



CMC Klebtechnik

CMC Klebtechnik GmbH, Rudolf-Diesel-Straße 4, 67227 Frankenthal, Germany



Technical adhesive tapes
Die-cut parts/Labels
Customized foil coatings

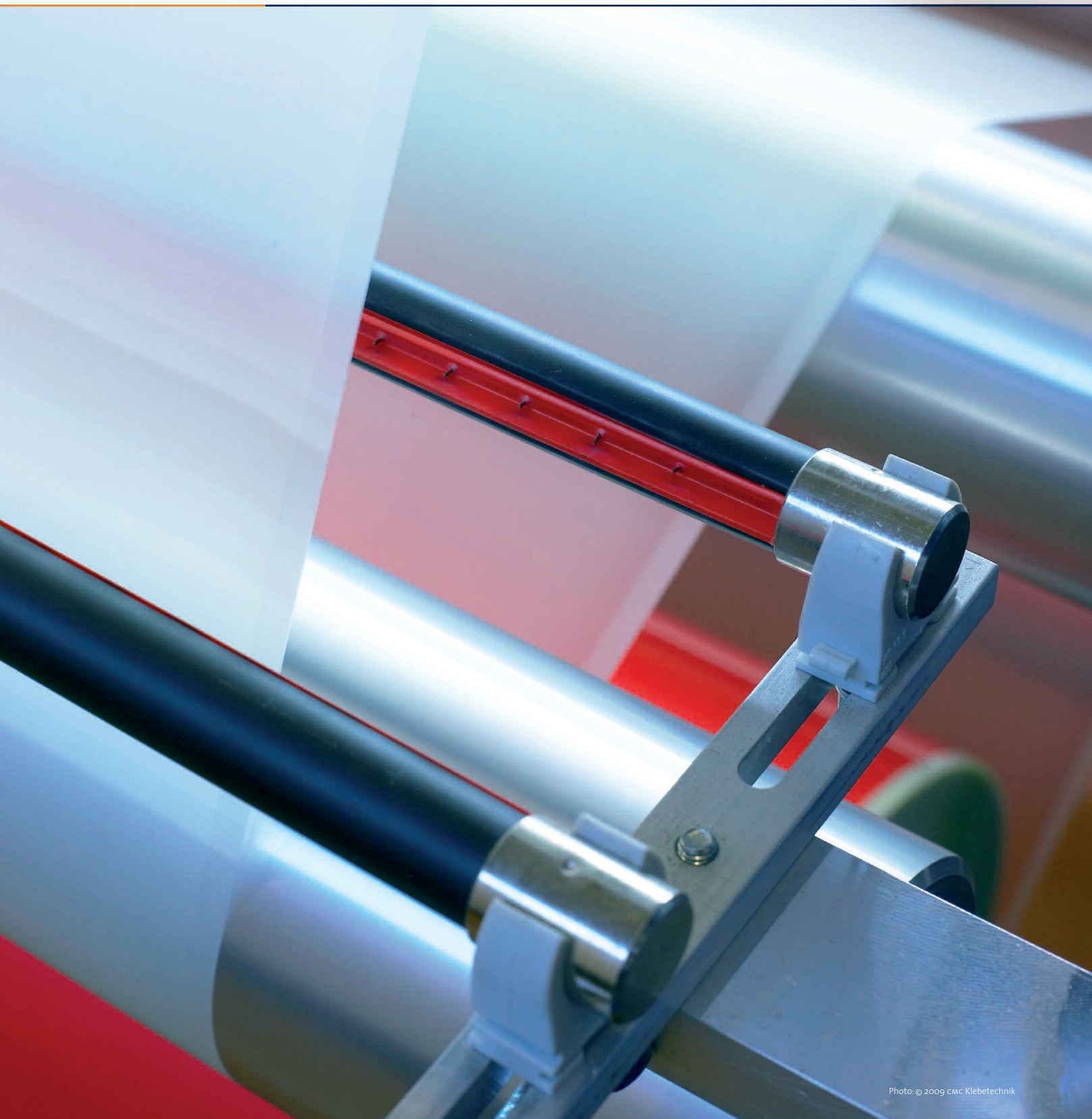


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If required, we also provide a covered version, and are glad to make variations.

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Customer-specific adjustments are our forte.

CMC Klebetechnik GmbH

CMC Klebetechnik GmbH

*is a medium-sized specialist for customer and
application-specific film coating solutions.*

History

- >> Founded in 1958 as the sales organisation of Colorit GmbH
- >> 1993 Moved manufacturing plant from Dusseldorf to Frankenthal
- >> 2001 Additional universal coating system started up with environmentally-friendly post-combustion unit
- >> 2006 Consolidation of the three operational divisions in Frankenthal on one common premises, clear development of the Products production area

Products

- >> Coatings for films, fabrics and fleece materials
- >> Technical adhesive tapes for industry
- >> Stamping parts and labels
- >> Die-cut parts and labels
- >> Accessories for processing adhesive tapes and labels

Our services

- >> Several flexible coating systems
- >> Variety of standard products
- >> Well-established specialised consulting and project assistance
- >> Customer-specific development and manufacturing
- >> Quality manufacturing in Germany
- >> Individual service, flexibility
- >> German manufacturer
- >> Customer-oriented work (for the benefit of the customer)
- >> Flexible when designing the product (length, width...)
- >> Own development, own pilot coater
- >> Customer-specific developments
- >> Coating specialist (Extensive standard range, but also specialities)
- >> Integrity of price and performance
- >> Reliable quality
- >> Partner for large scale industry and medium-sized businesses (open to all batch sizes)
- >> Co-operation with reputable suppliers from the international chemicals industry
- >> Experience in materials and application
- >> Specialised advice (including on site, not just a catalogue sale)
- >> Modern adhesive formulations
- >> IMDS, RoHS, UL, IEC, ISO 9001, ISO 14001



Our maxims

- >> Products in the suitable quality
- >> Great flexibility when designing products
- >> Responsible guidance
- >> Extensive support
- >> Short delivery times
- >> Fair price/performance ratio
- >> Customer-oriented manufacturing

Film coatings, customer-specific die-cut parts and labels, as well as technical adhesive tapes and films, are the product areas CMC Klebetechnik has worked in for more than five decades.

Extensive vertical integration, the flexibility of a medium-sized business, and experienced staff stand for customer-oriented, cost-effective solutions in almost all areas of industry.

In the consortium with Coloprint Tech-Films GmbH & Co.KG, CMC Klebetechnik offers the full range from technical films to ready-made sheets, rolls or even coated products.





Photo: © 2009 CMC Klebtechnik

If required, we also provide a covered version, and are happy to make variations.

Overview of adhesive tapes according to base materials

Adhesive tapes combine the positive properties of the films or fabrics used with the advantage of easy assembly, often possible without tools. Adhesive tapes insulate, seal, equalise, reduce vibration and corrosion, affix, protect and hold together. We offer you the right adhesive tape solutions for the variety of possible adhesive applications..

Base film	CMC type	Page
Electro-crepe paper	64160	8
Acetate silk fabric	35150, 35160	8
Polyester (PET)	10081, 10106, 10107, 10160, 10165, 10240, 10260, 10262, 10300, 10574, 10617, 10623, 10718, 10730, 10745, 10911, 10968, 10966, 11766, 12012, 21100, 30823, 33511, 86709	9, 10, 17, 18, 19, 20, 22, 23
Polyurethane (PU)	63630, 63910	17, 20
Nomex®	65100, 65120, 65758, 65838	10, 11
Kapton® (PI)	70100, 70105, 70110, 70115, 70210, 70300, 70752, 70791, 70792, 70821, 70849, 70864, 70880, 70961	11, 13, 17, 18, 20, 23
APTIV™ (PEEK)	72110	11, 17, 20, 22
Copper (Cu)	91100, 91105, 91743, 91815, 91834, 97035	12
Aluminium (AL)	90100, 90150, 90767	12, 13, 17, 20
Fibreglass	15421, 84150, 84165, 84170	10, 11, 17, 18, 22
Polytetrafluorethylen (PTFE)	75100, 76700	17, 19, 20, 22
Hostaflon® ET (ETFE)	77700	22
Polyethylene (PE)	26785	22
Teonex® (PEN)	61100	10
Laminate Polyester/Polyesterfleece	16100, 16701	9
Laminate PET/ Fibreglass	17719	9
Laminate PET/Crepe paper	18102	9
Laminate Nomex®/Fibreglass	19708, 19714	9, 10
Transfer adhesive film	15577, 15581, 15715	19, 23
Formex® (PP)	27817	22

Adhesive systems used



- AC – Acrylic adhesive
- RA – Rubber adhesive (synthetic)
- PS – Polysiloxane adhesive
- HS – Heat activated adhesive
- and other functional coatings where necessary

We can also use other base materials if required.

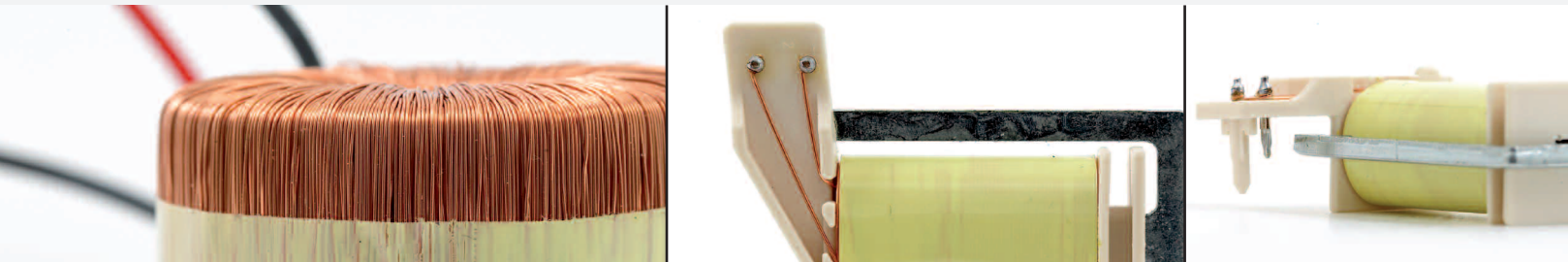
Electrical and electronics industry

Adhesive tapes mainly perform insulation tasks in the electrical industry. Requirements such as good electric strength, simple manufacturing and unproblematic usage together with all other components of an insulation system are met by all adhesive tapes offered. An extensive range for all conventional heat categories and requirement types grants manufacturers as much freedom as possible when designing products.

