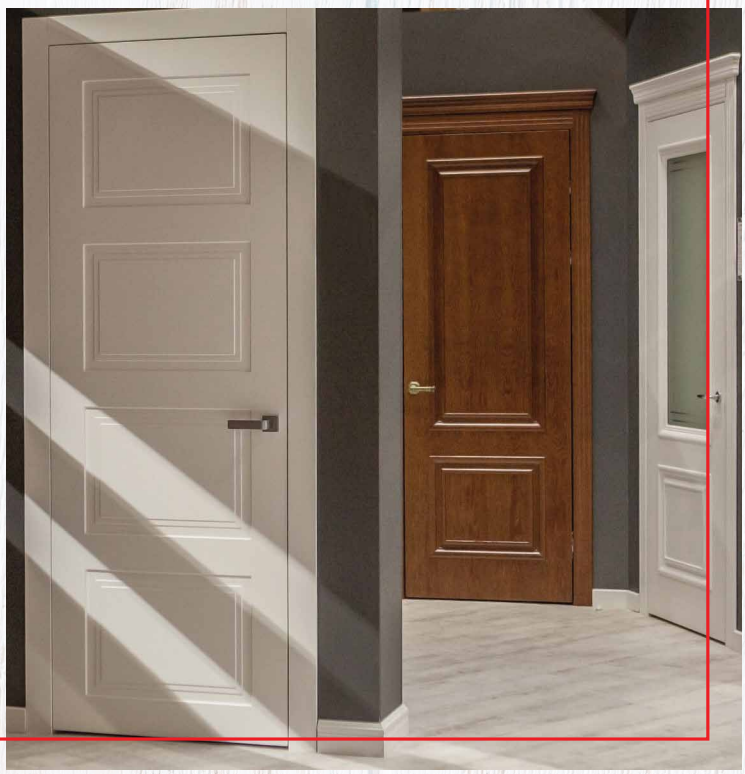

Adhesive solutions for door manufacture

Safe and modern home with top-of-the-line doors

MITOL

KEEPING THINGS TOGETHER

About MITOL

Adhesive solutions for every bonding challenge you face

As the leading Slovenian producer of adhesives, MITOL has been providing innovative and effective gluing solutions for more than 70 years. With reliable, technologically advanced products and superior customer service, we have managed to build and maintain close relationships with our partners in more than 35 countries around the globe. Sustainability challenges need to be addressed for a better tomorrow. And this is what we strive for. We therefore select our materials and production processes carefully to reduce the environmental impact.

Door manufacture with Mitol adhesives

Door manufacture needs to address a wide range of products, from plain interior doors, classic doors featuring a casing and panels, to high-end solid wood doors.
Even though the product diversity is broad and technological requirements are very diverse, one thing never changes: all the doors have to meet strict quality standards.
Here is where MITOL comes into play with our innovative bonding solutions custom-developed for each individual process regardless if the doors are manufactured in a small workshop or come from a mass production process. MITOL adhesives are distinguished by their ease of handling, low emissions, and a high production efficiency.

Production of door panels

Flat lamination

The surface of wood-based panels of interior doors is most commonly covered by decor pressure laminates, such as HPL, CPL, or classic veneer. MITOL offers advanced adhesives based on formaldehyde-free PVAC dispersions that can be used in stationary or continuous production processes.
We recommend the use of special dispersion adhesives with superior adhesion properties for laminating decorative paper or thermoplastic foils.

Product	Base	Viscosity (mPas) at 23°C	Open assembly time	Pressing time (min.)	Durability group EN 204	Special properties
MEKOL 1001/M	PVAc dispersion	8000 - 11 500	15 - 18 min.	25 - 30 min.	D1	meets the requirements IMO Resolution A.1/3.18e (Modul B)
MEKOL 1120	PVAc dispersion	7500 - 10 500	7 - 10 min.	15 - 20 min.	D2	fast setting glue
MEKOL 1031	PVAc dispersion	8500 - 11 500	12 - 15 min.	20 - 25 min.	D3	worm pressing, cost efficient
MEKOL 1034	EPI dispersion	10 000 - 16 000	10- 12 min.	15 - 20 min.	D3	fast setting glue
MITOPUR 1921	copolymer dispersion	15 000 - 20 000	2 - 3 min.	short, continious process	/	PVC, PP and decor paper lamination; high initial tack
UROKOL P 410	one shot urea-formaldehyde resin	250 - 450 (20°C; 50% water dispersion)	very long	0,8 - 1,3 min. (at 100°C)	/	veneering in hot press > 100°C; E1 class
TERMOKOL PUR 2521	PUR hot melt	7500 - 13 000 (at 120°C)	medium	short, continious process	D4	high green strength, excelent water and heat resistance, cost efficient
TERMOKOL PUR 2524	PUR hot melt	10 000 - 20 000 (at 120°C)	medium	short, continuos process	D4	high green strength, excelent water and heat resistance

