

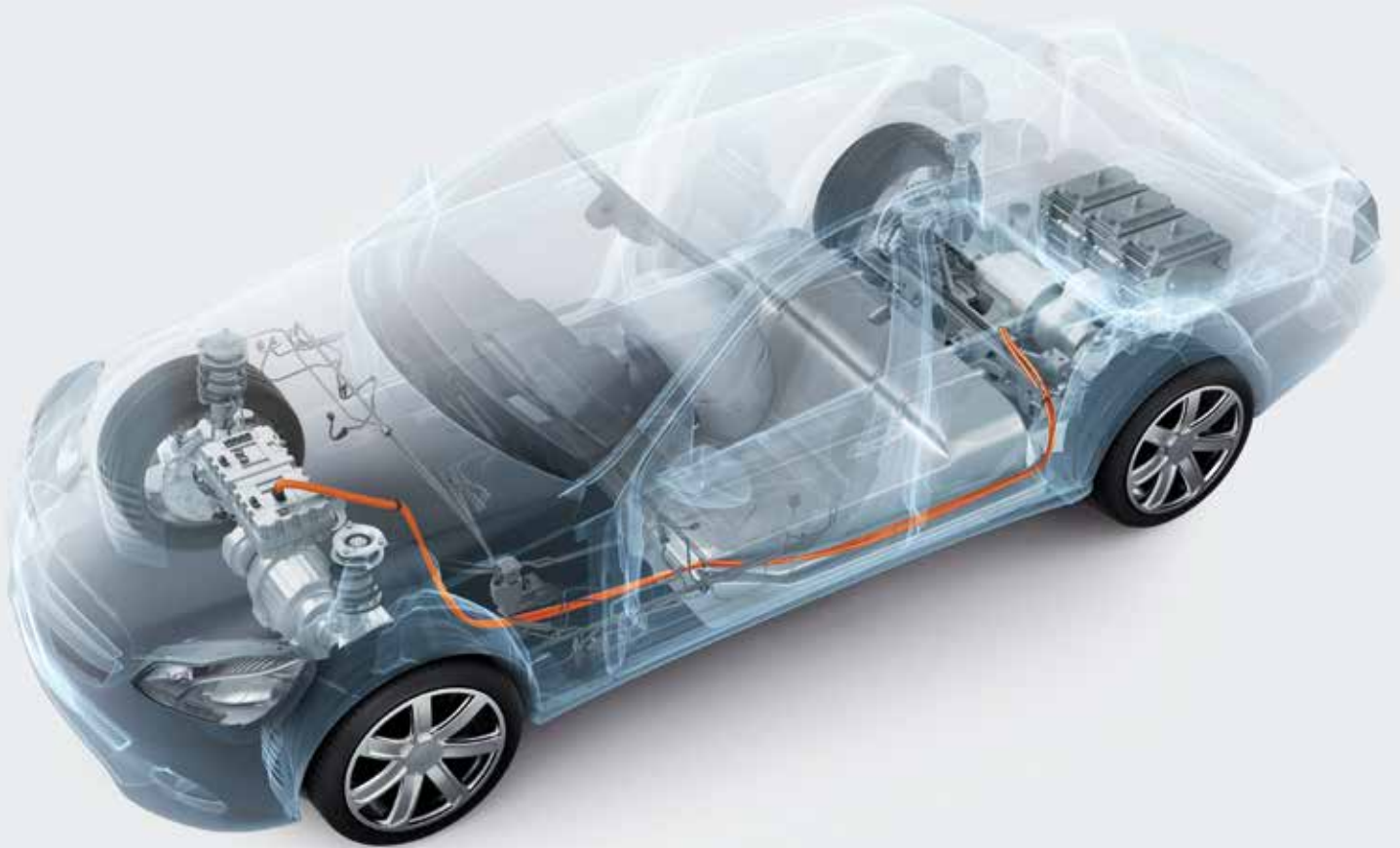


MOBILITY

**e-NOVATION FOR
CABLES AND CONNECTORS
POWERED BY SILICONES**



SILICONE CABLES AND CONNECTORS – THE POWER HIGHWAY



High-performance, silicone cables are required to be the safe and secure links between the components of electric or hybrid vehicles. With myriads of electrons needing to flow smoothly along dependable routes, reliability and safety in silicones is not only our objective, but that of car manufacturers as well.

e-Novation is Our Business

As a globally-operating company and a long-term partner of the automotive industry, we at WACKER have a wealth of know-how. Our strong R&D departments around the world not only create innovative and intelligent solutions but also optimize our customers' existing ones. We invite you to benefit from both our experience and our expertise in the world of silicones.