Heat category

CMC -Type	UL*	Base material	Colour	Base material thickness in mm	Total thickness in mm	Electric strength	Adhesive type	Properties and applications	Heat category
27817		PP film	natural/black	–	0,43	32.000 Veff		Flame resistant polypropylene film (FORMEX®) for stamping parts, excellent resistance to creepage current. Other thickness on request, self-adhesive finishing on request	E (115°C)
35150		Acetate silk fabric	black	0,160	0,200	1.700 Veff	K	For bundling, as a printable end coil winding, and to conceal wild coils	E
35160		Acetate silk fabric	white	0,160	0,210	1.700 Veff	K	For bundling, as a printable end coil winding, and to conceal wild coils	E
64160		Impregnated crepe paper	chamois	–	0,180	1.500 Veff	K	End tape binding for 50Hz transformers, to protect and cover	E

Heat category: E – 120°C, B – 130°C, F – 155°C, H – 180°C




Heat category B

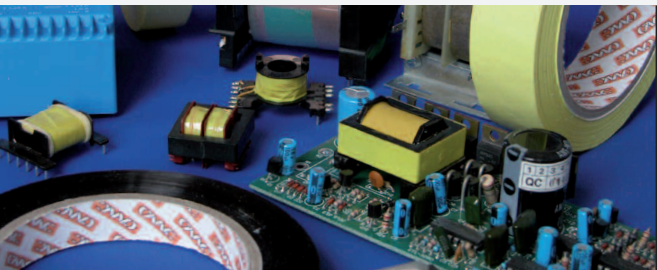
CMC -Type	UL*	Base material	Colour	Base material thickness in mm	Total thickness in mm	Electric strength	Adhesive type	Properties and applications	Heat category
10107		Polyester	whitish transparent	0,190	0,220	10.000 V ^{eff}	A	inherently stable, abrasion-proof insulation film for applications which rely on a very reliable insulation effect	B
10160		Polyester	yellow, colourless, dark	0,023	0,055	5.000 V ^{eff}	A	Hard, shear-proof adhesive, very good compatibility with many impregnating varnishes, protection of external coil layer, use in electrical engineering and coil manufacturing, for general insulation tasks, resistant to impregnating agents; low tack, which increases to excellent final adhesive strength	B
10165		Polyester	yellow, colourless	0,050	0,085	8.000 V ^{eff}	A	stable, tear-proof polyester adhesive tape with higher electric strength, good adhesion to enamelled wire, interlayer insulation	B
10240		Polyester	yellow, colourless	0,036	0,070	7.500 V ^{eff}	A	Good adhesion to enamelled wire, resistant to conventional impregnating varnishes, higher electric strength due to thicker film, for general insulation tasks, resistant to impregnating agents	B
10260		Polyester	beige, yellow, brown	0,023	0,065	5.000 V ^{eff}	K	Pliable adhesive with even pull-off for automatic manufacturing, good adhesive properties even on thin wires, good compatibility with impregnating agents and varnishes, very good tack, for general insulation tasks, good for machine manufacturing	B
10262		Polyester	white	0,023	0,050	5.000 V ^{eff}	A	stripe-coated polyester adhesive tape with non-adhesive edges. Ideal as a feathered tape for interlayer insulation due to non-adhesive edges	B
10300		Polyester	yellow, colourless	0,023	0,055	4.000 V ^{eff}	A	insulation adhesive tape similar to CMC 10160, but with printable rear side	B
10718		Polyester (PET)	transparent	0,023	0,113	6.000 V ^{eff}	A/A	Double-sided adhesive tape e.g. for the coil layer fixations with simultaneous electric separation, e.g. for end tape bindings	B
10966		Polyester	transparent, yellow, brown, blue	0,023	0,060	5.000 V ^{eff}	A	Pliable, soft adhesive, very good adhesive properties even on thin wires, good compatibility with impregnating and varnishing agents, automatic manufacturing possible through even haul-off from the roll	B
11766		Polyester-shrink film	colourless, black, transparent	0,030	0,055	5.000 V ^{eff}	A	Polyester adhesive tape shrinkable with heat, with good resistance to solvents, used for external insulation of electrolyte capacitors, choke coils and building components	B
16100			white	0,060	0,110	4.000 V ^{eff}	A	Pliable adhesive tape for phase insulation and end tape bindings, mechanically stabilised through electrically strong polyester film	B
16701		Polyester laminate /Polyester fleece	white	0,130	0,180	6.000 V ^{eff}	A	Pliable, electrically strong adhesive tape for phase insulation, to mask soldered joints and as end tape bindings. In 1–3 mm width also suitable for producing creepage distance according to DIN EN 61558	B
17719		PET laminate, fibreglass	colourless	140 g/m²	260 g/m²	5.000 V ^{eff}	A	Mechanically very robust adhesive tape for bundling and as phase insulation in electric motors, enormous power reserve due to fibreglass, very good adhesion strength	B
18102		Laminate, PET/crepe	chamois	0,150	0,200	6.000 V ^{eff}	A	Rigid, good insulation and equalising crepe adhesive tape with tear-proof polyester film, for end tape bindings, e.g. for end tape bindings	B
19708		Laminate, Nomex®/fibreglass		96 g/m²	303 g/m²	2.000 V ^{eff}	A	Extremely robust laminate made from saturable Nomex with fibreglass reinforcement, extremely high power reserve even in the event of a fault	B
86709		PET film, reinforced with glass fibres	colourless	0,120	0,170	5.000 V ^{eff}	A	Ideal for bundling due to glass fibre reinforcement, resistant to transformer oil	B

* Many adhesive tapes are listed in UL electric insulation systems (EIS).






Insulation adhesive tapes for higher temperatures

Heat category F									
CMC -Type	UL	Base material	Colour	Base material thickness in mm	Total thickness in mm	Electric strength	Adhesive type	Properties and applications	Heat category
19714 ^(a)		Laminate, Nomex®, fibre-glass	beige	0,250	0,380	9.000 V ^{eff}	A	Extremely robust laminate made from Nomex® 410, a 50µm polyester film and fibreglass. Very good dielectric strength due to the polyester film	F
61100		Teonex®	transparent	0,025	0,070	5.500 V ^{eff}	A	Insulation adhesive tape with higher temperature resistance, otherwise comparable with CMC 10966 (mechanical strength, chemical resistance)	F
65100		Nomex®	chamois	0,050	0,110	800 V ^{eff}	K	High temperature-resistant and chemical-resistant, synthetic paper with great dielectric resistance, for building transformers and motors, e.g. bar armature wrapping or phase insulation in traction engineering (also in 0.080, 0.130 and 0.180 mm), also from 1 mm width to produce the air gap and creepage distance in coils (DIN EN 61558)	F
65758		Nomex® E56A	chamois, white, red striped	0,180	0,220	3.500 V ^{eff}	K	Only slightly calendered Nomex paper, therefore good cushioning effect and good absorption of impregnating agents, ideal as coil end insulation and as stamping parts	F
65838		Nomex®/PET	chamois	0,090	0,140	3.500 V ^{eff}	K	Flexible laminate made from Nomex 416 and polyester 25µm, good impregnability and high electric strength, as insulation in electric motor and generator construction	F
80725		Polyester fleece	white	0,060	0,160	ca. 500 V ^{eff}	A	Stripe-coated, impregnable polyester fleece, may be used for heat category F when using a heat category F impregnating agent, popular adhesive tape for coil head tape bindings, phase separation and coil ends.	F
84165		Fibreglass	white	0,120	0,180	2.500 V ^{eff}	K	High initial adhesive strength due to rubber adhesive, used in transformer and motor construction	F
84170		Fibreglass	white	0,120	0,170	2.500 V ^{eff}	A	Better resistance to impregnating agents due to acrylic adhesive, used in transformer and motor construction	F

(a) only on request

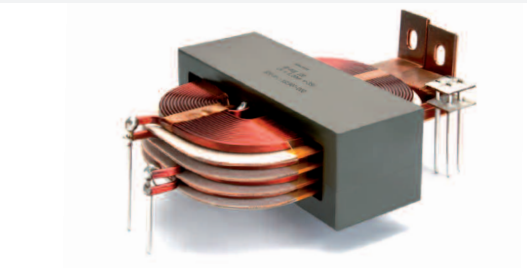


Heat category H

CMC -Type	UL*	Base material	Colour	Base mate- rial thick- ness in mm	Total thickness in mm	Electric strength	Adhe- sive type	Properties and applications	Heat cate- gory
65120		Nomex®	chamois	0,050	0,110	800 V ^{eff}	A	like 65100ff, but suitable for heat category H with acrylic adhesive (also in 0.080, 0.130 and 0.180 mm)	H
70100		Kapton®	brown	0,025	0,055	6.000 V ^{eff}	A	excellent insulation film for the highest standards, high dielectric strength, good mechanical properties even at high temperatures, Kapton® is flame-resistant according to UL 94 V0	H
70105		Kapton®	brown	0,050	0,080	12.000 V ^{eff}	A	like CMC 70100, but higher dielectric strength due to stronger film	H
70110		Kapton®	brown	0,025	0,065	6.000 V ^{eff}	PS	universal, high temperature-resistant insulation adhesive tape for the highest standards, chemically and electrically extremely resistant. May be removed even after temperature stress without leaving residues	H
70115		Kapton®	brown	0,050	0,100	12.000 V ^{eff}	PS	like CMC 70110, but higher electric strength due to thicker film, chemically and electrically extremely resistant	H
70752		Kapton®	brown	0,025	0,140	7.000 V ^{eff}	PS	double-sided adhesive tape for maximum temperature stress, also adheres to silicon surfaces	H
70849		Kapton®	brown	0,125	0,150	12.000 V ^{eff}	PS	very tough and electrical resistant Kapton® film with highly temperature resistant adhesive, very good performance even under overload conditions	H
70864		Kapton®	brown	0,025	0,060	6.000 V ^{eff}	A	adhesive tape similar to CMC 70100, but with higher adhesive coating thickness and better adhesion to itself	H
70961		Kapton® CR	brown	0,025	–	4.400 V ^{eff}	–	corona and glow discharge-resistant Kapton film for use in high-voltage machines for maximum lifetime with very good temperature-resistance	H
72110 ^{1a}		APTIV™ PEEK	brown	0,025	0,065	6.000 V ^{eff}	PS	Thermoplastic high-performance PEEK film, very capable of deep drawing, extremely good abrasion resistance, highly mechanically, electrically and chemically resistant, removable adhesive tape	H
84150		Fibreglass	white	0,120	0,180	2.000 V ^{eff}	PS	Because of Polysiloxane-adhesive for higher temperatures applicable, used in transformer and motor construction	H

a) only on request

All adhesive tapes can be cut in 0.1 mm steps.



