

## Deutsche Akkreditierungsstelle GmbH

### Annex to the Accreditation Certificate D-PL-11252-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from: 19.11.2020**

Date of issue: 19.11.2020

Holder of certificate:

**REHAU AG + Co**  
**Otto-Hahn-Straße 2, 95111 Rehau**

at the locations

**„C-R+D MAT Zentrallabor reh“, Brauhausstraße 10, 95111 Rehau**  
**„C-R+D MAT Zentrallabor Y“, Ytterbium 4, 91058 Erlangen**

Tests in the fields:

**imaging, spectroscopic, thermic, physical, mechanic-technological and other examinations of plastics and their products**

**Within the scope of accreditation marked with \*), the testing laboratory is permitted, without be-ing required to inform and obtain prior approval from DAkkS, to use standards or equivalenttest-ingmethods listed here with different issue dates.The testing laboratory maintains a current list of all testing procedures within the flexible scope of accreditation.**

The test methods are marked with the following symbols for the locations where these methods are executed:

R = Rehau

Y = Erlangen

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

*The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.  
<https://www.dakks.de/en/content/accredited-bodies-dakks>*

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**1 Imaging procedures**

LB00217 2018-12	Analysis of polymers, powders (fillers etc.) via SEM and EDX	R
LB00238 2011-11	Preparation of light microscopic images	R
LB00250 2017-07	Preparation of light microscopic images	Y

**2 Spectroscopic methods \***

DIN 22022-3 2001-02	Solid fuels - Determination of trace elements - Part 3: AAS-flame method <i>(here: for plastics and plastic products)</i>	R
DIN 22022-5 2001-02	Solid fuels - Determination of trace elements - Part 5: Atomic absorption spectrometry applying the electrothermal atomization <i>(here: for plastics and plastic products)</i>	R
LB00218 2017-02	IR-spectroscopic analysis with FTIR instruments <i>(not included within flexible scope)</i>	R
LB00117 2011-10	IR-spectroscopic analysis with FTIR instruments <i>(not included within flexible scope)</i>	Y

**3 Thermal methods \***

DIN EN 728 1997-03	Plastics piping and ducting systems - Polyolefin pipes and fittings - Determination of oxidation induction time <i>(withdrawn standard)</i>	R
DIN EN ISO 1172 1998-12	Textile-glass-reinforced plastics - Prepregs, moulding compounds and laminates - Determination of the textile-glass and mineral-filler content - Calcination methods <i>(here: Method A)</i>	R

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DIN EN ISO 11357-1 2017-02	Plastics - Differential scanning calorimetry (DSC) - Part 1: General principles	R
DIN 51004 1994-06	Thermal analysis - Determination of melting temperatures of crystalline materials by differential thermal analysis <i>(withdrawn standard)</i>	R
DIN 53765 1994-03	Testing of plastics and elastomeres - Thermal analysis - DSC- method <i>(withdrawn standard)</i>	R
DIN 75200 1980-09	Determination of burning behaviour of interior materials in motor vehicles	Y
DIN 75201 2011-11	Determination of the fogging characteristics of trim materials in the interior of automobiles	R
PSA Peugeot-Citroën D45 1727 2012-12	Trim materials for interior and passenger compartment parts fogging - Condensation	R
VW PV 3015 2019-03	Fogging Behavior of Materials Used in the Vehicle Interior - Gravimetric Determination of Condensable Components	R
SAE J 1756 2006-08	Test procedure to determine the fogging characteristics of interior automotive materials	R
ASTM D 3895 2019	Standard Test Method of Oxidative-Induction Time of Poly- olefins by Differential Scanning Calorimetry	R
FMVSS 302 2017-10	Federal Motor Vehicle Safety Standard Passenger Cars Multi- purpose, Passenger Vehicles, Trucks and Buses - Determina- tion of Flammability of Interior Materials	Y
Directive 95/28/EC of the European Parliament and of the council of 24 October 1995	Burning behaviour of materials used in the interior construction of certain categories of motor vehicle	Y

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**4 Physical and mechanical-technological methods \***

