATION (EC) 78/2009 Annex I, Section 6	REGULATION (EC) No 78/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 January 2009 on the type-approval of motor vehicles with regard to the protection of pedestrians and other vulnerable road users, amending Directive 2007/46/EC and repealing Directives 2003/102/EC and 2005/66/EC (Annex I Section 6 including VO (EC) 631/2009)
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EuroNCAP Pedestrian v 8.5 10-2018	Pedestrian Testing Protocol
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**4. Prüfverfahren von Drittländern<sup>xxx</sup>**

**Electrics/Electronics**

**Electric Vehicles**

FMVSS 305 08-2019	Electric Vehicles
GB/T 31498-2015 05-2015	The Post-crash Safety Requirement of Electric Vehicle

**Passive Safety**

**Tank for Liquid Fuel**

FMVSS 301 05-2013	Fuel System Integrity
TRIAS 15-J017-01 04-2016	Test for Prevention of Fuel Leakage in Collisions (Based on former version TRIAS 33-2005 (UN-R 32))



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**Interior Fittings**

FMVSS 201 02-2012	Occupant Protection in Interior Impact
ADR 21/00 04-2008	Instrument Panel
GB 11552-2009 01-2012	Interior Fittings

**Behavior of the Steering System in the Event of Impact**

FMVSS 203 01-2012	Impact Protection for the Driver from the Steering Control System
FMVSS 204 09-1998	Steering Control Rearward Displacement
ADR 10/02 05-2010	Steering Column
GB 11557-2011 01-2012	Impact Energy Absorbing Steering
VSTD 44 Rev. 44-1 11-2016	Steering control system – protection of the driver against the steering mechanism in the event of impact

**Seats, Resistance and their Anchorage; Headrests**

FMVSS 202a 05-2013	Head Restraints
FMVSS 207 04-2009	Seating Systems
ISO 27955 08-2010	Road vehicles – Securing of cargo in passenger cars, station wagons and multi-purpose vehicles – Requirements and test methods Section 5
ADR 03/04 09-2017	Seats and Seat Anchorage
ADR 22/00 05-2006	Head Restraints
ADR 34/03 09-2017	Australian Design Rule 34/03 – Child Restraint Anchorages and Child Restraint Anchor Fittings Punkt: 10.1.3 Dynamic Testing

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GB 11550-2009 01-2011	Head Restraints
GB 13057-2014 07-2015	The Strength of the Seats and their Anchorages of Passenger Vehicles
GB 15083-2019 07-2020	Strength Requirements and Test Method of Automobile Seats, their Anchorages and any Head Restraints
VSTD 49-1 04-2018	Seats
VSTD 50-2 01-2020	Head Restraint
ISO 7176-19 07-2008	Wheelchairs – Part 19: Wheelchairs for use as seats in motor vehicles

**Safety Belts and Restraint Systems**

FMVSS 210 12-2013	Seat belt assembly anchorages
FMVSS 213 02-2014	Child Restraint System
FMVSS 225 02-2012	Child Restraint Anchorage Systems
ADR 04/06 12-2018	Safety Belt Anchorage / ISOFIX
ADR 05/06 12-2018	Anchorage for Seatbelts
TRIAS 18-J099(1)-01 04-2016	Test for Head Protection of Pedestrians (Based on former version TRIAS 63-2004)
GB 14166-2013 01-2014	Safety-Belts, Restraint Systems, Child Restraint Systems and ISOFIX Child Restraint Systems for Occupants of Power-Driven Vehicles
GB 14167-2013 01-2014	Belt Retention
GB 27887-2011 07-2012	Child Restraint System
VSTD 48-2 04-2018	Safety Belt Anchorage/ ISOFIX

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**Door Latch and Door Hinges**

FMVSS 206 02-2012	Door Locks and Door Retention Components
ADR 02/01 09-2016	Side Door Latches and Hinges
GB 15086-2013 01-2015	Motor Vehicles - Door Locks and Retention Components – Performance Requirements and Test Methods
VSTD 51-2 01-2020	Door Latches and Retention Components (Resistance of Latches to Acceleration-Impact-Test only)

