



KLEIBERIT®

ADHESIVES • COATINGS

Innovative bonding in the Automotive Industry

Get in!



Highest Quality Standards • Comprehensive Service • Reliable Delivery

Competence **PUR**

Overview



FASTteam

Filter-Automotive-Sandwich-Textile





Content	Page
Adhesive Groups	4-5
Cockpit	6-7
Clips/Retainer	8-9
Trunk	10-11
Lamination	12-13
Exterior	14-15
Product Tables	16-19
Company	20-21
KLEIBERIT International	22-23

Global Manager FAST products:

Peter Becker +49 7244 62-231
peter.becker@kleiberit.com

Sales Engineers:

Europe:
Dieter Rösen, Sales Engineer +49 172 631 2856
dieter.roesen@kleiberit.com

Martin Schindler, Sales Engineer +49 152 225 18033
martin.schindler@kleiberit.com

Turkey:
Erkut Akcocuk, Sales Engineer +90 5321685759
erkut.akcocuk@kleiberit.com

Asia:

Teoh Hock Chin, Sales Engineer +65 975 587 70
teoh.hockchin@kleiberit.com

North America:

Justin van Dijk, FAST Sales Manager +1 704 843 3339
justin.vandijk@kleiberit.com

South America:

Emilio Abelenda, Sales Engineer +55 418 725 3434
emilio.abelenda@kleiberit.com

Adhesive Groups



Intensive research, competent development and customer oriented application technology are the foundation for the enormous success of KLEIBERIT adhesive systems in a variety of applications. Customers worldwide rely on the know-how resulting from decades of experience in the area of PUR adhesives and their applications.

Reactive PUR hotmelt adhesives, made in Germany, have gained a leading position in the global market – convincing the automotive, textile, filter, furniture and paper industries and have made KLEIBERIT a global trendsetter in all matters concerning bonding.

Reactive PUR-Hotmelts

Extraordinary green strength for the shortest press times. 100% solids content, solvent-free, glue line is extremely resistant against heat, cold, moisture and chemicals. Permanent flexibility, even at low temperatures.

The properties of reactive PUR hotmelt adhesives are unsurpassed and the fields of application are diverse – from assembly bonding to flat lamination.

1C/2C PUR-Adhesive

Solvent-free, 100% solids content and top adhesive properties on several common substrates. These are the main properties of PUR hotmelt adhesives. These adhesive systems are particularly characterized by their performance in regards to the high requirements concerning climate change conditions, especially high temperature resistance.



Product News

KLEIBERIT 713.0 Monomer reduced and sprayable PUR-Hotmelt with **long open time** and **high green strength**

KLEIBERIT 713.4 Monomer reduced PUR-Hotmelt with **high green strength** for reactivation processes – **cost optimized!**

KLEIBERIT 713.7.30 PUR-Hotmelt with **high green strength** for reactivation processes, **complies with VDA 278**

KLEIBERIT 724.5 PO-Hotmelt with **long open time** and **no stringing**

Reactive PO-Hotmelts

Bonds with reactive PO hotmelt adhesive combine the properties of PO hotmelts with the additional advantages of a long-lasting glue line, which cannot be re-melted, with maximum temperature, water and chemical resistance.

PO-Hotmelts

Good adhesion properties to different plastics coupled with high temperature resistance with an economical price-performance ratio. The adhesion to polyolefins without pre-treatment and the elastic properties of the glue line are especially important features of PO hotmelt adhesives.

Waterbased Adhesives

Water based, solvent-free adhesives are used for a variety of applications in the automotive industry. These adhesives feature good adhesion to different materials and high green strength. The very good application properties (uniform application, precise coat weights) are advantageous for 3D shaped substrates or in areas with tension.

Pressure Sensitive Hotmelt Adhesives

Permanent tackiness during the production process, an elastic glue line with good moisture resistance as well as good adhesion to nearly all surfaces – these are the main properties of KLEIBERIT pressure sensitive adhesives.

STP-Adhesives

- moisture curing
- extremely resistant elastomer
- exceptional resistance against heat/cold/water/UV light
- primerless bonding on metals, glass, ceramic and different plastics (e.g. GRP)

We would be happy to find a future-oriented use for you.