Metal adhesive tapes

EMV/elektrisch leitend

CMC Type	UL*	Base material	Colour	Base material thickness in mm	Total thickness in mm	Electric strength	Adhesive type	Properties and applications
80782 ^{a)}		Polyamide fleece, copper-plated/ tin-plated	grey, stamped	75 g/m²	115 g/m²		A/elektr.	plated PA fleece, very low surface resistance, very good shielding effect comparable to a copper film, but much lighter, with conductively set acrylic adhesive
90100		Soft aluminium	silver	0,050	0,080		A	convenient aluminium adhesive film for general applications, as a reflective film, moisture barrier and inexpensive EMC shielding film
90103		Soft aluminium	silver	0,085	0,130		A	more mechanically stable version compared to CMC 90100
90150		Soft aluminium	natural	0,050	0,110		PS	high temperature-resistant aluminium film e.g. as a cover for powder coatings, may be removed residue-free even after heat exposure
90767		Soft aluminium	silver	0,050	0,085		A/elektr.	aluminium film with adhesive electrical conductive in Z-axis direction as an inexpensive EMC protective film
91100		Soft copper	natural	0,030	0,065		A	All types of shielding. Other shielding tapes, also insulated, on request
91105		Soft copper	copper	0,050	0,085		A/elektr.	stable, self-adhesive copper film for EMC applications and as a self-adhesive conductor
91743		Soft copper	natural	0,030	0,065		A/elektr.	for shielding, electrolyte copper film with adhesive electrical conductive in Z-axis direction, all types of shielding, simple contacting with subsurface due to conductive adhesive, ideal as an electrical conductor
91805		Soft copper	natural	0,030	0,100		A/elektr.	double-sided adhesive copper film with adhesive electrical conductive in Z-axis direction, for electrical and mechanical binding e.g. of EMC shields
91815		Soft copper, double-sided, tin-plated	silver	0,037	0,072		A/elektr.	well solderable and corrosion-proof copper adhesive tape due to tin plating, with adhesive electrical conductive in Z-axis direction for all types of shielding and contacting
91834		Soft copper	copper	0,050	0,085		A/elektr.	design as per CMC 91743, but thicker copper film, therefore somewhat more rigid
97035		Soft copper E-Cu 56	copper	0,035	0,035			highly conductive electrolyte copper film without adhesive coating
97050		Soft copper E-Cu 56	copper	0,050	0,035			highly conductive electrolyte copper film without adhesive coating, other thicknesses on request
98035		Soft copper, tin-plated	tin-plated on both sides, silver	0,037	0,037			Highly conductive electrolyte copper film, tin-plated on both sides without adhesive coating

a) Only on request

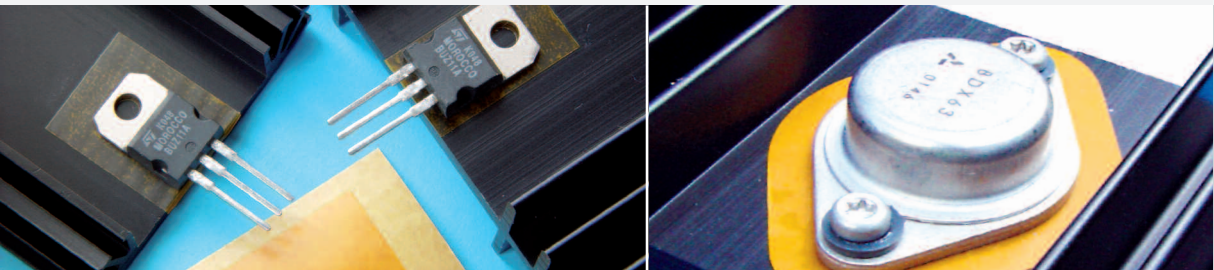


If required, we also make other metal films self-adhesive.

Heat-conductive insulation

Heat-conductive								
CMC Type	Base material	Colour	Base material thickness in mm	Total thickness in mm	Electric strength	Adhesive type	Properties and applications	Heat category
70791	Kapton® MT	brown, opaque	0,050	0,078	8.000 V ^{eff}	A	Kapton® film with good thermal conductivity (0.37 W/mK) and very good insulation even at high temperatures, easy and clean pre-assembly due to the adhesion option, also available with 0.025 mm film thickness on request	F
70792	Kapton® MT	brown, opaque	0,050	0,085	7.000 V ^{eff}	W/W	Double-sided coated Kapton® film with thermal conductivity (0.37 W/mK) and very good insulation even at high temperatures, good heat transfer due to the wax (flow temperature approx. 55°C), also available with 0.025 mm film thickness on request	F
70821	Kapton® MT	brown, opaque	0,050	0,090	7.000 V ^{eff}	A/W	Double-sided coated Kapton® film with thermal conductivity (0.37 W/mK) and very good insulation even at high temperatures, good heat transfer due to the wax (flow temperature approx. 55°C), easy and clean pre-assembly due to the adhesion option, also available with 0.025 mm film thickness	F
70880	Kapton® MT	brown, opaque	0,050	0,140	8.000 V ^{eff}	A/A	Kapton® film with thermal conductivity (0.37 W/mK) and very good insulation even at high temperatures, easy and clean pre-assembly due to the adhesion option, also available with 0.025 mm film thickness	F
70300 ^{a)}	Kapton® CR	brown, opaque	0,025	0,053	4.200 V ^{eff}	A	Kapton® film with good heat conductivity (0.385 W/mK), even less noticeable due to lower film thickness but still good electric strength, otherwise comparable to CMC 70791	F
90100	Soft aluminium	silver	0,050	0,080		A	convenient aluminium adhesive film for general applications, as reflective film, moisture barrier and convenient EMC shielding film. Also suitable as a heat spreader (mostly laminate with Kapton® MT)	

a) only on request



If required, versions with 0.025 mm thick Kapton® MT are also available.

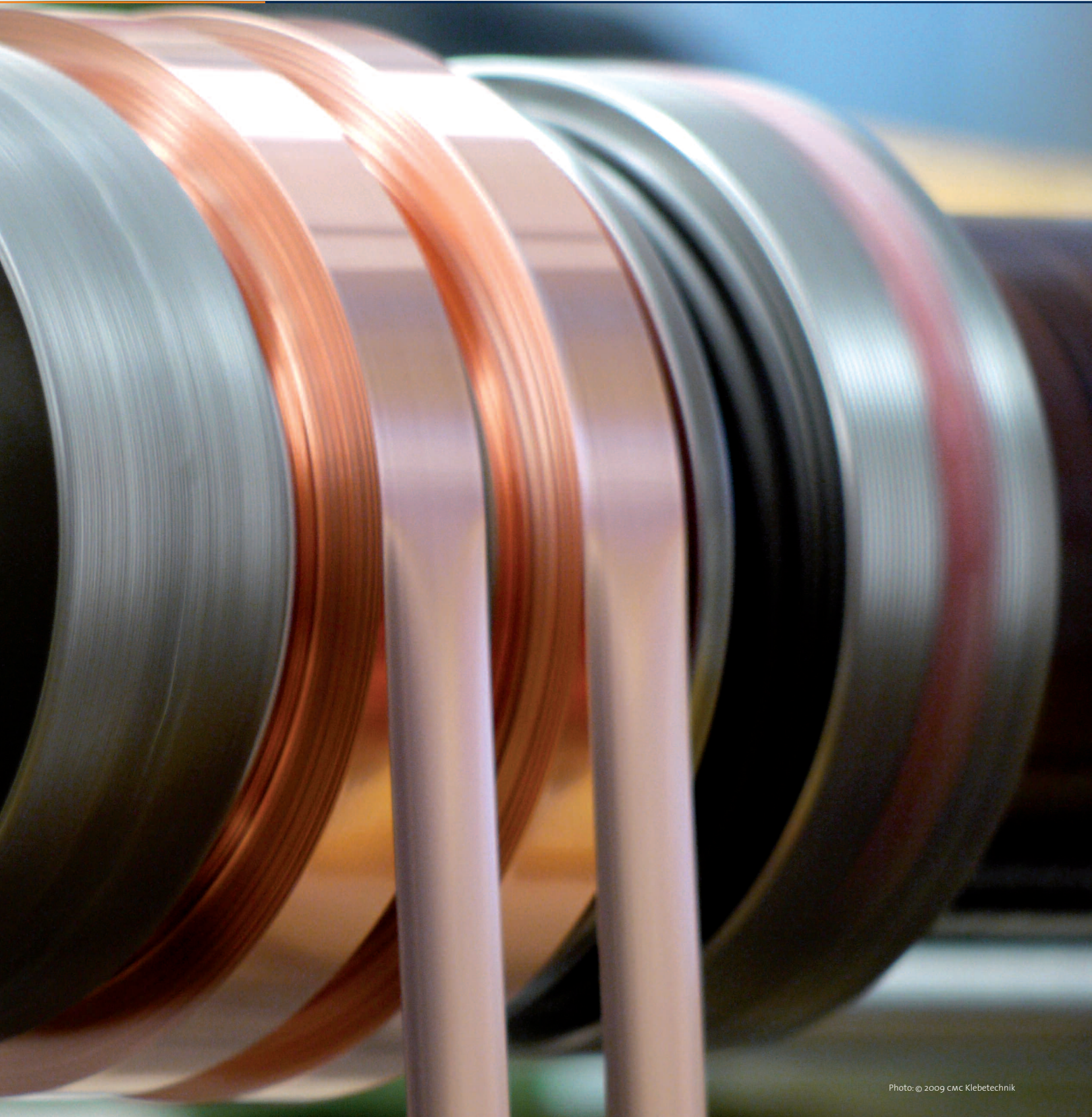


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Highly conductive insulated flat copper conductor










Flat copper conductors have many advantages compared to conventional coil-winding wires. Under 100 kHz, the skin effect is significantly lower than equal cross-sections round wires. The electrical conductivity is also better in relation to the need for space. Overall, it is thus possible to manufacture transformers and transducers with insulated flat copper conductors with maximum power density.

The large number of variation options (insulation film dependent on the temperature category, copper width and thickness for ampacity and constructive design to observe air gaps and creepage distances) allows technical and normative regulations to be upheld in almost any situation.