**Occupant Protection in the Event of a Frontal Impact**

FMVSS 208 11-2016	Occupant Crash Protection, incl. Out of Position Testing
FMVSS 212 03-1996	Windshield Mounting
ADR 69/00 04-2006	Full Frontal Impact Occupant Protection
ADR 73/00 11-2005	Offset Frontal Impact Occupant Protection
VSTD 44 Rev. 44-1 11-2016	Steering control system – protection of the driver against the steering mechanism in the event of impact
VSTD 46 Rev. 46-3 01-2019	Protection of occupants - frontal collision
TRIAS 18-R094-03 06-2020	Test for Occupant Protection in Offset Collisions (Agreement Regulation No. 94)
TRIAS 18-J023-(1)-01 04-2016	Test for Occupant Protection in Frontal Collisions
TRIAS 18-J023-(2)-01 04-2016	Full Width Frontal: Test for Occupant Protection and Prevention of Fuel Leakage in Frontal Collision
TRIAS 18-R137(1)-02 06-2020	Test for Occupant Protection and Prevention of Fuel Leakage in Frontal Collision (Agreement Regulation No. 137)
TRIAS 18-J104-01 04-2016	Test for Occupant Protection in Offset Collisions

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GB 11551-2014 01-2015	The Protection of the Occupants in the Event of a Frontal Collision for Motor Vehicle
GB/T 20913-2007 12-2007	The Protection of the Occupants in the Event of an Offset Frontal Collision of a Passenger Car
US NCAP Front Rev. 6 10-2019	Frontal Impact Against Rigid Wall 100%
IIHS Small Overlap v 7 05-2021	Small Overlap Frontal Testing
IIHS Moderate Overlap v 19 05-2021	Moderate Overlap Frontal Testing
Japan-NCAP FW 2018	Frontal Collision Safety Performance Test Method
Japan-NCAP ODB 2018	Offset-frontal Collision Safety Performance Test Procedure
China NCAP FW-2019 2019	Frontal Impact Test Against Rigid Barrier with 100% Overlapping
China NCAP FW-2021 01-2022	Frontal Impact Test Against Rigid Barrier with 100% Overlapping
China NCAP MPDB-2021 01-2022	Frontal 50% Overlap Moveable Progressive Deformable Barrier Crash Test
China NCAP ODB-2019 2019	Frontal Impact Against Deformable Barrier with 40% Overlapping
Korean NCAP FW-2020 2020	Full Width Frontal Crash Safety Test Methods and Evaluation Methods
Korean NCAP ODB-2020 2020	Offset-Frontal Crash Safety Test Methods and Evaluation Methods

**Occupant Protection in the Event of a Side Impact**

FMVSS 214 12-2020	Side Impact Protection
ADR 72/00 11-2005	Dynamic Side Impact Occupant Protection

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VSTD 45 Rev. 45-2 01-2019	Protection of occupants – lateral collision
ADR 85/00 12-2015	Pole Side Impact Performance
TRIAS 18-J024R095-01 04-2016	Test for Occupant Protection in Lateral Collisions
TRIAS 18-R095-02 04-2016	Barrier Side Impact: Test for Protection of Occupants in Lateral Collisions (Agreement Regulation No. 95)
TRIAS 18-R135-01 04-2016	Test for Occupant Protection in Event of Pole Side Impact (Agreement Regulation No. 135)
GB 20071-2006 07-2006	Protection of the Occupants in the Event of a Lateral Collision
GB/T 37337-2019 10-2019	Protection of the Occupants in the Event of a Lateral Pole Collision
US NCAP MDB Rev. 14 03-2020	Laboratory Test Procedure: Side Barrier Impact Testing
US NCAP CTP Rev. 9 03-2020	Laboratory Test Procedure: Side Pole Impact Testing
IIHS Side Testing v 10 07-2017	Side Testing
IIHS Side Testing 2.0 v 1 10-2020	Side Testing 2.0
Japan-NCAP AEMDB 03-2019	Side Collision Safety Performance Test Procedure
China NCAP AEMDB-2019 2019	Side Impact Test Against Mobile Deformable Barrier
China NCAP AEMDB-2021 01-2022	Side Impact Test Against Mobile Deformable Barrier
China NCAP Pole-2021 01-2022	Side Pole Crash Test (New Energy Test Item)

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Korean NCAP AEMDB-2020    Barrier Side Crash Safety Test Methods and Evaluation Methods  
2020

Korean NCAP CTP-2020       Pole Side Crash Safety Test Methods and Evaluation Methods  
2020