Fields of Application

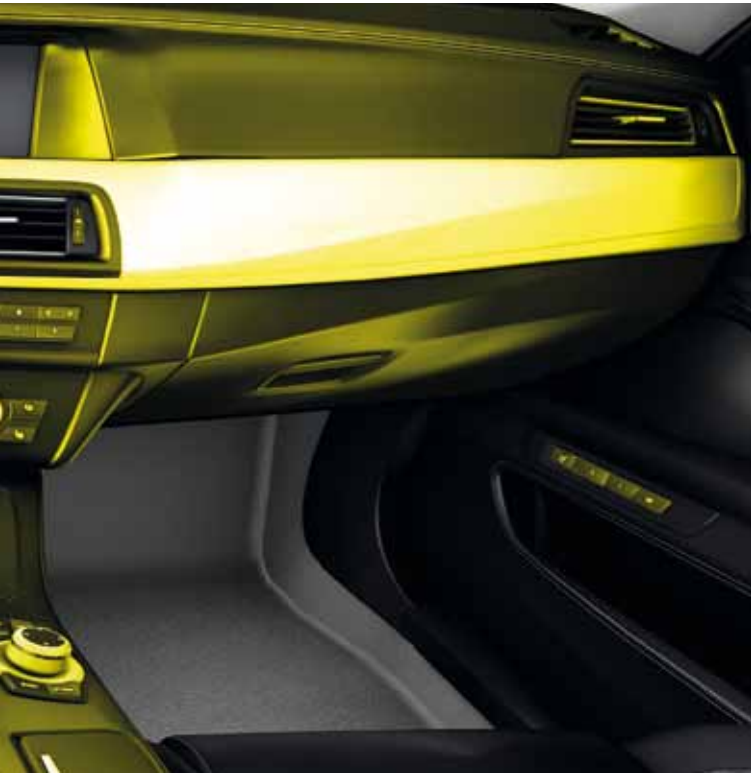


An increasing number of new and high quality materials are being used in car interiors. Various combinations of substrates as well as stringent requirements and norms in production need smart and competent answers concerning bonding technology. We are the specialists with decades of experience.

The trend for adhesive applications in the cockpit area is towards the increasing use of reactive PUR hotmelt adhesives. As a result, the production process requirements are met as well as the unique processing properties:

- One-sided adhesive application
- Short open time for pre-coating on PVC/TPO compact or foam films
- Very high temperature and climate resistance

Interesting applications for PUR hotmelt adhesives in the cockpit include the assembly bonding of control buttons. The extreme adhesion and bonding properties are a major advantage. Fast setting enables optimal handling for subsequent processing.



Armrest



Glove Compartment Door



Instrument Panel



Operator Button



Center Console Covering

Applications	Substrates	Product	Product group
Armrest	ABS or PP with synthetic leather cover	756.2	Reactive Polyolefin HM
Glove Compartment Door	ABS-PC	703.3.03 724.5	Reactive PUR-HM Polyolefin HM
Instrument Panel	PP/TPO	703.3.33 713.4 756.2	Reactive PUR-HM Reactive PUR-HM Reactive Polyolefin HM
Operator Button	AlMg / ABS (chromed)	703.5	Reactive PUR-HM
Center Console Covering	Wooden blind (wood on fleece)	706.0.09 713.0	Reactive PUR-HM

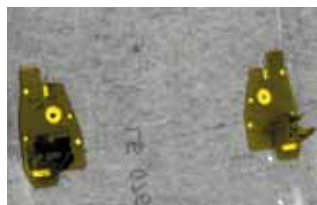
Fields of Application



Many detailed solutions can only be securely realized by the assembly bonding of clips and retainers. A complete range of special adhesive systems are used for these interesting applications. Above all, an intelligent application technology coupled with the highest requirements on the bond quality is also required.

Several elements in vehicle interiors, such as coverings and liners, are attached using holders like clips and retainers. Thermoplastic (PO) as well as reactive (PUR) assembly adhesives are used for these applications.

Complex detailed solutions and design requirements can be functionally and efficiently achieved with this assembly technology. Perfect application properties when used with adhesive robots and fast handling stability optimize the entire process flow.



Clips/Retainer

Applications	Substrates	Product	Product group
Clips / Retainer	ABS / wood fiber ABS-PC / ABS-PC PP / wood fiber	703.5 703.3.33 713.7 750.0	Reactive PUR-HM Reactive PUR-HM Reactive PUR-HM Polyolefin HM

Fields of Application

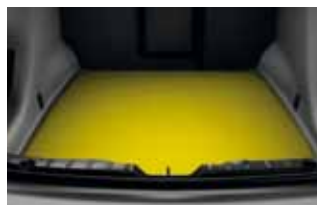


The use of adhesives for textile materials, foam elements, and lightweight components, and combinations of these materials, enable structurally simple solutions.