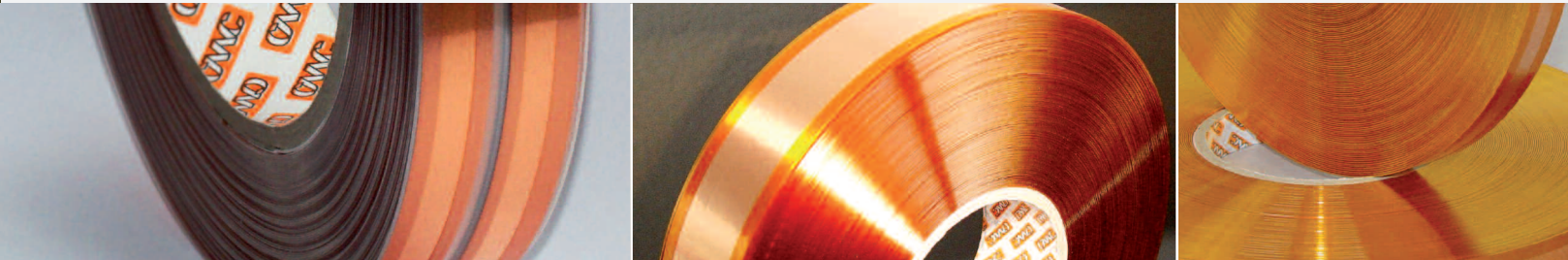
The high-quality electrolyte copper film is also available in blank (non-insulated) form, cut to your specifications

Standard:

- Copper film30-500 µm, other thicknesses on request
- Insulation films23-50 µm from polyester, PEN, Nomex®, Kapton®, others on request, width from approx. 5 mm to approx. 250 mm

Polyester	Nomex®	Kapton®	PEN	Number of isolation layers	Construction
CMC Type 38181	CMC Type 38281	CMC Type 38381	CMC Type 38481	single insulation	
CMC Type 38191	CMC Type 38291	CMC Type 38391	CMC Type 38491	single insulation	
CMC Type 38182	CMC Type 38282	CMC Type 38382	CMC Type 38482	single insulation	
CMC Type 38190	CMC Type 38290	CMC Type 38390	CMC Type 38490	single insulation	
CMC Type 38193	CMC Type 38293	CMC Type 38393	CMC Type 38493	double insulation	
CMC Type 38192	CMC Type 38292	CMC Type 38392	CMC Type 38492	single insulation	
CMC Type 38194	CMC Type 38294	CMC Type 38394	CMC Type 38494	double insulation	
CMC Type 38195	CMC Type 38295	CMC Type 38395	CMC Type 38495	3-layered flanging on both sides	
CMC Type 38196	CMC Typ 38296	CMC Typ 38396	CMC Typ 38496	Kapton with PS for category H	

Other constructions on request, e.g.: 



Surface protection

These adhesive tapes protect sensitive surfaces temporarily or permanently. In doing so, however, the variety of uses is much greater than the number of adhesive tape versions presented. The applications range from masking tapes for powder coats (residue-free removal) to sacrificial surfaces which protect the underlying components (scratch and erosion protection).



If required, we also provide a covered version, and are glad to make variations.

Removable protective film for various applications

CMC Type	Base material	Colour	Base material thickness in mm	Total thickness in mm	Adhesive type	Properties and applications
10081	PET	blue, transparent	0,023	0,040	A	slightly adhesive protective film, removable without leaving residue even after weeks (including with external weathering)
10617	PET	colourless, red, green, yellow	0,023	0,065	PS	for mid-term masking of sensitive surfaces even in high temperatures; may also be used for precise masking in the galvanising process, as it is chemically resistant
12012 ^(a)	PET	colourless	0,050	0,110	K	Polyester adhesive tape, removable without leaving residue even after heat exposure, with heat-resistant rubber adhesive (Silicon free! Leaves no traces of silicon oil)
21100	PET, aluminium metallised	silver	0,023	0,040	A	very thin polyester adhesive tape, to protect doctor blade edges in screen printing, solvent-resistant adhesive
70210 ^(a)	Polyimide	brown	0,025	0,065	PS	PI adhesive tape with maximum temperature resistance and very easy to remove even after intense temperature exposure, e.g. as a masking tape for reflow soldering processes
70115	Kapton®	brown	0,050	0,100	PS	as above, but more rigid film, better handling
84150	Fibreglass	white	0,120	0,180	PS	mechanically very stable and temperature-resistant fibreglass adhesive tape, also ideal for complicated 3D shapes due to its fabric structure
90150	Soft aluminium,	natural	0,050	0,110	PS	high temperature-resistant aluminium film e.g. as masking for powder coatings, may be removed without leaving residue even after heat exposure
72110 ^(a)	APTIV™ PEEK	beige	0,025	0,065	PS	thermoplastic high-performance PEEK film, well capable of deep drawing, extremely good abrasion resistance, highly mechanically, electrically and chemically resistant, removable adhesive tape

Erosion and scratch protection film (PU films)

CMC Type	Base material	Colour	Base material thickness in mm	Total thickness in mm	Adhesive type	Properties and applications
63630 ^(a)	PU-Film	colourless	0,300	0,355	A	very tough but flexible film, available in various thicknesses, for protecting surfaces from abrasion and stone-chipping damage. The film can also be used as creak protection (grinding surface). The adhesive tapes are UV-resistant.
63910	PU-Film	colourless	0,100	0,160	A	very tough but flexible film, available in various thicknesses, for protecting surfaces from abrasion and stone-chipping damage. The film can also be used as creak protection (grinding surface).

Sliding films and abrasion protection

CMC Type	Base material	Colour	Base material thickness in mm	Total thickness in mm	Adhesive type	Properties and applications
72110 ^(a)	APTIV™ PEEK	beige	0,050	0,085	PS	extremely high resistance to abrasion, as a scratch-proof surface, as a bearing surface of linear drives or other grating or scraping movements
75100	PTFE	grey	0,100	0,130	A	chemical-resistant film for maskings and as a non-adhesive surface, very good corona-resistance (insulation), for manufacturing smooth surfaces on which items can be moved without scratching; very chemical-resistant, prevents adhesion of dirt.
76700	PTFE fibreglass	grey	0,130	0,175	PS	reparatory film for film roofs. Maximum UV resistance, very good weather resistance, high transparency, repellent surface, extremely durable adhesive, as above, but also mechanically reinforced and more long-lasting due to the fibreglass inlay

a) only on request

Film-, paper- and adhesive tape manufacturer

When even the largest film or paper roll has come to an end, that's when these adhesive tapes can be used: as a splicing adhesive tape for making it endless, affixing the start of the roll to the core or as sello tape. Even siliconised surfaces can be stuck together reliably and tightly.

If strips of material are drawn over rollers and surfaces, it either depends on good surface friction or as little frictional resistance as possible – an area for CMC's sliding and friction bands.

Adhesive tapes for splicing

CMC-Type	Base material	Colour	Base material thickness in mm	Total thickness in mm	Adhesive type	Properties and applications
10617	Polyester	red, yellow, green, colourless	0,023	0,065	PS	good adhesion to all difficult and siliconised surfaces, combines low material thickness with high tear strength
10617	Polyester 50µ	colourless, red	0,050	0,095	PS	good adhesion to all difficult and siliconised surfaces, combines low material thickness with high tear strength, even more mechanically resistant due to thicker film
10623	Polyester	colourless	0,023	0,060	PS	application to silicon paper and siliconised film, very good shear resistance even at high temperatures (for coating companies)
10718	Polyester	colourless	0,023	0,113	AC/AC	double-sided adhesive tape with good tack for overlapping bonded joints
10730	Polyester	colourless	0,023	0,170	PS/PS	double-sided adhesive tape for overlapping bonded joint of siliconised products
10966	Polyester	colourless, yellow, brown, (blue, black, red)	0,023	0,060	AC	acrylic adhesive with very good tack for joint bonds, special colours on request
30823	Polyester	colourless	0,023	0,060	PS	adhesion to siliconised surfaces, no disruption of the spliced siliconised material due to siliconised rear side
70110	Kapton®	brown	0,025	0,065	PS	Used as a splicing adhesive tape if every high temperatures temporarily occur up to 350°C
84170	Fibreglass	white	0,120	0,170	AC	Ideal for splicing textiles and other structured surfaces due to high tear strength and fabric structure

If you can't find what you're looking for here, call us!



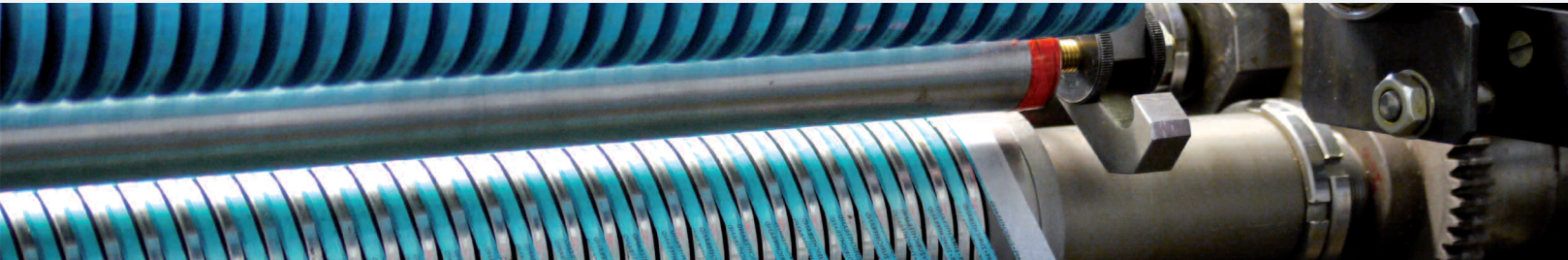
Adhesive tapes for bonding start/finish of rolls

CMC-Type	Base material	Colour	Base material thickness in mm	Total thick-ness in mm	Adhe-sive type	Properties and applications
10617	Polyester	colourless, red, green, yellow	0,023	0,065	PS	good immediate tack on all difficult surfaces, particularly suitable for siliconised films and papers
10966	Polyester	colourless, yellow, brown, (blue, black, red)	0,023	0,060	AC	aggressive acrylic adhesive for many different materials, special colours on request
15581	None	transpa-rent		0,100	AC	Transfer adhesive, very thin layer of adhesive, therefore may also be used for very thin films
15715 ^{a)}	Polyester fabric	colourless		190 g/m²	AC	extremely sticky and thick adhesive tape to bond very rough materials or coarse fabrics

Adhesive tapes for making surfaces non-adhesive, to avoid slippage and increase traction

CMC-Type	Base material	Colour	Base material thickness in mm	Total thick-ness in mm	Adhe-sive type	Properties and applications
75100	PTFE	grey	0,100	0,130	AC	very smooth adhesive-repellent surface with good chemical resistance; low friction co-efficient protects material in the event of sliding movements (transport rollers, folding edges), deposits and debris cannot stick
15421 ^{a)}	Fibreglass, silicone coated	white	-	0,240	PS	very stable fibreglass adhesive tape with a smooth non-slip surface, removable, for intermittent arming of rolls to increase traction; also improves the repellent properties; resistant to high temperatures

a) only on request



Automotive, air and aerospace

There is a wide variety of uses for adhesive tapes in this industries, particularly because of the manufacturing advantages. They are usually invisible. The adhesive tapes are used as noise-proofing, moisture barriers or surface protection, as assembly alternatives for screwing and welding, as well as in other diverse ways at the supply industry.