**Occupant Protection in the Event of a Rear Impact**

TRIAS 15-R034(2)-01        Test for Fuel Tank of Passenger Motor Vehicles  
04-2016                            (Agreement Regulation No. 34 (Fuel Tank))

GB 20072-2006                Fuel System Safety in the Event of Rear-end Collision  
07-2006

**Pedestrian Protection, Frontal Protection Systems**

TRIAS 18-R127-01            Test for Protection of Head and Leg of Pedestrians  
04-2016                            (Agreement Regulation No. 127)

TRIAS 18-J099(2)-01        Test for Protection of Head and Leg of Pedestrians  
04-2016

GTR 9                              Global Technical Regulation No. 9, Pedestrian Safety  
02-2011

JNCAP Pedestrian              Pedestrian Head Protection Performance Test Procedure  
Protection Performance  
Test  
03-2019

JNCAP Pedestrian              Pedestrian Leg Protection Performance Test Procedure  
Protection Performance  
Test  
03-2018

**Structure**

FMVSS 216a                      Roof Crush Resistance  
02-2012

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**5. Component Testing<sup>xxx</sup>**

**Airbags**

PV 3545 09-2006	Standard Production Test of Airbag Systems – Volkswagen Group Standard: Series Testing of Side airbag seat backs, Side airbag upholstery and parts of Side airbag upholstery
PV 3550 06-2010	Standard Production Test of Airbag Systems – Volkswagen Group Standard: Series testing of side airbag seat backs, side airbag upholstery and parts of side airbag upholstery
TL 82380 04-2003	Standard Production Test of Airbag Systems – Volkswagen Group Standard: Assembly seat with side airbag, structure, requirements and tests

**6. Dummy Testing<sup>xxx</sup>**

**Frontal Impact Dummies**

**Hybrid III Family**

49 CFR 572 10-2005	Anthropomorphic Test Devices
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**Hybrid III Children**

49 CFR 572, Subpart R 10-2001	CRABI 12-Month-Old Infant, Alpha Version 572.152 - Head drop front 572.152 - Head drop rear 572.153 - Neck pendulum (flexion and extension) 572.154 - Thorax impact
49 CFR 572, Subpart P 01-2002	3-Year-old Child Crash Test Dummy, Alpha Version 572.142 - Head drop 572.143 - Neck pendulum (flexion and extension) 572.144 - Thorax impact 572.145 - Torso flexion
49 CFR 572, Subpart N 06-2011	Six-Year-old Child Test Dummy, Beta Version 572.122 - Head drop 572.123 - Neck pendulum (flexion and extension) 572.124 - Thorax impact 572.125 - Torso flexion 572.126 - Knee impact (left and right)

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**Hybrid III 5<sup>th</sup> Percentile Female**

49 CFR 572, Subpart O 09-2002	Hybrid III 5 <sup>th</sup> Percentile Female Test Dummy, Alpha Version 572.132 - Head drop 572.133 - Neck pendulum (flexion and extension) 572.134 - Thorax impact 572.135 - Torso flexion 572.136 - Knee impact (left and right)
SAE J2878 06-2016	Low Speed Thorax Impact Test Procedure for the HIII 5F Dummy (3 m/s Thorax impact)
SAE J2862 02-2015	User's Manual for the Small Adult Female Hybrid III Test Dummy (Knee Slider Test)

**Hybrid III 50<sup>th</sup> Percentile Male**

49 CFR 572, Subpart E 11-2011	Hybrid III Test Dummy 572.32 - Head drop 572.33 - Neck pendulum (flexion and extension) 572.34 - Thorax impact 572.35 - Knee impact (left and right) 572.35 - Hip range of motion
SAE J2856 09-2009	User Manual for the 50th Percentile Male Hybrid III Dummy 4 – Calibration Procedures 4.3 – Head Drop Test 4.4 – Neck Tests 4.5 – Thorax Impact Test 4.6 – Knee Impact Test 4.7 – Knee Slider Test 4.8 – Hip Joint Range of Motion Test 4.9 – European Calibration Tests 5 – Inspection Procedure 5.1 – Low-Speed Thorax Impact Test 5.2 – Low-Speed Knee Slider Test 5.3 – Foot Test 5.4 – Ankle Motion Test
SAE J2876 05-2015	Low Speed Knee Slider Test Procedure for the Hybrid III 50th Male Dummy (Knee Slider Test)
SAE J2779 07-2015	Low Speed Thorax Impact Test Procedure for the HIII 50th Male Dummy (3 m/s Thorax impact)