DIN EN ISO 4892-1 2016-10	Plastics - Methods of exposure to laboratory light sources - Part 1: General guidance	R
DIN EN ISO 4892-2 2013-06	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	R
DBL 5416 2015-06	Multi-impact test (here: <i>Annex D</i> )	R
DIN EN ISO 20567-1 2017-07	Paints and varnishes - Determination of stone-chip resistance of coatings - Part 1: Multi-impact testing	R
DIN EN ISO 3501 2015-06	Plastics piping systems - Mechanical joints between fittings and pressure pipes - Test method for resistance to pull-out under constant longitudinal force	Y
DIN EN ISO 3503 2015-06	Plastics piping systems - Mechanical joints between fittings and pressure pipes - Test method for leaktightness under internal pressure of assemblies subjected to bending	Y
DIN EN ISO 8256 2005-05	Plastics - Determination of tensile-impact strength (here: <i>only method A</i> )	R
DIN EN ISO 1183-1 2019-09	Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (here: <i>only method A</i> )	R
ISO 1183-1 2019-03	Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (here: <i>only method A</i> )	R
ISO 37 2017-11	Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties	R

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DIN ISO 34-1 2016-09	Rubber, vulcanized or thermoplastic - Determination of tear strength - Part 1: Trouser, angle and crescent test pieces	R
DIN EN ISO 75-1 2013-08	Plastics - Determination of temperature of deflection under load - Part 1: General test method	R
DIN EN ISO 75-2 2013-08	Plastics - Determination of temperature of deflection under load - Part 2: Plastics and ebonite	R
DIN EN ISO 8256 2005-05	Plastics - Determination of tensile-impact strength	R
DIN EN ISO 178 2019-08	Plastics - Determination of flexural properties	R, Y
DIN EN ISO 179-1 2010-11	Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test	R
DIN EN ISO 180 2020-03	Plastics - Determination of Izod impact strength	R
DIN EN ISO 306 2014-03	Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST)	R
DIN EN ISO 527-1 2019-12	Plastics - Determination of tensile properties - Part 1: General principles	R, Y
DIN EN ISO 527-2 2012-06	Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics	R, Y
DIN EN ISO 527-3 2019-02	Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets	R, Y
DIN EN ISO 527-4 1997-07	Plastics - Determination of tensile properties - Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites	R
DIN ISO 815-1 2016-09	Rubber, vulcanized or thermoplastic - Determination of compression set - Part 1: At ambient or elevated temperatures	R

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DIN EN ISO 868 2003-10	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness) (here: <i>only type A</i> )	R
DIN EN 1464 2010-06	Adhesives - Determination of peel resistance of adhesive bonds - Floating roller method	R
DIN EN 1465 2009-07	Adhesives - Determination of tensile lap-shear strength of bonded assemblies	R
DIN EN 1939 2003-12	Self adhesive tapes - Determination of peel adhesion properties ( <i>withdrawn standard</i> )	R
DIN EN ISO 29862 2019-09	Self adhesive tapes - Determination of peel adhesion properties	R
DIN EN ISO 2039-1 2003-06	Plastics - Determination of hardness - Part 1: Ball indentation method	R
DIN EN ISO 2409 2013-06	Paints and varnishes - Cross-cut test	R
DIN EN ISO 3451-1 2019-05	Plastics - Determination of ash - Part 1: General methods	R
DIN ISO 6133 2017-04	Rubber and plastics - Analysis of multi-peak traces obtained in determinations of tear strength and adhesion strength	R, Y
DIN 53504 2017-03	Testing of rubber - Determination of tensile strength at break, tensile stress at yield, elongation at break and stress values in a tensile test	R, Y
DIN 53435 2018-09	Testing of plastics - Bending test and impact test on dynstat test specimens	R
DIN 53505 2000-08	Testing of rubber - Shore A and Shore D hardness test ( <i>withdrawn standard</i> )	R
DIN ISO 7619-1 2012-02	Rubber, vulcanized or thermoplastic - Determination of indentation hardness - Part 1: Durometer method (Shore hardness) (here: <i>only shore hardness A</i> )	R

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ASTM D 624 2000	Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers	R
ASTM D 638 2014	Standard Test Method for Tensile Properties of Plastics	R, Y
ASTM D 790 2017	Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials	R
DIN EN ISO 60 2000-01	Plastics - Determination of apparent density of material that can be poured from a specified funnel	R