Nevertheless, the adhesives and the bonded elements must meet the requirements resulting from demanding climate change conditions in the trunk area.

Modern car trunks, especially station wagons with a large storage space, are complex. Individual elements, such as the trunk floors, rear seat backs, rear decks, rear blinds, etc., have been produced for several years with KLEIBERIT adhesive systems. Both dispersion adhesives and an increasing amount of reactive PUR systems are in use. In particular, the low emissions properties of the adhesives must be highlighted. Lamination includes PVC films to hardboard panels or aluminum; carpet materials to PU honeycomb panels, PP or hardboard panels.

Especially for shaped parts or edgefolding applications, the high green strength of the adhesives systems are advantageous, in addition to the high temperature and climate change resistance.



Trunk Floor



Package Tray



Rear Seat Carpet Covering

Applications	Substrates	Product	Product group
Trunk Floor	PUR-Sandwich / PES-Carpet	416.3 706.0.09 713.4 713.704	Special dispersion Reactive PUR-HM Reactive PUR-HM Reactive PUR-HM
Package Tray	PES carpet or fleece / wood fiber	703.3.03 724.1	Reactive PUR-HM Polyolefin HM
Rear Seat Carpet Covering	PES carpet / ABS	457.1 713.4 713.7	Dispersion Reactive PUR-HM Reactive PUR-HM

Fields of Application



Lightweight, noise reducing, and above all, a natural feel are characteristics which make a difference in the car interior experience. Complex requirements, such as the field of application, the application properties or short cycle times and high green strength, characterize the specific properties of the KLEIBERIT product families.

Fine textile materials, modern film design, and real leather, wood or metal trim are a real challenge for bonding technologies. For the various bonding processes and the high standards regarding durability, temperature and climate properties, KLEIBERIT offers a complete line of specific adhesive systems, such as dispersion adhesives, 1C/2C PU adhesives, PO hotmelt adhesives, reactive PO hotmelt adhesives and, above all, reactive PUR hotmelt adhesives. Important characteristics include the possibility for one-sided adhesive application, high green strength at the activation temperature and the warm demolding of bonded elements.



A-Pillar Covering



Headliner Lamination



Door Covering Lamination



Seat Backrest

Applications	Substrates	Product	Product group
A-Pillar Covering	ABS-PC PP-PC	703.3.33 713.7.04	Reactive PUR-HM
Headliner Lamination	Textile/foam lamination bonded to PUR shell	713.4 713.4.04	Reactive PUR-HM Reactive PUR-HM
Door Covering Lamination	Wood finishing / ABS	439.3 457.1	Dispersion
Seat Backrest	PP-GMT / PES-carpet	724.5 725.1	Polyolefin HM Polyolefin HM

Fields of Application



Design and functionality are highly interdependent. The introduction of new shapes and the development of detailed solutions are challenges to the adhesive. The high quality requirements of KLEIBERIT are a precondition for process security and flexibility for creating ideas.

Complex design, increasing component size and external influences, such as heat, cold and moisture, are important parameters in the bonding of headlamps. Therefore, particular adhesive properties are required: high elasticity, adhesive and sealant functionality, quick setting.

For the assembly of emblems, the adhesive system's compatibility with the material coatings as well as fast handling stability for subsequent processing of the components is necessary.



Emblems



Headlamp

Applications	Substrates	Product	Product group
Emblems	Alu CT-foil ABS-chromed	703.3.33	Reactive PUR-HM
Headlamp	PP / PC	5170	2C PUR