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<p>UN-R 94 Annex 10 SA 04 06-2021</p>	<p>Uniform provisions concerning the approval of vehicles with regard to the protection of the occupants in the event of a frontal collision, L 130/50 from 28.5.2010; Annex 10 Certification procedure for the dummy lower leg and foot</p>
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**Hybrid III 95<sup>th</sup> Percentile Male**

<p>SAE J2860 09-2012</p>	<p>User's Manual for the Hybrid III Large Male Test Dummy 4.1 - Head drop test 4.2 – Neck pendulum (flexion and extension) 4.3 - Thorax Impact Test 4.4 - Knee Impact Test 4.5 - Knee Slider Test</p>
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**THOR Family**

<p>THOR Qualification Procedures 09-2018</p>	<p>THOR-M-50th (THOR 50th Percentile Male Qualification Procedures Manual (NHTSA)) 4 - Head impact 5 - Face impact 6.6 - Neck pendulum (torsion) 6.7 - Neck pendulum (flexion) 6.8 - Neck pendulum (tension) 6.9 - Neck pendulum (lateral R+L) 7 - Upper thorax impact 8 - Lower thorax impact 9 - Abdomen impact 10 - Knee impact (left and right) 11 - Knee slider impact (left and right) 12 - Ankle eversion and inversion 13 - Ball of foot impact 14 - Heel impact</p>
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<p>EuroNCAP Technical Bulletin 26 Version 1.2 11-2020</p>	<p>THOR Specification and Certification 2.1.1 Head impact 2.1.2 Neck test, all 6 six conditions 2.1.3 Upper thorax impact at 4.3m/s 2.1.4 Upper thorax impact at 2.5m/s 2.1.5 Thorax impact (left and right) 2.1.6 Abdomen impact 2.1.7 Upper leg impact (left and right)</p>
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## **Side Impact Dummies**

### **EuroSID 2**

49 CFR 572, Subpart U  
11-2011

ES-2re Side Impact Crash Test Dummy, 50th Percentile Adult Male  
572.182 - Head drop  
572.183 - Neck pendulum  
572.184 - Shoulder impact  
572.185 - Rib drop (3 tests)  
572.185 - Thorax without arm impact  
572.186 - Abdomen impact  
572.187 - Lumbar flexion  
572.188 - Pelvis impact

UN-R 95, Annex 6  
SA 05  
06-2021

Uniform provisions concerning the approval of vehicles with regard to the protection of the occupants in the event of a lateral collision, L 313/1 from 30.11.2007;  
Annex 6 Technical description of the side impact dummy  
5.5 - Head drop  
5.6 - Neck pendulum  
5.7 - Shoulder impact  
5.9 - Rip drop (3 tests)  
5.10 - Lumbar flexion  
5.11 - Abdomen impact  
5.12 - Pelvis impact

### **SID-IIs**

49 CFR 572, Subpart V  
04-2015

SID-IIsD Side Impact Crash Test Dummy, Small Adult Female (Built Level D)  
572.192 - Head drop  
572.193 - Neck pendulum  
572.194 - Shoulder impact  
572.195 - Thorax impact with arm  
572.196 - Thorax impact without arm  
572.197 - Abdomen impact  
572.198 - Pelvis impact  
572.199 - Iliac impact

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**WorldSID**

<p>W50-9900 User Manual Rev. K 02-2018</p>	<p>WorldSID 50<sup>th</sup> (User's Manual for the WorldSID 50<sup>th</sup> Percentile Male Side Impact Dummy) 8.4 - Head drop 8.5 - Neck pendulum 8.7 - Shoulder impact 8.8 - Thorax without arm impact 8.9 - Abdomen impact 8.10 - Pelvis impact</p>
<p>W5-9900 WorldSID 5<sup>th</sup> User Manual Rev. E 08-2015</p>	<p>WorldSID 5<sup>th</sup> (User's Manual for the WorldSID 5<sup>th</sup> percentile Small Female Side Impact Dummy) 9.1 - Head drop 9.2 - Neck pendulum 9.3 - Shoulder impact 9.4 - Thorax with arm impact 9.5 - Thorax without arm impact 9.6 – Abdomen impact 9.7 – Pelvis impact</p>
<p>ISO/TS 15830-2 05-2013</p>	<p>Road vehicles - Design and performance specifications for the WorldSID 50<sup>th</sup> percentile male side-impact dummy Part 2: Mechanical Subsystems in connection with ISO/TS 15830-5:2018</p>