3D lamination

The manufacturing processes and adhesives for 3D lamination have to follow today's quickly changing trends and thus ensure a reliable bond on a wide variety of materials.
Either one- or two-component MITOL PUR-dispersion based adhesives ensure superior bonding for a perfect surface with excellent heat and water resistance.

Product	Base	Viscosity (mPas) at 23°C	Reactivation temperature in the glue line	Crosslinking	Special properties
MEKOL 1951	PU dispersion	300 – 700	50 - 70 °C	Mekol B10	1C/2C glue, very low activation temperature
MEKOL 1952/O	PU dispersion	500 – 900	60 - 80 °C	Mekol B10	1C/2C glue, light blue colour
MEKOL 1953	PU dispersion	1600 - 2500	60 - 70 °C	built-in latent hardener	1C glue, heat resistance > 100°C
MEKOL 1954	PU dispersion	1600 – 2500	55 - 60 °C	Mekol B10	1C/2C glue, low activation temperature

Edgebanding

The edges of door panels can be finished with the most diverse edge bands: straight edges, soft-formed, or fold edge.
The TERMOKOL product range features a wide selection of high-quality hot melts based on EVA and PO polymers. Superior bonding strength on diverse materials, zero-bond line appearance, as well as heat resistance of the bond are the standard here.
For superior moisture and heat resistance, select our hot melts from our TERMOKOL PUR product range.

Product	Base	Viscosity (mPas) at 200°C	Softening point	Processing temperature	Colour	Special properties
TERMOKOL 2025	EVA hot melt	48 000 - 58 000	108 - 113 °C	180 - 200 °C	white and natural	unfilled type, also for processing centre and soft forming
TERMOKOL 2031	EVA hot melt	27 000 - 41 000	93 - 103 °C	160 - 200 °C	white and natural	universal type, fold edge
TERMOKOL 2072	EVA hot melt	80 000 - 100 000	107 - 113 °C	190 - 200 °C	white and natural	high quality bonding, also for processing centre and soft forming
TERMOKOL ULTRA 2043	PO hot melt	approx. 50 000	approx. 150 °C	200 - 220 °C	natural	very high heat resistant
TERMOKOL PUR 2502	PUR hot melt	20 000 - 40 000 (at 140°C)	approx. 62 °C	110 - 160 °C	milky-translucent	very high water resistant and heat resistant
TERMOKOL PUR 2502 C	PUR hot melt	20 000 - 40 000 (at 140°C)	approx. 62 °C	110 - 160 °C	milky-translucent	very high water resistant and heat resistant , in mini cylinder form

Wrapping process

Wrapping of wood or wood-based materials with various foils, decorative papers and veneers is the crucial step in the production of door frames as well as in the manufacture of panels for modular doors.
Our portfolio of TERMOKOL hot melts is available in a wide range of viscosities, setting times and adhesion to various materials used for wrapping.