Adhesives for automotive application

	Product	Monomer reduced, MDI < 1,0 %	Viscosity [mPa·s]		Open time*	Open time*	Application methods
					bead 3 mm	film 90 µm	
1C PUR	504.9	–	3,900 ± 800 (at 20 °C)	–	–	120 min	• Roller
	508.3	–	12,000 ± 2,000 (at 20 °C)	–	15 min	15 min	• Roller • Spatula
2C PUR	517.0	–	approx. 130,000 (at 23 °C)	–	approx. 4 min	–	• 2C mixing and dosing unit
Reactive PUR-Hotmelts	703.3.03	✓	27,000 ± 5,000 (at 120 °C)	14,000 ± 3,000 (at 140 °C)	30 sec	10 sec	• Spray • Roller • Nozzle
	703.3.33	✓	55,000 ± 10,000 (at 120 °C)	30,000 ± 5,000 (at 140 °C)	30 sec	5 sec	• Roller • Nozzle
	703.5		11,000 ± 4,000 (at 120 °C)	6,000 ± 2,000 (at 140 °C)	30 sec	10 sec	• Spray • Roller • Nozzle
	706.0.09	✓	12,000 ± 3,000 (at 120 °C)	6,000 ± 2,000 (at 140 °C)	45 sec	3 min	• Spray • Roller • Nozzle
	713.0.99	✓	30,000 ± 5,000 (at 120 °C)	15,000 ± 3,000 (at 140 °C)	40 s	2 min	• Spray • Roller • Nozzle
	713.0	✓	30,000 ± 5,000 (at 120 °C)	15,000 ± 3,000 (at 140 °C)	40 sec	2 min	• Spray • Roller • Nozzle
	713.2		55,000 ± 10,000 (at 120 °C)	30,000 ± 5,000 (at 140 °C)	30 sec	5 sec	• Nozzle • Roller
	713.4	✓	60,000 ± 15,000 (at 120 °C)	35,000 ± 10,000 (at 140 °C)	30 sec	5 sec	• Nozzle • Roller
	713.4.04	✓	30,000 ± 5,000 (at 120 °C)	17,000 ± 3,000 (at 140 °C)	30 sec	5 sec	• Spray • Roller • Nozzle
	713.7	✓	100,000 ± 20,000 (at 120 °C)	60,000 ± 15,000 (at 140 °C)	20 sec	10 sec	• Nozzle • Roller
	713.7.04	✓	50,000 ± 10,000 (at 120 °C)	25,000 ± 5,000 (at 140 °C)	25 sec	10 sec	• Nozzle • Roller
	713.7.30		100,000 ± 20,000 (at 120 °C)	40,000 ± 10,000 (at 140 °C)	10 sec	10 sec	• Nozzle • Roller
PO-Hotmelts	724.1	–	8,000 ± 2,000 (at 180 °C)	5,000 ± 1,000 (at 200 °C)	–	45 sec	• Spray • Roller • Nozzle
	724.5	–	8,000 ± 2,000 (at 180 °C)	5,000 ± 1,500 (at 200 °C)	–	35 sec	• Spray • Roller • Nozzle
	725.1	–	4,500 ± 1,500 (at 180 °C)	–	20 sec	–	• Spray • Roller • Nozzle
	727.3	–	18,000 ± 3,000 (at 160 °C)	9,000 ± 2,000 (at 180 °C)	30 sec	permanently tacky	• Spray • Roller • Nozzle
Reactive PO-HM	756.2	–	26,000 ± 4,000 (at 180 °C)	16,000 ± 3,000 (at 200 °C)	40 sec	< 10 sec	• Roller • Nozzle
Pressure Sensitive HM	723.3	–	8,000 ± 1,500 (at 180 °C)	4,000 ± 1,000 (at 200 °C)	–	permanently tacky	• Nozzle • Roller



Characteristics/ Advantages	Fields of application
<ul style="list-style-type: none"> • High stiffness (rigidity) of the composites • Fast curing under heat 	Headliner production
<ul style="list-style-type: none"> • Short press times • High strength • Good weather resistance 	Roof reinforcement damping
<ul style="list-style-type: none"> • Fast curing • Permanently elastic • Solvent-free • Favorable fogging values 	Headlamp
<ul style="list-style-type: none"> • High green strength • Highly heat resistant, water resistant, very cold resistant, highly resilient bond • No stringing 	Armrest, side door, assembly, trunk floor, A-pillar outside covering
<ul style="list-style-type: none"> • Very high green strength • Highly heat resistant, water resistant, very cold resistant, highly resilient bond • Very good reactivation 	I-board, center console, side door, assembly, trunk floor, A-pillar
<ul style="list-style-type: none"> • Low process temperature • Highly heat resistant, water resistant, very cold resistant, highly resilient bond • No stringing 	Operator button, seat backrest, retainer
<ul style="list-style-type: none"> • Low process temperature • High green strength • Long open time 	Trunk floor
<ul style="list-style-type: none"> • Black • Very high green strength • Long open time 	Trunk floor
<ul style="list-style-type: none"> • Low process temperature • Very high green strength • Long open time 	Trunk floor
<ul style="list-style-type: none"> • Wide application window • Highly heat resistant, water resistant, very cold resistant, highly resilient bond 	I-board, side door, assembly, trunk floor
<ul style="list-style-type: none"> • Very high green strength • Good reactivation 	I-board, center console, side door, assembly, trunk floor, A-pillar
<ul style="list-style-type: none"> • Very high green strength • Good reactivation 	I-board, center console, side door, assembly, trunk floor, A-pillar
<ul style="list-style-type: none"> • Extremely high green strength for high restoring forces • Highly heat resistant, water resistant, very cold resistant, highly resilient bond 	Armrest, side door, assembly, trunk floor
<ul style="list-style-type: none"> • High green strength for high restoring forces • Highly heat resistant, water resistant, very cold resistant, highly resilient bond 	Armrest, side door, assembly, trunk floor
<ul style="list-style-type: none"> • Adhesive complies with VDA 278 • Highly heat resistant, water resistant, very cold resistant, highly resilient bond 	Side door, assembly, trunk floor
<ul style="list-style-type: none"> • High initial strength • Very good activation • High initial tack coupled with very good wetting properties • Long open time 	Armrest
<ul style="list-style-type: none"> • High initial strength • No stringing • Heat resistance up to 90 °C 	Armrest
<ul style="list-style-type: none"> • Heat resistance up to 100 °C • Very good activation properties • High initial strength • Foaming (FoamMelt®) • Good ageing resistance 	Seat backrest
<ul style="list-style-type: none"> • Very high green strength • High tackiness • Sprayable 	Acoustic damping
<ul style="list-style-type: none"> • Very high green strength • Highly heat resistant • Very cold resistant 	Dashboard Armrest
<ul style="list-style-type: none"> • Very good bond with wood based material • Long permanent tack • Long open time 	Acoustic damping