**P-Dummies (Children (P))**

<p>UN-R 44, Annex 8 SA 04 05-2019</p>	<p>Uniform provisions concerning the approval of restraining devices for child occupants of power-driven vehicles ("Child Restraint Systems"), ABl. L 330 from 16.12.2005; Annex 8 Description of manikins Appendix 1 Description of the 9 months and 3, 6 and 10-year manikins Appendix 3 Description of the 18 months manikin</p>
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**Q-Dummies (Children (Q))**

<p>047-9900 User Manual Q1 Rev. H 08-2016</p>	<p>Q1 Year (Advanced 6 week old newborn User Manual) 8.1 - Head drop 8.2 - Neck pendulum (flexion) 8.3 - Lumbar flexion 8.4 - Abdomen test 8.5 - Thorax impact (frontal und lateral)</p>
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048-9900 User Manual Q1.5 Rev. G 07-2015	Q1.5 Year (Advanced 1.5 year old child User Manual) 8.1 - Head drop 8.2 - Neck pendulum (flexion) 8.3 - Lumbar flexion 8.4 - Abdomen test 8.5 - Thorax impact (frontal und lateral)
020-9905 User Manual Q3 Rev. G 10-2016	Q3 Year (Advanced 3 year old child User Manual) 8.1 - Head drop 8.2 - Neck pendulum (flexion) 8.3 - Lumbar flexion 8.4 - Abdomen test 8.5 - Thorax impact (frontal und lateral)
033-9900 User Manual Q6 Rev. M 11-2016	Q6 Jahre (Advanced 6 year old child User Manual) 8.1 - Head drop 8.2 - Neck pendulum (flexion) 8.3 - Lumbar flexion 8.4 - Abdomen test 8.5 - Thorax impact (frontal und lateral)
010-9900 User Manual Q10 Rev. 1 10-2020	Q10 Year (10 year old child User Manual) 15.1 to 15.3 - Head drop 15.4 to 15.7 - Neck flexion (flexion and extension) 15.8 to 15.10 - Lumbar flexion 15.11 to 15.13 - Thorax impact 15.14 - Shoulder impact frontal 15.15 - Pelvis impact 15.16 - Abdomen impact 15.17 - Shoulder impact lateral

**Pedestrian Protection (FMH)**

631/2009/EC Part V, Annex I 09-2011	Type-approval of motor vehicles with regard to the protection of pedestrians and other unprotected road users PART V: TEST SPECIMENS, Annex I: Certification of test specimens, Chapter 4 Headform (3,5kg/ 4,5kg), hip, leg
49 CFR 572, Subpart L 08-1995	Free Motion Headform 572.102 - Head drop
GTR 9 02-2011	Global Technical Regulation No. 9 "PEDESTRIAN SAFETY" 8.3. - Child and adult headform impactors certification

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**Pedestrian Protection (FlexPli)**

133-9900 User Manual	Flex Pli GTR User Manual
FLEX Pli GTR 9	Section 8: Pendulum Dynamic Certification
Rev. K	Section 9: Dynamic Inverse Certification Test
07-2018	

**Abbreviations used:**

ADR	Australian Design Rule
SA	Series of Amendments
CFR	Code of Federal Regulations
DIN	German institute for standardization
EC	Directives of the European Economic Community
EEC	Directives of the European Economic Community
FMVSS	Federal Motor Vehicle Safety Standard
GB	Guobiao (chinesisch für „Nationaler Standard“)
GTR	Global Technical Regulation
IIHS	Insurance Institute for Highway Safety
ISO	International Organization for Standardisation
NCAP	New Car Assessment Program
PV	Test Specification (Volkswagen Groupe)
Rev.	Revision Status
SAE	Society of Automotive Engineers
TL	Technical delivery specification
UN	United Nations
Regulation (EG)	Regulation of the European Parliament
Regulation (EU)	Regulation of the European Union
VSTD	Vehicle Safety Testing Directions (Taiwan)
*	In conjunction with amendment or addition by

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