Adhesive tapes for special applications

CMC-Type	Base material	Colour	Base material thickness in mm	Total thick-ness in mm	Adhesive type	Properties and applications
10106	Polyester	colourless	0,100	0,125	A	very stable polyester film as corrosion protection (prevention of electrolyte corrosion through galvanic separation) and for noise absorption
24100 ^(a)	None	transpa-rent	-	0,250	A	very adhesive, flexible, double-sided adhesive tape, neutralises tolerances and expansion differences very well, reduces vibration, thereby also acting as a sealant
33511	Polyester	beige	0,075	0,108	K	anti-corrosion masking in damp areas of aircraft (Airbus certificate)
63630	PU film, non-fading	colourless	0,300	0,360	A	erosion protection of heavily strained surfaces (interior and exterior), protection against stone chipping and breakage, used to reduce squeaky and creaky noises (e.g. metal friction) and absorb vibrations, also available in other thicknesses on request
70110	Kapton®	brown	0,025	0,065	PS	excellent insulation film for the highest standards, high dielectric strength, good mechanical properties even at high temperatures, Kapton® is flame-resistant according to UL 94 V0, suitable for use in high vacuums due to particularly low gas emission
72110 ^(a)	APTIVT™ PEEK	beige	0,025	0,065	PS	Thermoplastic high-performance film, ideal for deep drawing, extremely resistant to abrasion, highly mechanically, electrically and chemically tolerant, removable adhesive tape
75100	PTFE	grey	0,100	0,130	A	PTFE sliding film for surfaces subject to friction (e.g. brake flaps on aircraft aerofoils); also used in mould construction (composites) as a separating film
90100	Soft aluminium	silver	0,050	0,080	A	convenient aluminium adhesive tape for general applications, as reflective film, moisture barrier and convenient EMC shielding film

Self adhesive films for labels

CMC-Type	Base material	Colour	Base material thickness in mm	Total thick-ness in mm	Adhesive type	Properties and applications
10968	Polyester	colourless	0,036	0,050	HS	clear polyester film with heat activatable adhesive, useful as protection film for e.g. signs, after lamination nearly invisible
15648 ^(a)	Acrylic film	white	0,050	0,070	A	High temperature-resistant adhesive tape with printable surface (e.g. for labels), may also be used during lead-free soldering processing
20757 ^(a)	PVC	white	0,05	0,070	A	special white film with strong adhesive to protect goods. The film is printable during thermo-transfers and breaks up if manipulated

Ask us directly about any special need you may have
a) only on request





CMC – all-purpose adhesive tape

Special products

Whether double-sided or particularly smooth, extremely adhesive or ideal even at low temperatures: the variety of industrial applications is reflected in the large number of specialised adhesive tapes. Below, you will find a small selection of these. Should you have any further queries, we will be happy to advise you, and, if necessary, develop a customised solution.

One-sided adhesive tapes

CMC-Type	Base material	Colour	One-sided adhesive tapes	Total thickness in mm	Adhesive type	Properties and applications
15421 ^a	Silicone coated fibreglass	light green	0,023	0,250	PS	silicon-coated fibreglass adhesive tape, used in flame and plasma-coating processes with extremely good temperature resistance
21100	Polyester, aluminium metallised	silver	0,023	0,040	A	very thin polyester adhesive tape, used to protect doctor blade edges in screen printing, solvent-resistant adhesive
26785	LD-PE	colourless	0,100	0,140	A	supportive film for staff rescues by the fire brigade, also as elastic, waterproof and water-resistant insulation in electrical engineering
72110 ^a	APTIVT™ PEEK	beige	0,025	0,065	PS	Thermoplastic high-performance PEEK film, very capable of deep drawing, extremely good abrasion resistance, highly mechanically, electrically and chemically resistant, removable adhesive tape
75100	PTFE-film	grey	0,100	0,130	A	PTFE adhesive tape, very chemically-resistant and non-adhesive surfaces, also ideal for giving areas, e.g. of a transport route, sliding features
76700	PTFE-fibreglass	grey	0,130	0,175	PS	like CMC 75100, but also much more mechanically robust due to fibreglass reinforcement; may also be used at high temperatures up to 200°C.
77700	ETFE film	transparent	0,100	0,160	PS	extremely weatherproof adhesive tape for repairing film roofs and membranous pads made from ETFE; does not go yellow, extremely resistant to ageing

a) only on request



Looking for your adhesive tape
... and didn't find it? Then ask us – as a coating specialist, we'll find the right solution together with you

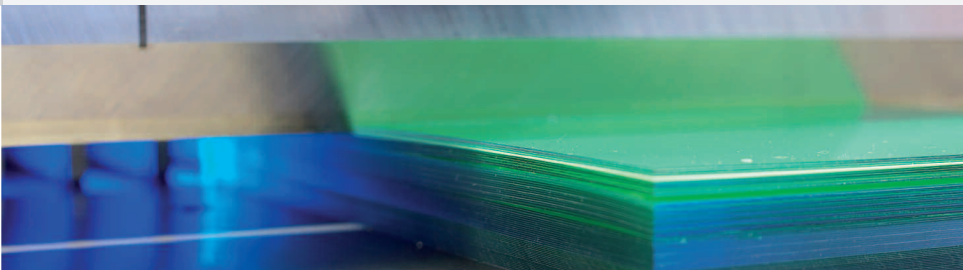
Double-sided adhesive tapes

CMC-Type	Base material	Colour	Base material thickness in mm	Total thickness in mm	Adhesive type	Properties and applications
10718	Polyester (PET)	transparent	0,023	0,113	A/A	double-sided adhesive tape with good tack for overlapping bonded joints
10911 ^a	Polyester	colourless	0,023	0,075	A/K	double-sided polyester adhesive tape, one side slightly adhesive, the other side permanently (strongly) adhesive
12010;	Fleece paper	colourless	0,010	0,100	A	all-purpose double-sided adhesive tape to make film-like materials sticky, good adhesion to several substrates
15577 ^a	None	transparent	-	0,030	A	extremely thin adhesive film with conductive particles, good electric conductivity throughout the adhesive film
15581	None	transparent	-	0,050	A	transfer adhesive tape, very thin, high-quality acrylic adhesive film with good tack
10730	Polyester	colourless	0,023	0,170	PS/PS	Double-sided adhesive tape for overlapping splices of siliconised materials, e.g. release liners
70752	Kapton®	brown	0,025	0,140	PS	Kapton®, brown; double-sided Kapton adhesive tape for fitting pipe trace heating. Very temperature-resistant, also adheres to silicon surfaces
80808	Fleece	transparent	-	0,130	A	age-resistant polyester fleece adhesive tape, high tack, very flexible and chemical-resistant, ideal for giving film-like materials a self-adhesive finish

Heat-activated laminated adhesive tapes – Other versions are possible...

CMC-Type	Base material	Colour	Base material thickness in mm	Total thickness in mm	Adhesive type	Properties and applications
10574 ^a	Polyester	colourless	0,023	0,050	HS	heat-activated laminated adhesive tape with polyester film as a highly transparent, thin protective surface for printed areas (adhesive is activated by extra heat)
44808 ^a	Markofol® ID 6-2, can be laser engraved	colourless	0,050	0,065	HS	Makrofol® film, coated with a heat-activated adhesive to manufacture extremely resistant laminates, e.g. bank cards or identification cards
10745	Polyester	white	0,050	0,100	HS	Lamination-tapes for manufacturing laminated cables (FLC, FFC) or as a coverlay film for FPC. Available in various material combinations.

a) only on request



Services, hired labour

A company and its products are as strong as the people behind it. This is what we stand for, with our belief and, if necessary, also with exceptional ideas. We revolve around these maxims as a producer, developer, problem-solver and service provider. That's why we offer you an extensive range of services, based on our long-time experience in dealing with films and coatings: Product advice – Coating – Cutting – Formatting – Stamping. You will also receive all services for supplied products.

You can expect constant quality at a high level, individual advice, and efficient implementation of your ideas – that's what our name stands for.

Cutting (also precision cutting)

All films and other laminates can be cut in the desired width/format. Several different specialised cutting machines are available for this.

The films can be cut with a precision of up to ± 0.05 mm tolerance. It usually does not matter whether the rolls are 5 m long or 2,000 m. The width can also vary between 3 mm up to an initial width of maximum 2,000 mm. The material thickness can be between 0,006 mm and approx. 1mm.

Various core types and diameters can also be used. Our work includes winding and, for example, applying a liner.

Formatting

The smallest cut formats from approx. DIN A5 can be manufactured just as easily as large formats up to approx. 1,500 x 1,500 mm.

Tight tolerances and high angular accuracy enable good further processing of the films and laminates. Various systems are available, which often also enable lamination with an adhesive film.

Die-cutting, stamping

The machinery is equipped in such a way that both small and large series can be produced economically. A variety of systems for manufacturing simple or complex formed die-cut or stamping parts from all film-like materials is available. The manufacturing process is customised and based around needs, whether it be as an individual part or continuously on the roll.



Coating

We offer interested customers an extensive range of options for implementing customised solutions, based on our coating systems and many years of experience. In doing so, it doesn't matter whether you want to apply a standard coat to a new film, or want to apply a new kind of coating to a provided film.

If necessary, our laboratory will assist you with formulating the coating mass.

We are also happy to help you select the raw materials (base materials) if you wish.

A wide variety of any necessary "aids" such as silicon paper, backing films or laminate partners are available

The minimum coating quantity should not be less than 1000 m².
The total capacity is around several million square metres a year.

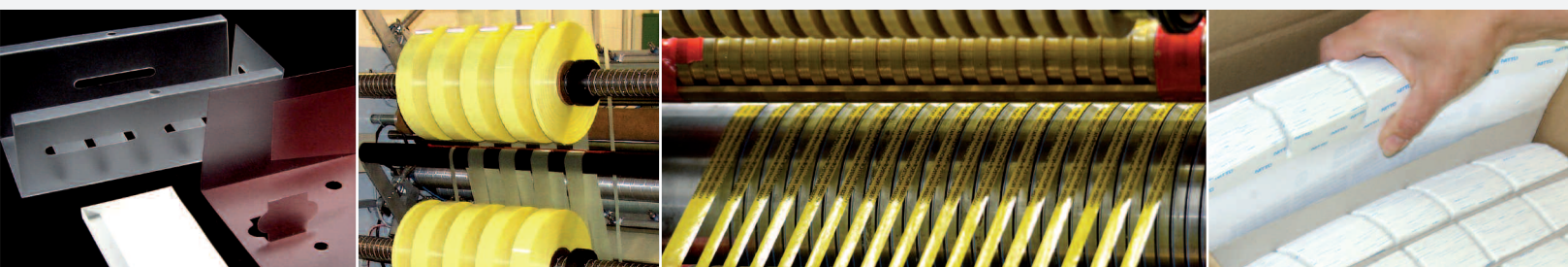
Laminating

Multi-layered laminates can be manufactured in a roll-to-roll process on several automated laminators. Some specialised laminators can even merge films warp-free in the one-digit micrometre region (e.g. 0.006 mm).

Lining and tailoring

If necessary, non-adhesive films and fabrics can be made self-adhesive by lining them with a transfer adhesive. This is mostly used for low required quantities for which it is not worth applying an adhesive in the coating unit.

We offer customised tailoring as a service, but also as part of stamping jobs. For example, this can be the merging of several different parts to form one set.



Label and adhesive tape dispensers

Utilise the advantages of adhesive tapes efficiently: Adhesive tape dispensers, some of which have an automatic feeder, often greatly facilitate work processes. They ensure a more even quality than manual processing, and reduce adhesive tape usage.