* According to KLEIBERIT test specification

Adhesives for automotive interior application

Product		Viscosity at 20 °C [mPa·s] (Dispersion)	Hardener	Hardener Viscosity at 20 °C [mPa·s]	Parts hardener (%)	Pot life hardener mixture [h]	Evaporation time (at room temperature)	Reactivation temperature [°C] (bond line)	Press time [sec.]	Heat resistance [°C]	
Automotive interior applications	416.3	Special Dispersion	2000 ± 500	810.0 (optional)	4 mm DIN cup: approx. 12 sec	5-10 (optional)	-	approx. 0-60 sec	-	80	
	439.3	Special Dispersion	800 ± 200	807.1 (blue) 807.2 (red) 807.3 (green)	approx. 1,400	5	approx. 8	30-60 min.	from 55	15-30	120
	450.7	1C PUR-Dispersion	2,200 ± 300	-	-	-	-	30-60 min.	from 70-75	15-30	120
	457.1	PUR-Dispersion with hardener	10,000 ± 2,000	807.1 (blue) 807.2 (red) 807.3 (green)	approx. 320	5	4-6	from 15 min.	from 55	15-30	120
	457.7	PUR-Dispersion with hardener	2,200 ± 300	807.1 (blue) 807.2 (red) 807.3 (green)	approx. 1,400	5	approx. 8	30-60 min.	from 50	15-30	120

*According to KLEIBERIT test specification



Application methods	Characteristics / Advantages	Fields of application
<ul style="list-style-type: none"> • Spray • Duo pistol (with Activator) 	<ul style="list-style-type: none"> • Solvent-free • Very short evaporation time • Long open time • Immediate high-tension bonding possible when adding KLEIBERIT Activator 810.0 	<p>Lamination / trunk floor</p>
<ul style="list-style-type: none"> • Spray • Roller 	<ul style="list-style-type: none"> • Solvent-free • Highly resilient bond • Very high green strength • Very long reactivation time (up to 72h*) 	<p>Lamination / door covering Lamination / headliner Lamination / seat shell Lamination / trunk floor</p>
<ul style="list-style-type: none"> • Spray 	<ul style="list-style-type: none"> • Solvent-free • Very high green strength • No pot life compared to 2K products • Very good climate change resistance • Long reactivation time (up to 72h*) • Very good moisture resistance 	<p>Lamination of 3D-shaped substrates</p>
<ul style="list-style-type: none"> • Roller 	<ul style="list-style-type: none"> • Solvent-free • Highly resilient bond • Very high green strength • Very good climate change resistance • Long reactivation time (up to 8h* with hardener) • Very good moisture resistance 	<p>Lamination / door covering Lamination / trunk floor</p>
<ul style="list-style-type: none"> • Spray 	<ul style="list-style-type: none"> • Solvent-free • Very high green strength • Very good temperature resistance • Very good climate change resistance • Long reactivation time (up to 24h* with hardener) • Very good moisture resistance 	<p>Lamination of 3D-shaped substrates</p>

Company



KLEIBERIT - a leading brand for 70 years in the world of adhesives for industry and handicraft.