**5 Testing on pipes, hoses and hollow bodies \***

ISO 18553 2002-03	Method for the assessment of the degree of pigment or carbon black dispersion in polyolefin pipes, fittings and compounds	Y
DIN EN ISO 6259-1 2015-08	Thermoplastics pipes - Determination of tensile properties - Part 1: General test method	Y
DIN EN 744 1995-08	Plastics piping and ducting systems - Thermoplastics pipes - Test method for resistance to external blows by the round-the-clock-method <i>(withdrawn standard)</i>	Y
DIN EN ISO 3127 2018-01	Thermoplastics pipes - Determination of resistance to external blows - Round-the-clock method	Y
DIN EN ISO 11173 2018-02	Thermoplastics pipes - Determination of resistance to external blows - Staircase method	Y
ISO 6259-3 2015-06	Thermoplastics pipes - Determination of tensile properties - Part 3: Polyolefin pipes	Y
DIN EN ISO 9080 2013-02	Plastics piping and ducting systems - Determination of the long-term hydrostatic strength of thermoplastics materials in pipe form by extrapolation	Y

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DIN EN ISO 9969 2016-06	Thermoplastics pipes - Determination of ring stiffness	Y
DIN EN ISO 13479 2010-01	Polyolefin pipes for the conveyance of fluids - Determination of resistance to crack propagation - Test method for slow crack growth on notched pipes	Y
DIN EN ISO 2505 2005-08	Thermoplastics pipes - Longitudinal reversion - Test methods and parameters	Y
DIN EN ISO 3503 2015-06	Plastics piping systems - Mechanical joints between fittings and pressure pipes - Test method for leaktightness under internal pressure of assemblies subjected to bending	Y
DIN EN 743 1994-03	Plastics piping and ducting systems - Thermoplastics pipes - Determination of the longitudinal reversion Method B (determination of the reversion in air) <i>(withdrawn standard)</i>	Y
DIN EN 921 1995-01	Plastics piping systems - Thermoplastics pipes - Determination of resistance to internal pressure at constant temperature <i>(withdrawn standard)</i>	Y
DIN EN 1277 2004-03	Plastics piping systems - Thermoplastics piping systems for buried non-pressure applications - Test methods for leak-tightness of elastomeric sealing ring type joints <i>(withdrawn standard)</i>	Y
DIN EN 1411 1996-03	Plastics piping and ducting systems - Thermoplastics pipes - Determination of resistance to external blows by the staircase method <i>(withdrawn standard)</i>	Y
DIN EN 1622 2006-10	Water quality - Determination of the threshold odour number (TON) and threshold flavour number (TFN) <i>(here: Determination of threshold flavour number)</i>	Y
DIN 8078 2008-09	Polypropylene (PP) pipes - PP-H, PP-B, PP-R, PP-RCT - General quality requirements and testing	Y

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DIN 16892 2019-10	Crosslinked polyethylene (PE-X) pipes - General quality requirements, testing	Y
DIN 16887 1990-07	Determination of the long-term hydrostatic pressure resistance of thermoplastics pipes	Y
DIN 53357 1982-10	Testing of plastics sheets - Adhesion test <i>(withdrawn standard)</i>	Y
DIN 53759 1975-02	Testing of plastics articles; determination of the effect of internal pressure on hollow objects by long-time test <i>(withdrawn standard)</i>	Y
DVGW G 5628 2016-09	Installation Systems for Gas Installation inside Buildings, consisting of Multi-Layer Pipes and their corresponding Fittings, for an Operating Pressure less than or equal to 100 mbar - Requirements and Testing	Y
DVGW VP 626 2005-05	Technical rules - pipe connectors and pipe joints for indoor gas pipes made of crosslinked polyethylene (PE-X) according DVGW-VP 624 (here: <i>Section 12.3, behaviour under excessive pressure</i> <i>Section 12.6, behaviour in temperature cycling test</i> <i>Section 12.10, behaviour in hydrostatic pressure test</i> <i>Section 12.12, behaviour in bending test (only type M-MK)</i> <i>Section 16, tightness</i> )	Y
DVGW GW 335-A3 2003-06	Plastic pipe systems for gas and water distribution - requirements and testings - Part A3: PE-Xa pipes	Y