Adhesive tape and label dispensers

Type	Working width	Max. roll circumference	Note
CMC 41010	10–80 mm	130 mm	label form optional, multi-web labels can also be dispensed, label length 8–300mm
CMC 55101	1 x 5–50 mm	130 mm	simple mechanical dispenser with sharp serrated knife, powder-coated steel case, non-slip
CMC 55107	2 x 5–25 mm	130 mm	simple mechanical dispenser with sharp serrated knife, powder-coated steel case, non-slip
CMC 55108	3 x 5–25 mm	130 mm	simple mechanical dispenser with sharp serrated knife, powder-coated steel case, non-slip
CMC 55105	3–25 mm	130 mm	adhesive tape sections are automatically placed on the round plate. They can be used by two staff members simultaneously.
CMC 55106	8–50 mm	130 mm	electr. dispenser / sections 30–999mm
CMC 55109	1 x 6–50 mm 2 x 6–22 mm	300 mm	dispenser with the option of dispensing 2 sections with different widths at the same time (dispensed length: 5–999 mm)
CMC 55111	5–45 mm	190 mm	accessory for removing a liner before dispensing (rewinder), very easy processing of adhesive tapes with liner.
CMC 55115	1 x 6–50 mm 2 x 6–25 mm	300 mm	dispenser with the option of dispensing 2 sections with different widths at the same time, sections 5–999mm
CMC 55116	5–170 mm	250 mm	label form optional, multi-web labels can also be dispensed, label length 8–300mm, scanning by a photocell
CMC 55118	5–50 mm	130 mm	simple mechanical dispenser with sharp serrated knife, ESD-compatible, industry quality



Aids

The quality of a bond does not just depend on the adhesive used. Surfaces must be free from separating agents or oil films; surfaces with low surface energy can be made “more adhesive-friendly” using primers.

And the adhesive strength is directly dependent on the contact pressure – a task for our scrapers.

CMC 56015 Hard rubber roller

Good adhesive strength is achieved with a clean surface and sufficient contact pressure.

The quality of a bond is, among other things, directly dependent on how well the join partners are pressed onto one another. This pressing roller is very useful here, as it allows the necessary force to be applied easily.

CMC 56020 Plastic scraper for pressing

Handy scraper to reliably press adhesive tapes. The softer edge also adapts to slightly uneven surfaces.

This scraper achieves a clearly better bond.

CMC 56031 Primer for adhesive tapes

Significant improvement in the tape's adhesion to the subsurface (e.g. powder coatings, low-energy plastics, glass and metal). Just one of the primer's wafer-thin films, applied with a small sponge, produces an adhesion-enhancing surface.

Please note the respective enclosed processing instructions.

CMC 56030 Citrus cleaning agent for industry and workshops

The industrial cleaning agent, with natural base, is not corrosive, is very effective and works quickly. Suitable for removing adhesive residue, oils and grease, resin and tar, lubricants, graffiti, rubber residue or fresh PU foam. It is easy to use – spray on, leave it to act for a short while, then wash off. Not suitable for preparing surfaces for bonding (see CMC 56032).

CMC 56032 Plastic-cleaner

The gentle CMC 56032 cleaner is suitable for many surfaces, and also does not corrode sensitive plastic surfaces (please first test on a non-visible part). Easy to use: Spray on, leave to act for short while, wash off. Protect cleaned surfaces from getting dirty again (fluff, fingerprints, etc.).



Stamping parts and labels

Stamping parts made from all film-like materials are manufactured at CMC Klebetechnik in modern and flexible systems according to customer specifications. Whether it be on the roll, as a sheet or an individual part – the advantages of stamping parts are obvious: Consistently even form, low tolerances, savings during assembly, simplified application due to self-adhesive finish.

In order to manufacture stamping parts or labels optimally for your requirements, a technical engineering drawing and detailed information on the desired materials are usually necessary. Through a personal consultation, even on site, individual products can thus be created according to your requirements.

The machinery is equipped in such a way that small and large series can be produced economically.

The so-called die-cutting tools are reasonably priced tools for manufacturing not too complex stamping parts with precisions of up to ± 0.2 mm.

More complex parts with higher precision requirements, or larger editions, are manufactured using full section tools. And if the stamping parts have to be printed, this is also possible with screen printing or flexo-printing.

Due to our long-time experience in the technical film market, the requirements of a wide variety of industrial customers are quickly converted into solution proposals, and the relevant products found. We will also be happy to assist you select the materials used. More reasonable alternatives are often possible.

As all our products can also be supplied with a liner if necessary, processing on stamping machines is always possible.

Formed stamping parts are used, for example

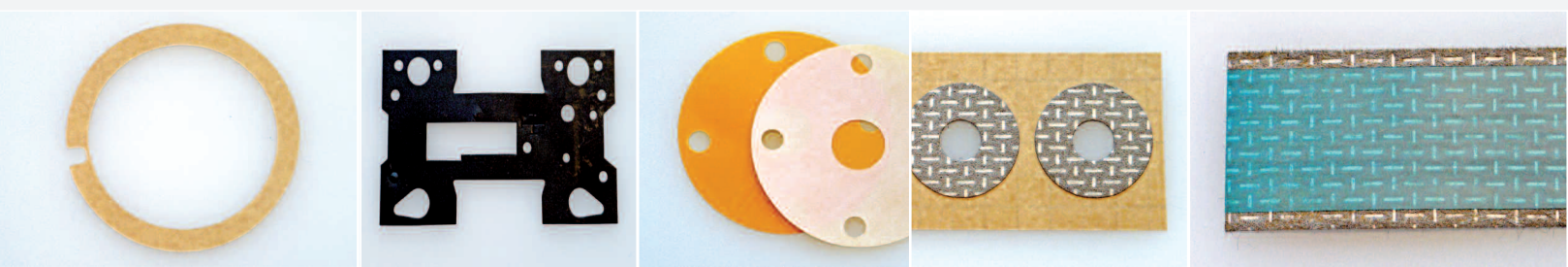
- >> as insulation in electronic devices
- >> as labels in the automotive and aviation industry
- >> as noise and corrosion protection
- >> as phase separation in electric motors
- >> as screw covers in the furniture industry
- >> as decorative stamping parts on household appliances
- >> to attach and affix
- >> as a (warning) mark
- >> also in 3D form to encase
- >> as a soldering stop cover for reflow soldering

Base materials for labels



For our labels, we use a wide range of diverse, high-performance base materials. We can offer the right materials for almost every application, whether it be, for example, for labelling in the high-temperature area or as manipulation-proof seal label.

You specify the external shape, we manufacture it according to your specifications. All labels can already be supplied with fixed text – or blank in the respective basic film colour.



Thermoscript film – for imprinting with thermo-transfer printer

The very high resolution and great contrast (barcode reader) of the printed image means many users are today turning to the thermo-transfer printing process. Clear, detailed printed images are created by transferring wax or resin dye through a heat supply from the ink ribbon to the label surface. The smooth surfaces of our labels, prepared for this printing technique, greatly assists here.

Usage as a barcode- or name plat, as an inventory plate or permanent product label.

Security film – Manipulation protection at the highest level

Printable films with special properties: Security labels have differently developed security features which make it impossible to transfer a label. Whether it be an image which becomes visible during a manipulation attempt or a script nameplate (void), or the fact that it is impossible to remove the label without destroying it. The areas of usage include seals, guarantee labels, tokens and benchmarks, as well as rating plates requiring documentation.

High-performance film – when normal labels fail

We offer specialised label films for applications involving high temperatures, extreme dirt, intense contact with chemicals and mechanical abrasion. Many of the materials used are listed at UL or CSA.

Areas of usage include circuit board manufacturing, wire drawing, the chemical and aviation industry, and mechanical engineering.

Other applications – countless possibilities

Removable labels, recyclable films (sorting accuracy) or films which can invisibly and permanently protect against scratches and dirt or as a protective layer on imprinted labels – the variety is almost unlimited. The adhesives used also allow bonding on low energy plastics such as PP or PE and even slightly oiled surfaces.

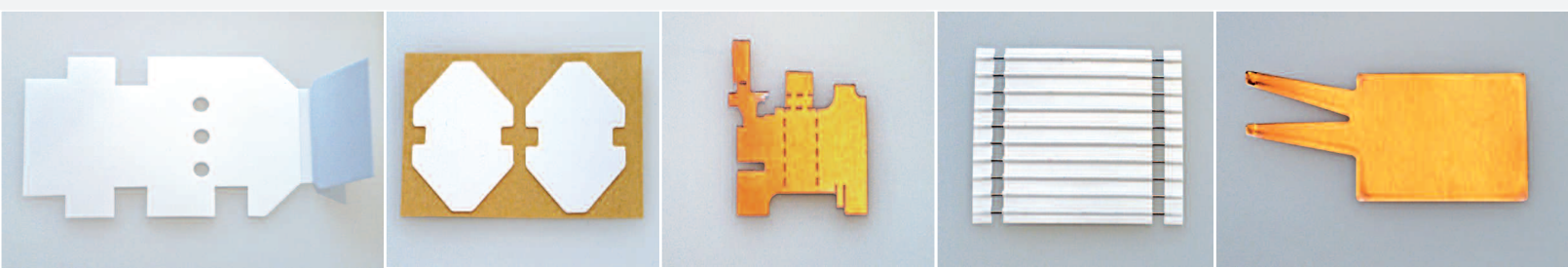
We will be happy to recommend you the suitable combination of film and adhesive – ask our specialists.

Base films used:

- >> PVC
- >> PET white, silver, transparent
- >> PI

Liners for stamping parts and labels

- >> One or two-sided release paper
- >> Particularly hard glassine paper as ideal die-cutting underlay
- >> One or two-sided release films such as PE, PET or PP
- >> Fluoropolymer-coated film suitable for use with polysiloxane adhesives



Customer-specific coatings:

Although there is a very large number of diverse combinations of film, fabric or paper with (adhesive) coatings on the market, an individual solution can greatly contribute towards making a product marketable or even to manufacturing it at all. Optimum adjustment of a product to your further processing techniques leads to reduced costs and therefore to a decisive competitive advantage.

We offer interested customers a wide range of options for implementing customised solutions with our various coating systems and years of experience. In doing so, it makes no difference whether you want to give a new film a standard coat, or apply a new kind of coating to a provided film.



Our development department will help you formulate the material to be coated (our possibilities are not just restricted to an “adhesive” application). Before the manufacturing process at the production plants, the first development stages can be carried out on a pilot coating system, so as to achieve the best conditions for the first trial coating. We are also able to help you select the raw materials (base materials) if you wish.

A wide variety of any necessary “aids” such as silicon paper, covering film or laminate film is available.

Of course, the coated item can then also be cut or formatted.

Small manufacturing quantities are possible, minimum coating quantities on request.