KLEIBERIT adhesives have become indispensable in many areas of the modern world. Today the company is one of the most modern international research and development centers in the world of adhesives.

The product range is tailored to exactly meet customer requirements. Worldwide availability is ensured with an intelligent logistics concept.

KLEIBERIT Adhesives employs approx. 600 employees worldwide – automotive.kleiberit.com

Innovations

Working together with customers, ideas become new solutions. At the KLEIBERIT Technical Center in Weingarten, Germany, customers from all over the world regularly meet with research, development and application technology specialists to develop new possibilities and to prepare for future requirements.

For already about 15 years, KLEIBERIT adhesives have been successfully in use by the premium brands of renowned automotive suppliers and manufacturers in Europe.

Our Automotive Expert Team offers comprehensive advice and works side by side with customers, from the idea stage up to the final integration of the bonding solutions and processes according to international standards.



KLEIBERIT®

ADHESIVES • COATINGS



Customer Satisfaction

Every customer is number one with us.

With our worldwide network of Sales Engineers, and our presence in all markets worldwide, we provide our customers solutions and offers which are designed to meet their specific demands. Almost every national language is spoken within our on-site Sales Administration and Customer Consultation Centre in Weingarten. By working closely with machine and material manufacturers, we offer practical and innovative adhesive systems which meet a wide variety of international standards and norms. An intelligent logistics concept with a modern fully automated high rack warehouse ensures product availability at the right time at the right place.

Our Quality, Environmental and Energy Standard

KLEIBERIT places high value on product quality, customer service and sustainability. We have these requirements confirmed on an annual basis by an external and independent audit team according to ISO 9001, ISO 50001 and ISO 14001.



Environmental Management
ISO 14001
Quality Management
ISO 9001
Energy Management
ISO 50001

KLEIBERIT International



FASTteam

Filter-Automotive-Sandwich-Textile



Global Manager FAST products:

Peter Becker +49 7244 62-231
peter.becker@kleiberit.com

Sales Engineers:

Europe:

Dieter Rösen, Sales Engineer +49 172 631 2856

dieter.roesen@kleiberit.com

Martin Schindler, Sales Engineer +49 152 225 18033

martin.schindler@kleiberit.com

Turkey:

Erkut Akcocuk, Sales Engineer +90 5321685759

erkut.akcocuk@kleiberit.com

Asia:

Teoh Hock Chin, Sales Engineer +65 975 587 70

teoh.hockchin@kleiberit.com

North America:

Justin van Dijk, FAST Sales Manager +1 704 843 3339

justin.vandijk@kleiberit.com

South America:

Emilio Abelenda, Sales Engineer +55 418 725 3434

emilio.abelenda@kleiberit.com



KLEIBERIT®

ADHESIVES • COATINGS



KLEIBERIT Adhesives (Head Office)

KLEBCHÉMIE M. G. Becker GmbH & Co. KG
Weingarten/Germany

KLEIBERIT Adhesives UK

Coalville, Leicestershire, UK

KLEIBERIT Chimie S.a.r.l.

Reichstett, France

KLEIBERIT Adhesives USA Inc.

Waxhaw, North Carolina, USA

KLEIBERIT Adhesives of Canada Inc.

Toronto, Ontario, Canada

KLEIBERIT Adhesives Australia

Sydney, Australia

KLEIBERIT Russia

Moscow, Russia

KLEIBERIT Adhesives Japan

Osaka, Japan

KLEIBERIT Adhesives Beijing Co., Ltd.

Beijing, China

KLEIBERIT Adhesives Asia Pte. Ltd.

Singapore, Singapore

KLEIBERIT Adhesives India Private Ltd.

Bangalore, India

KLEIBERIT Kimya San. ve Tic. A.Ş.

Istanbul, Turkey

KLEIBERIT Belarus

Minsk, Belarus

KLEIBERIT-UKRAINE LLC.

Kiev, Ukraine

KLEIBERIT do Brasil Comércio de Adesivos e Vernizes Ltda.

Curitiba, Brasil

KLEIBERIT Adhesives México S.A. de C.V.

Mexico City, Mexico

KLEBCHEMIE

M. G. Becker GmbH & Co. KG
Max-Becker-Str. 4
76356 Weingarten/GERMANY
Phone: +49 7244 62-0
Fax: +49 7244 700-0
Email: info@kleiberit.com
www.kleiberit.com