**Let's power up the future.
Let's put the wheels on e-Mobility.**

ELASTOSIL® is a registered trademark of Wacker Chemie AG.

POWER ENABLED

As insulating materials for wires and cables, silicone elastomers are utilized wherever strict electrical, mechanical or thermal requirements need to be met.

WACKER silicone rubber grades can be used at temperatures above 200 °C for long periods of time. Their high tear resistance ensures that the cables are not damaged when the car undergoes maintenance or if they encounter friction in the car's body. It is preferable to insulate a high voltage of 48 – 1000 V by using silicone rubber grades with high dielectric strength.

Silicones for EV – HEV Cables

- Insulate the flow of high currents from the body of the car and the environment under thermally challenging conditions
- Protect the conductors between the battery, power control unit, power train and other electrical units

Silicones for EV – HEV Cable Connectors

- Injection molded silicone connectors ensure tight, flexible and robust links between the cable and the power sources or loads.

Silicone Application Fields



High consistency silicone rubber (HCR) for extrusion of high voltage cables



Self-adhesive liquid silicone rubber (LSR) and high consistency silicone rubber (HCR) for molding of connectors



PRODUCT OVERVIEW

SILICONES FOR CABLES AND CONNECTORS IN EV – HEV

Cable Extrusion

Peroxide-curing high-consistency silicone rubber, general purpose

Product	Appearance	Hardness [ShA] ISO 7619-1	Specific Gravity [g/cm ³] ISO 1183-1 A	Tensile Strength [N/mm ²] ISO 37 Type 1	Elongation at Break [%] ISO 37 Type 1	Tear Resistance [N/mm] ASTM D 624 B
ELASTOSIL® R 401/60 S	Transparent	61	1.15	11	440	24
ELASTOSIL® R 401/70 S	Transparent	70	1.18	11	440	26
ELASTOSIL® R 510/60 S	Translucent	60	1.15	11	410	23
ELASTOSIL® R 510/70 S	Translucent	69	1.21	9.4	350	22

Cable Extrusion

Peroxide-curing high-consistency silicone rubber, high tear resistance

Product	Appearance	Hardness [ShA] ISO 7619-1	Specific Gravity [g/cm ³] ISO 1183-1 A	Tensile Strength [N/mm ²] ISO 37 Type 1	Elongation at Break [%] ISO 37 Type 1	Tear Resistance [N/mm] ASTM D 624 B
ELASTOSIL® R 420/60 S	Transparent	59	1.17	10	580	42
ELASTOSIL® R 420/70 S	Transparent	66	1.19	9	650	48

Cable Extrusion

Platinum-curing high-consistency silicone rubber, high tear resistance

Product	Appearance	Hardness [ShA] ISO 7619-1	Specific Gravity [g/cm ³] ISO 1183-1 A	Tensile Strength [N/mm ²] ISO 37 Type 1	Elongation at Break [%] ISO 37 Type 1	Tear Resistance [N/mm] ASTM D 624 B
ELASTOSIL® R <i>plus</i> 4305/60 S	Transparent	57	1.17	9.9	650	41
ELASTOSIL® R <i>plus</i> 4305/70	Transparent	70	1.18	10	640	39



Cable Connector:
Kindly provided by Rosenberger
Hochfrequenztechnik GmbH & Co. KG