Construction of an adhesive tape

Successful usage of an adhesive tape depends on several factors. In order for you to find the optimum CMC adhesive tape for your application, several factors must be taken into account:

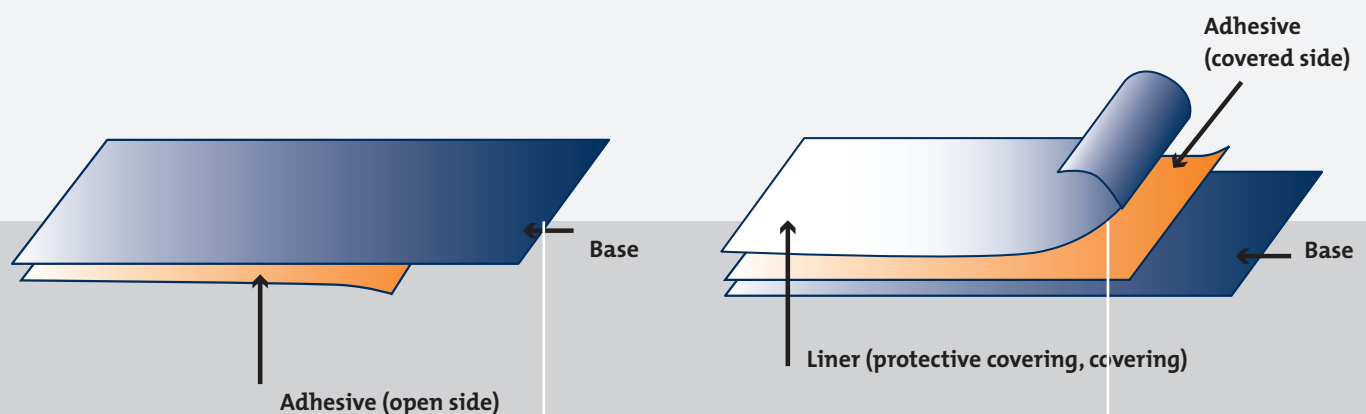
- >> Base material
- >> Adhesive type
- >> Surface to be bonded, constitution
- >> Technical requirements such as
UV resistance, weathering, temperatures, abrasion, etc.

Base

For most one and two-sided adhesive tapes, the base is the actual functional layer.

The material used brings mechanical stability, electric insulation or chemical resistance to the adhesive tape “system”.

- >> **Fabric:** Acetate silk fabric, fibreglass
- >> **Paper:** Electric crepe paper
- >> **Films:** Mylar® (PET), Hostaphan® (PET), Teonex® (PEN), Nomex® (Meta aramide paper), Kapton® (PI), PTFE, Makrofol® (PC), APTIV® (PEEK), Formex® (PP); etc.
- >> **Metals:** Copper, tin-plated copper, aluminium (on request also: lead, steel, zinc, tin)
- >> **Transfer:** Acrylic adhesive films
- >> **Foam:** PE foam



Adhesives

>> Rubber adhesives are adhesives made from natural or synthetic resins. Their main features are a usually high initial tack and good adhesive strength on a variety of surfaces. These adhesives can be used from -30°C to 155°C , and temporarily also higher (paint drying). However, this type of adhesive has limited resistance to ageing.

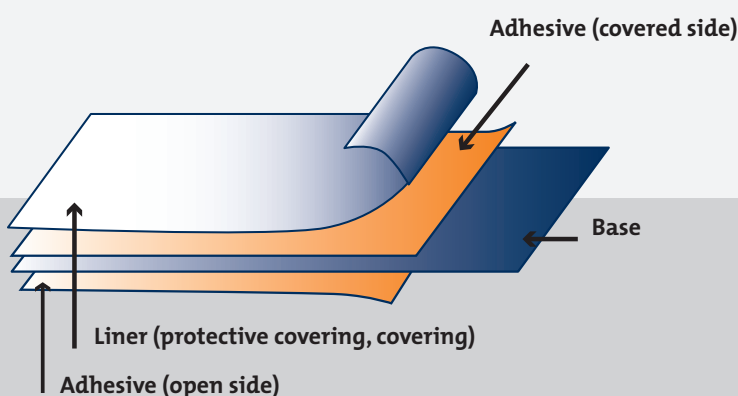
>> Acrylic adhesives are synthetically manufactured adhesives with many positive properties. Acrylic adhesives are age-resistant, usually have very high adhesive strength and may be used from -40°C to 180°C . They are distinguished by a high resistance to ageing, good chemical resistance and, if desired, high shear resistance.

>> Polysiloxane adhesives can be used in a wide range of temperatures (approx. -100°C up to 350°C). They are distinguished by their removability even after high temperature strain. Polysiloxane adhesives also stick to difficult subsurfaces and even silicon. They are extremely resistant to chemicals and weathering, and are very durable.

>> Hot seal adhesives offer maximum adhesion. The adhesive is melted by heating, and then achieves its final firmness. This results in a highly reliable bond which is virtually invisible with transparent setting of the adhesive. The melting temperature can be set.

>> Hot melt adhesives are 100% systems. This means no solvent needs to be used to apply the adhesive. Instead, the adhesive resin is melted, and solidifies when applied to the film. Through subsequent cross-linking, it is also possible to achieve high temperature-resistant settings. The adhesive tape is self-adhesive at room temperature, similar to a rubber or acrylic adhesive.

>> Liners Depending on the adhesive tape or application, different release films and papers are used. For double-sided adhesive tapes with only one liner, both sides are repellent to differing degrees, so that the processing can be performed reliably.



Our flexible application systems can cater to almost every need.

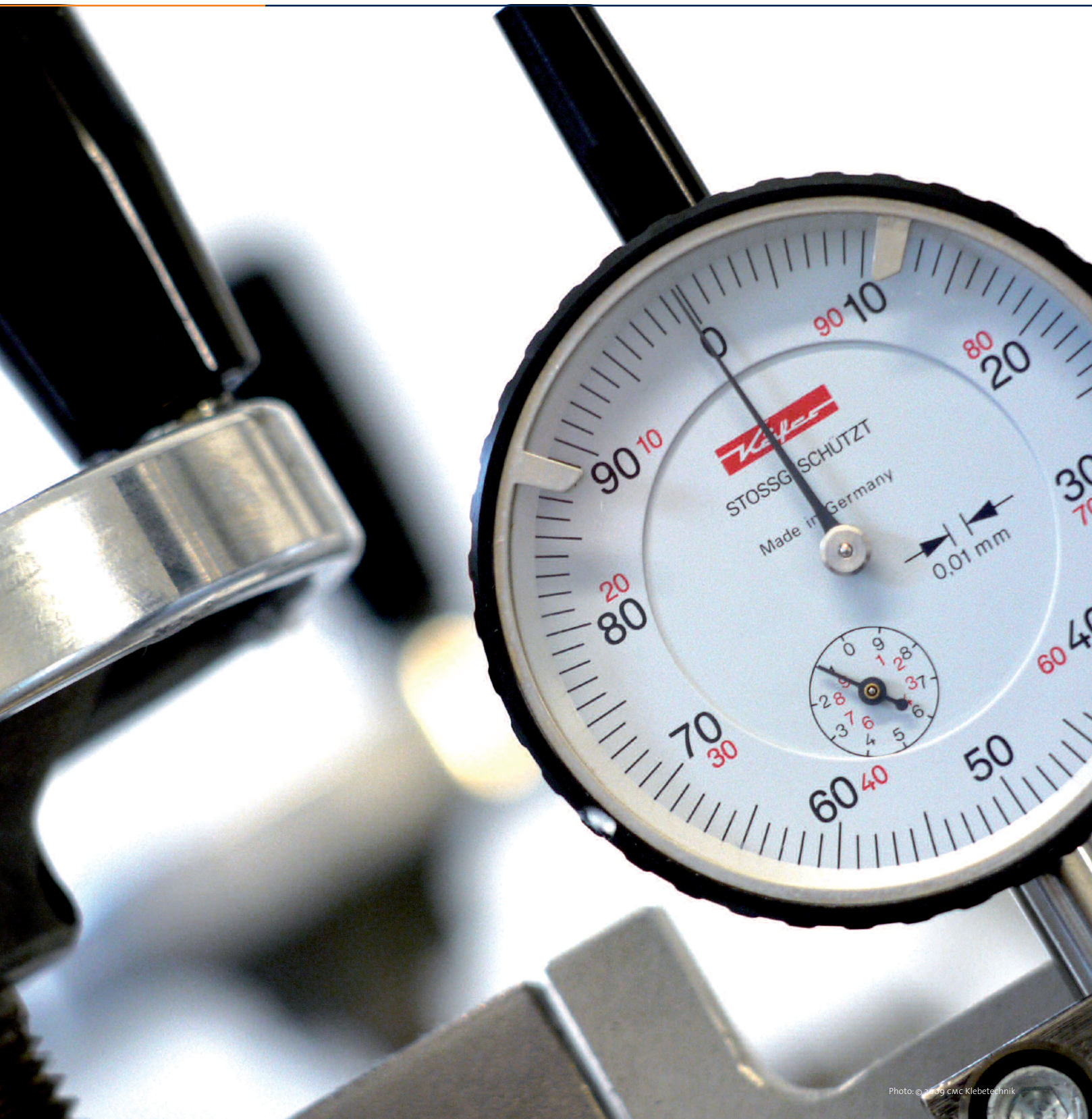


Photo: © 2009 CMC Klebetechnik

If required, we also provide a covered version, and are glad to make variations.

Information on adhesive technology etc.

Information on the durability and shelf life of our adhesive tape adhesive products before and after usage

Our products generally have a limited shelf life/processability due to their constitution and chemical composition. It is usually around 12 months, but can be shorter in certain cases.

For optimum processability, it is imperative the storage conditions (15-20°C dry without direct sunlight, in original packaging) are upheld.

Adhesive tapes which are used as a short-term protective film have shorter usage periods, as the adhesion to the subsurface increases during the time it is used. Tests by the customer themselves are usually necessary to make a final selection.

Certain adhesive tapes or functional coatings have shorter usage periods. We will gladly send you the appropriate technical data sheets if necessary.

When it comes to the time period in which adhesive tapes can be used, no general statement can be made. All our adhesive coatings are designed in order to function optimally under the limits stated on the data sheet, and without affecting their surroundings. The films used usually display very little ageing. In our experience, permanent bonds last for many years or even decades.