Product	Base	Viscosity (mPas) at 200°C	Softening point	Processing temperature	Colour	Special properties
TERMOKOL 2027	EVA hot melt	10 000 - 14 000 (at 170°C)	80 - 90 °C	170 - 200 °C	natural, beige	decorative paper,veneer wrapping
TERMOKOL 2030	EVA hot melt	10 000 - 16 000 (at 170°C)	80 - 90 °C	170 - 200 °C	natural, beige	decorative paper wrapping, high green strength
TERMOKOL 2039	EVA hot melt	4500 - 6000 (at 200°C)	90 - 95 °C	170 - 200 °C	transparent, yellowish	decorative paper wrapping, unfilled type
TERMOKOL 2090	EVA hot melt	15 000 - 18 000 (at 170°C)	75 - 85 °C	150 - 170 °C	transparent	PVC, PP wrapping, unfilled type
TERMOKOL ULTRA 2051	PO hot melt	approx. 5000 (at 200°C)	approx. 125°C	170 - 200 °C	transparent, yellowish	decorative paper wrapping, high heat resistance, unfilled type
TERMOKOL ULTRA 2054	PO hot melt	10 000 - 15 000 (at 200°C)	128 - 135 °C	190 - 200 °C	transparent, yellowish	decorative paper, veneer wrapping, high heat resistance, unfilled type
TERMOKOL ULTRA 2055	PO hot melt	approx. 6000 (at 200°C)	approx. 120°C	180 - 200 °C	transparent	decorative paper wrapping, high heat resistance, unfilled type, high heat stability in the melter
TERMOKOL PUR 2513	PUR hot melt	20 000 - 35 000 (at 140°C)	approx. 56 °C	110 - 160 °C	natural, beige	wrapping of wood based profiles with decorative paper , PVC foils, CPL and veneer

Assembly procedures

Special assembly procedures and techniques require advanced and customised adhesive solutions. MITOL offers a wide selection of top-quality MEKOL adhesives based on a special PVAC dispersions for cold bonding of hard and soft wood as well as wood-based substrates. TERMOKOL hot melt adhesives with very short setting times and superior adhesion represent an innovative bonding solution for high-series industrial production.

Cold gluing

Product	Base	Viscosity (mPas) at 23°C	Pressing time (at RT)	Special properties
MEKOL 1001	PVAc dispersion	9000 - 12 000	10 - 15 min.	manual application
MEKOL 1008	PVAc dispersion	7000 - 9000	10 - 15 min.	nozzle application
MEKOL 1106	PVAc dispersion	200 - 400	10 - 15 min.	automatic doweling
MEKOL 1908	PVAc dispersion	8500 - 11 000	8 - 12 min.	fast setting, spray application

Hot gluing

Product	Base	Viscosity (mPas)	Softening point	Setting time (at RT)	Special properties
TERMOKOL 2004	EVA hot melt	70 000 - 85 000 (at 200°C)	102 - 112 °C	approx. 5 sec.	assembling L profile
TERMOKOL 2108	EVA hot melt	1500 - 2200 (at 150°C)	77- 87 °C	3 - 5 sec.	assembling with hot melt guns
TERMOKOL 2624	EVA hot melt	2300 - 3300 (at 170°C)	75 - 85 °C	2 - 3 sec.	assembling difficult to bond surfaces with hot melt guns

Production of solid wood doors

For the production of solid wood doors for indoor and outdoor use, MITOL has developed a range of high-quality PVAC adhesives. The adhesives available under the MEKOL brand provide short setting times and meet the stringent requirements for the D3 and D4 durability classes. Because they are water-based and do not contain formaldehyde, they represent a user- and environmentally friendly solution.

When the doors are exposed to changing climatic or other extreme conditions, we recommend to use MITOPUR adhesives. Based on moisture-curing PUR prepolymer, they provide an extremely strong and highly resistant bond.

Product	Base	Viscosity (mPas) at 23°C	Pot life	Open assembly time (at RT)	Pressing time (at RT)	Durability group EN 204	Special properties
MEKOL 1131 + MEKOL B10	PVAc dispersion	7000 - 10 000	approx. 8 hours	7 - 10 min.	15 - 30 min.	D3/D4	Watt'91(80°C)> 7 N/mm2
MEKOL 1141 + MEKOL B11	PVAc dispersion	10 000 - 14 000	3 - 4 days	7 - 10 min.	20 - 40 min.	D4	Watt'91(80°C)> 7 N/mm2
MEKOL 1144	PVAc dispersion	approx. 7000	/	10- 12 min.	20 - 40 min.	D4	one-component, Watt'91(80°C) > 7 N/mm2
MITOPUR E45	1C PUR prepolymer	5500 - 9000	/	45 - 50 min.	45 - 60 min.	D4+	difficult to bond surfaces, extreme climatic conditions

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