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DVGW W 534 2015-07	Pipe connectors and pipe joints in drinking water installation Y (here: <i>Section 10.2.1, hydrostatic pressure behaviour</i> <i>Section 10.2.2, changes after heat treatment of pipe connectors made from PVC-C or other amorphous plastic materials</i> <i>Section 10.2.5, gel content of PE-X</i> <i>Section 12.2, surface condition/homogeneity of connectors</i> <i>Section 12.3, behaviour under excessive pressure</i> <i>Section 12.4, behaviour under low pressure</i> <i>Section 12.5, behaviour in pressure cycling test</i> <i>Section 12.6, behaviour in temperature cycling test</i> <i>Section 12.10, behaviour in hydrostatic pressure test</i> <i>Section 12.11, tensile strength</i> <i>Section 12.12, behaviour in bending test</i> <i>Section 12.14, connectors with forced leakiness)</i>	Y
DVGW W 542 2009-08	Multilayer pipes in drinking water installations - requirements and testings	Y
DVGW W 544 2007-05	Plastic pipes in drinking water installations	Y

**6 Resistance to climates and media \***

DIN EN 12293 1999-09	Plastics piping systems - Thermoplastics pipes and fittings for hot and cold water - Test method for the resistance of mounted assemblies to temperature cycling (here: <i>only section 5</i> ) ( <i>withdrawn standard</i> )	Y
DIN EN ISO 19893 2018-12	Plastics piping systems - Thermoplastics pipes and fittings for hot and cold water - Test method for the resistance of mounted assemblies to temperature cycling (here: <i>only section 6</i> )	Y

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DIN EN 12294 1999-10	Plastics piping systems - Systems for hot and cold water - Test method for leaktightness under vacuum (here: <i>only section 5</i> ) ( <i>withdrawn standard</i> )	Y
DIN EN ISO 13056 2018-12	Plastics piping systems - Pressure systems for hot and cold water - Test method for leaktightness under vacuum (here: <i>only section 6</i> )	Y
DIN EN 12295 1999-10	Plastics piping systems - Thermoplastics pipes and associated fittings for hot and cold water - Test methods for resistance of joints to pressure cycling (here: <i>only section 5</i> ) ( <i>withdrawn standard</i> )	Y
DIN EN ISO 19892 2018-12	Plastics piping systems - Thermoplastics pipes and fittings for hot and cold water - Test method for the resistance of joints to pressure cycling (here: <i>only section 6</i> )	Y
DIN EN 712 1994-03	Thermoplastics piping systems - End-load bearing mechanical joints between pressure pipes and fittings - Test method for resistance to pull-out under constant longitudinal force ( <i>withdrawn standard</i> ) (here: <i>only section 5</i> )	Y
DIN EN ISO 1402 2010-04	Rubber and plastics hoses and hose assemblies - Hydrostatic testing (here: <i>only section 5</i> )	Y
DIN EN ISO 6270-2 2018-04	Paints and varnishes - Determination of resistance to humidity - Part 2: Condensation (in-cabinet exposure with heated water reservoir)	R

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DIN 50018 2013-05	Testing in a saturated atmosphere in the presence of sulfur dioxide	R
DIN 50021 2006-10	Spray tests with different sodium chloride solutions <i>(withdrawn standard)</i>	R
DIN EN ISO 9227 2017-07	Corrosion tests in artificial atmospheres - Salt spray tests	R
DIN 68861-1 2011-01	Furniture surfaces - Part 1: Behaviour at chemical influence	R
DIN EN 12720 2014-02	Furniture - Assessment of surface resistance to cold liquids	R
DBL 5555 2014-04	Finished Parts and Semi-Finished Products Made of Organic Polymer Materials - General Conditions and Test Methods <i>(Method B and C)</i>	R

**7 Other test methods \***

ISO 10147 2011-09	Pipes and fittings made of crosslinked polyethylene (PE-X) - Estimation of the degree of crosslinking by determination of the gel content	Y
LB00040 2011-12	Volumetric flow and tightness testing for the evaluation of the NTNA (Needle Tube Needle Assembly) connection quality <i>(not included within flexible scope)</i>	Y

**abbreviations used:**

ASTM	American Society for Testing Materials
DBL	Daimler-Benz delivery instruction
DIN	German Institute for Standardization
DVGW	German Gas and Water Association r. a.
EN	European Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LB00xxx	In-house method of the REHAU AG + Co
NWQS	Nypro Worldwide Quality System
PSA	Peugeot Société Anonyme
SAE	Society of Automotive Engineers
VW PV	Volkswagen test specification