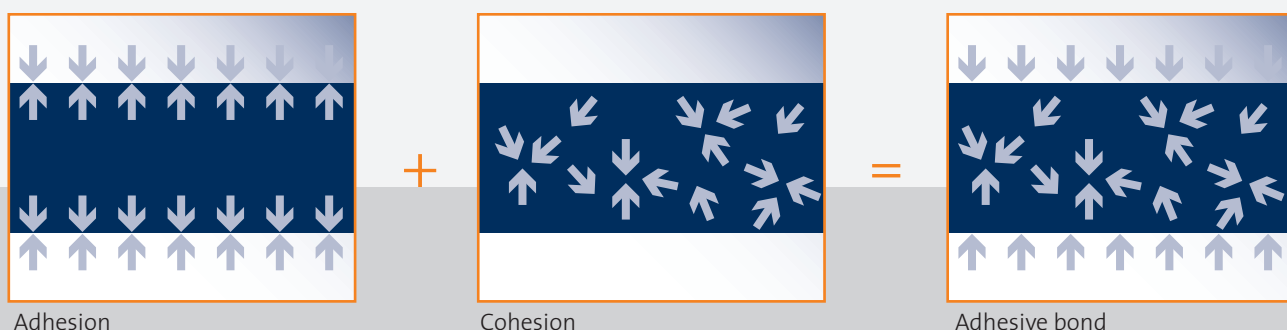
Brief information on adhesion

The bases for the adhesive capacity of an adhesive/adhesive tape are the two strengths – cohesion and adhesion.

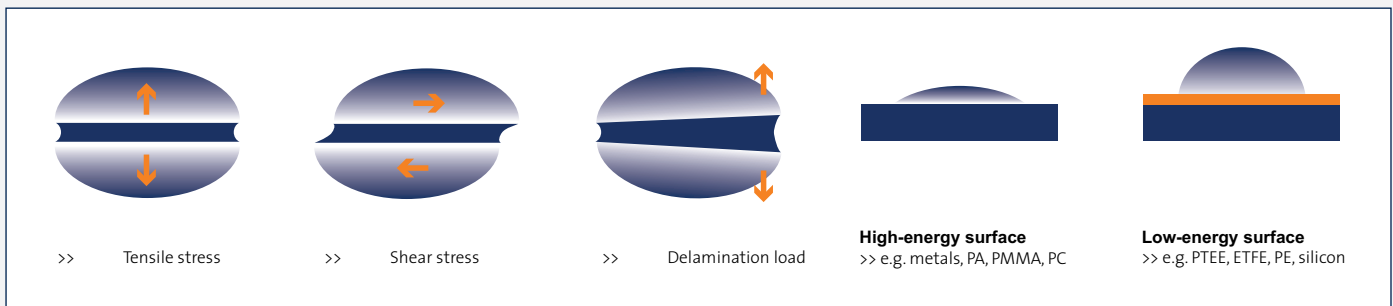
>> Adhesion generates the adhesive tape's bond with the surface. The forces in action here are greater the closer together the two surfaces are. The strength of the bond directly depends on the contact between the adhesive and the surface, thus a clear improvement is achieved by bonding under pressure (e.g. with squeegee). In addition, the adhesion of the surfaces to be bonded can be improved using a primer (adhesion promoter).

>> Cohesion describes the adhesive's internal mechanical stability. An extreme example of an adhesive with low cohesion would be "honey". Good adhesion is in this case coupled with lower cohesion (soft, fluid). The adhesion to the subsurface increases with time.

Good adhesion values are achieved within just 10 minutes; the end values are usually almost achieved after 72 hours. Moderate heating (e.g. to 70°C) shortens this time through accelerated surface wetting.



Bond stress types



Different types of adhesives react differently to the possible types of stresses

- >> Tensile stress
- >> Shear stress
- >> Delamination load
- >> Peeling force

In general, it can be said that softer adhesives can absorb dynamic tensile stresses better.

Harder adhesives cope better with shear forces than soft adhesives. An extreme example: The adhesive "honey" for which the two surfaces would be lightly greased.

Delamination and peeling forces are combinations of the first two types of stresses. By contrast, however, the force is only transmitted in a very small, linear part of the adhesive area here. These stresses must be avoided, as they are not absorbed very well by adhesive tapes.

Surface tension and adhesion

Different materials having differing degrees of adhesion. The non-adhesive surface of a frying pan behaves differently to a metal surface when it comes to adhesion.

We're talking about surface tension here (measured in dyn or mN/m). Put very simply, you could compare this to the magnetic force which attracts molecules to one another (surface polarity).

If the surface tension is low, you can sometimes greatly improve adhesion through plasma or corona pre-treatment or with a so-called primer (adhesion promoter).

Extensive transmission and distribution of force reduces the component stress (unlike, for example, for screws or rivets).

Advantages of bonds

- >> Quick and economical binding technique
- >> Bonding also of very thin materials, thereby enabling lighter construction
- >> Unlike other joining techniques, the material structure is not affected (no high temperature like during welding, no drilling etc.)
- >> Elastic binding to absorb vibrations
- >> If applicable, electric insulation between metal parts, prevention of contact corrosion
- >> Increased construction freedom for designers, as no visible screw or welded joints are necessary
- >> Equalisation of tolerances and unevenness
- >> Sealing through adhesion





Manufacturing information

Surface properties: The basic requirement for optimum adhesion is that the surface of the parts to be bonded is dry, clean and free of grease. The surface must also allow a fixed anchoring for the bonding. Loose layers of paint etc. must be removed beforehand.

A sign of unclean surfaces can be the formation of water droplets when moistening with water. With high surface tension, the water droplet dissolves into a water film, marking the surface to be optimal for bonding.

Mechanical cleaning: Depending on usage and base material, the effective adhesive area can be expanded through roughening. The roughness depth must be clearly less than the adhesive layer thickness (Good anchoring of the adhesive in the roughened surface)

Chemical cleaning: Greases, oils and other separating agents, as well as dirt, can be removed with cleaning agents such as

- >> Acetone
- >> Toluene
- >> Isopropanol
- >> Ethyl acetate

In doing so, it must be initially checked whether the solvent used is suitable for the material to be cleaned. When using the solvent, it is imperative to observe the manufacturer's safety instructions.

The gentle CMC 56032 cleaner is suitable for many surfaces, and also does not corrode sensitive plastic surfaces (please first test on a non-visible part). Easy to use: Spray on, leave to act for short while, wash off. Protect cleaned surfaces from getting dirty again (fluff, fingerprints, etc.).

Cleaning agents to remove adhesive residue: We recommend, for example, CMC 56030 citrus cleaner for industry and workshops with natural base/non-corrosive, very effective and works quickly. Used to clean adhesive residue, oils and greases, resin and tar, lubricants, graffiti, rubber residue or fresh PU foam.

Surfaces with low surface tension: For non-polar plastics such as

- >> Polypropylene PP
- >> Polytetrafluoroethylene PTFE (e.g. Teflon®)
- >> Polyethylene PE
- >> Rubber, Silicone

there are naturally problems when bonding with standard adhesive tapes. There are special adhesives available for this, which you should ask us about. The surface should also be chemically or physically roughened (e.g. corona pre-treatment).

So-called primers (e.g. CMC 56031), which often make difficult surfaces much easier to bond, are very effective and relatively easy to manufacture use.

Processing temperature, final strength: The most favourable processing temperature is approx. 20°C. Bondings under 10°C should be avoided.

If temperature differences in the parts to be bonded are too great, condensation can form, preventing correct bonding. The adhesive tape should be glued on with as much pressure as possible (depending on material and tool). Draw rollers (e.g. CMC 56015) can help here.

For most adhesive tapes, the end adhesion is achieved after approx. 72 hours dwell time, which can be reduced with adjusted heating (approx. 50–65°C/1 hr).





All information in this catalogue has been carefully researched. If in doubt, only the information in the latest data sheet is binding. Subject to technical changes and product enhancements. It cannot be guaranteed that all adhesive tapes will always be available during the validity period of this catalogue.

Thermosetting adhesives: Thermosetting adhesives are already largely resistant to impregnating varnish in their delivery condition. Subsequent heat treatment stabilises this resistance. Recommended temperatures: 1 hr -150°C, 2 hrs - 130°C, 4 hrs - 100°C. These adhesives can normally be used even without tempering.

PVC, plasticisers: Bondings with, for example, soft PVC or EDPM are critical, as the plasticiser diffusion can lead to decreased cohesion of the adhesive layer. Primers (e.g. CMC 56031) can greatly improve the bond’s resistance here.

UV radiation, external usage: Not all plastics are suitable for long-term external usage under sunrays. Among the technical films, polyester in particular can become brittle after a few months of intense weathering. We offer special types of adhesive tapes for external usage. Please ask us about this, stating the type of stress.

Storage: At 15-25°C and max. 65% rel. air humidity. In original box unprocessed 12 months warranty. Store box upright.

Note: We provide advice on usage to the best of our knowledge, but this is only considered to be non-binding information, and does not exempt the end user from checking the suitability for the intended purposes and processes themselves.

Standard lengths: Depending on material and width, there is generally 66 m on an adhesive tape roll, but there can also be 50 m or 33 m. A main reason for this: The rolls must fit in a standard adhesive dispenser with their external diameter, i.e. have a diameter of approx. 100-130 mm. Special lengths from 5 m to approx. 2,000 m are possible on request.

All standard adhesive tapes are RoHS-compliant. We have also entered many of our adhesive tapes into IMDS (International Material Data Systems) under company ID 2912. The contents are further itemised there.

Dimension conversion		Roll price calculation
1 µm	= 0,001 mm	metre x width in m x length in m (e.g. roll with width of 15mm and length of 66 m: 3.60 EUR/m² x 0.015m x 66m = 3.56 EUR/roll)
1 mil	= 25,4 µm	
1 m	= 1000 mm	
1 inch	= 25,4 mm	
1 foot	= 0,3048 m	
1 yard	= 0,9144 m	
Roll price = Price per square		

Standard widths and purchase quantities

Width in mm	6	9	12	15	19	25	30	38	50	100
Rolls/small carton	48	32	24	20	16	12	10	8	6	3
Rolls/shipping unit	384	256	192	160	128	96	80	64	48	24



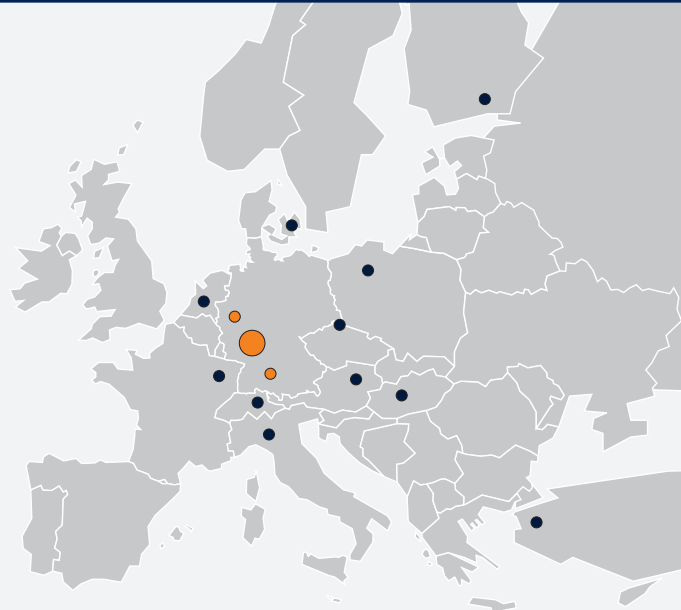


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Still got questions – please call us.

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