Single Wire Seals

PRODUCT OVERVIEW

SILICONES FOR CABLES AND CONNECTORS IN EV – HEV

Injection Molding of Connector Seals Liquid Silicone Rubber

Product	Main Characteristics	Appearance	Hardness [ShA] ISO 7619-1	Specific Gravity [g/cm ³] ISO 1183-1 A	Tensile Strength [N/mm ²] ISO 37 Type 1	Elongation at Break [%] ISO 37 Type 1	Tear Resistance [N/mm] ASTM D 624 B	Compression Set [%] (22 h/175°C) DIN ISO 815-1
ELASTOSIL® LR 3065/30	Low coefficient of friction	Transparent	30	1.12	8.2	720	24	20
ELASTOSIL® LR 3065/50	Low coefficient of friction	Transparent	50	1.13	9	480	29	15
ELASTOSIL® LR 3070/50	Self adhesion	Transparent	52	1.1	8	450	20	27*
ELASTOSIL® LR 3070/60	Self adhesion	Transparent	57	1.11	7.7	420	23	23*
ELASTOSIL® LR 3072/30	Self adhesion, oil bleeding	Opaque	32	1.1	7.5	680	16	24*
ELASTOSIL® LR 3072/40	Self adhesion, oil bleeding	Opaque	39	1.11	8.4	600	24	20*
ELASTOSIL® LR 3072/50	Self adhesion, oil bleeding	Opaque	50	1.12	8.2	540	23	10*
ELASTOSIL® LR 3841/50	Oil bleeding	Opaque	50	1.13	9.5	490	30	13
ELASTOSIL® LR 3842/40	Oil bleeding	Opaque	38	1.12	8	650	25	16
ELASTOSIL® LR 3842/50	Oil bleeding	Opaque	50	1.13	9.2	460	28	12
ELASTOSIL® LR 3842/60	Oil bleeding	Opaque	60	1.14	10.2	450	34	14
ELASTOSIL® LR 3842/70	Oil bleeding	Opaque	68	1.15	9	380	30	14
ELASTOSIL® LR 3843/30	Oil bleeding	Opaque	30	1.12	8	700	20	19
ELASTOSIL® LR 3844/20	Oil bleeding	Opaque	21	1.09	6.5	800	17	17
ELASTOSIL® LR 3844/30	Oil bleeding	Opaque	30	1.1	7.2	700	22	17
ELASTOSIL® LR 3844/40	Oil bleeding	Opaque	42	1.14	9	600	24	15
ELASTOSIL® LR 3844/50	Oil bleeding	Opaque	50	1.13	9	500	30	13
ELASTOSIL® LR 3846/20	Oil bleeding	Opaque	21	1.09	6.1	800	16	14
ELASTOSIL® LR 3846/30	Oil bleeding	Opaque	29	1.11	7	750	19	17
ELASTOSIL® LR 3856/20	Oil bleeding	Opaque	22	1.08	6.2	850	16	18
ELASTOSIL® LR 3856/30	Oil bleeding	Opaque	32	1.09	6.5	650	22	15

Injection Molding of Connector Seals Platinum-Curing High Consistency Silicone Rubber

Product	Main Characteristics	Appearance	Hardness [ShA] ISO 7619-1	Specific Gravity [g/cm ³] ISO 1183-1 A	Tensile Strength [N/mm ²] ISO 37 Type 1	Elongation at Break [%] ISO 37 Type 1	Tear Resistance [N/mm] ASTM D 624 B	Compression Set [%] (22 h/175°C) DIN ISO 815-1
ELASTOSIL® R plus 4070/60	Self adhesion	Translucent	62	1.17	10	650	43	65*
ELASTOSIL® R plus 4806/20	Oil bleeding	Opaque	20	1.05	6	950	17	17
ELASTOSIL® R plus 4846/30	Oil bleeding	Opaque	30	1.11	10	1,000	32	19

*Compression set is measured at 22 h/125°C.



WACKER

Wacker Chemie AG
Hanns-Seidel-Platz 4
81737 München, Germany
Tel. +49 89 6279-1741
info@wacker.com

www.wacker.com

www.wacker.com/socialmedia



The data presented in this medium are in accordance with the present state of our knowledge but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this medium should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The information provided by us does not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the product for a particular purpose.