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Markets and Applications - Whether your market is in packaging, building & construction, paper converting, woodworking, general assembly, personal hygiene, graphic arts, automotive, solar or the dozens of other industries we serve, we are dedicated to formulating innovative industrial adhesives, sealants, coatings and specialty materials that help you succeed.
Adhesive Technologies - Leverage the tenacity and knowledge of our chemists and technicians to discover innovative industrial adhesive products and solutions for your challenging problems. Our adhesive technologies include hot melt, solvent-based, water-based, and reactive chemistries.

Woodworking - Water based Adhesives

Product Name	Standard	Pack Size	Characteristics	Viscosity (mPas)	Surface	Open Time (min)
Water based adhesives						
Rakoll® GXL 3	D3	30 kg IBC	D3 glue easy to apply, suitable for many processing conditions	13.000 @ 20°C	Veneering Foil lamination Solid Wood	10
Rakoll® Eco 3	D3	IBC	Recommended glue for changing technology from urea formaldehyde to PVAc	11.500 @ 20°C	Veneering Foil lamination Solid Wood	12
Rakoll® GXL 4 Plus	D4	30 kg	1 component D4 adhesive, fulfills requirements for window scantling	3.500 @ 20°C	Veneering Foil lamination Solid Wood	10
GXN	D3	500g 5kg	PVA adhesive Good universal assembly adhesive	1200 @ 20°		8-12
Rakoll® Express 25 D	D2	30 kg	Designed for the chair industry Very good for hardwoods	20.000 @ 20°C	Dowelling Solid Wood Joints in Boards	6-9
Express LK 50	D2	30kg	High pressure doweling machine set up	10.500 @ 20°C	Wood to wood Doweling	2
Advatac DBH	D2	25kg	High pressure doweling machines	6.500 @ 20°C	Doweling Machines	12-15
Advatac DBL	D2	25kg	For low bar pressure machines	250°C @ 20°C	Doweling Machines	1-2

Mitre Kits

Mitre Kits	D3	50kg	2 component adhesive for bonding profiles		Bonding profiles	5secs

Contact Spray Adhesive

Tuskbond		500 ML	Spray both substrates Allow to touch dry Press together		Contact Adheisve	

Polyurethane Adhesives

Product Name	Market	Substrates	Characteristics	Pack Size	Open Time (min)	Viscosity (mPas 20ºC)	Certification
Liquid reactive - 1C PU							
Icema R 145/12 PULC5	Marine Fire protected doors Partition walls Caravans	Plastic Metal Foam Wood	Suitable for many panel application process, fast product with marine certification, IMO.	1 kg	7	3.500	IMO
Icema R 145/31 PULC15/13	Doors Fire protected doors Partition walls Caravans	Plastic Metal Foam Wood	Suitable for many panel application process, fast product with marine certification, IMO.	1 kg	15	7.200	IMO
ICEMA R 145 / 44	Galvanised or treaded steel, anodized or coated aluminium, non-ferrous metals in thermosetting plastics, HPL, GRP, rigid PVC, Ps, ABS. Wood and cemented materials. Concrete and tiles.			Mastic Tube	8-12	14.000	

Membrane Press Technology

Product Name	Substrates	Application Method	Characteristics	Viscosity (mPas)	Activation Tempera-ture	Initial Strength	Density (g/cm^2)
RAKOLL® SUREPRESS LV + RAKOLL® - Surepress MP Crosslinker	PVC ABS PET	Spraying equipment	Very good spraying properties due to the low viscosity	400	55 - 60°	Medium	1,06
ADVATAC MB 1/45-15	PVC foil	Spraying equipment	Single component, polyure-thane dispersion adhesive, developed for applying PVD to wood based materials via membrane press.	1450 ± 200@ 20°C	65 - 70°	High	1,06

Woodworking - Hot Melts

Product Name	Application	System	Characteristics	Base	Viscosity (mPas)	Working Temperature °C	Heat Resistance °C
Edgebanding - Hot Melt							
Rakoll® SK K4/570 NAT	Straight Precoating	Unfilled	High quality adhesive. Short open time, precoating lines can be run at a relatively high feed speed.	EVA	65.000	190 – 210	85
Rakoll® K4/581 LV	Straight Precoating	High Filled	Suitable for many substrates, easy to apply and cost effective.	EVA	80.000	170 – 190	80
Rakoll® Supermelt Plus	Straight Softforming Processing center Precoating	Unfilled	Low density product that delivers low glue coat weight Slower Machines	EVA	54.000	170 – 190	100
P2/650	Straight Precoating	Unfilled	EVA hot melt cartridges	EVA	65.000	190 – 210	85

Edgebanding - Hot melt Moisture Curling / Reactive Hot melt - PUR

Products Name	Substrates	Characteristics	Application System	Initial Strength	Open Time	Viscosity @ 120°C (mPas)	Working Temperature
Rakoll® PUS 450 R UV	Alu Preheated ABS/PP/ PVC HPL Soild wood Melamine	Cost Effective grade for many types of substrates. Unfilled product. Also suitable for low feeding speed (15 m/min)	Roller Nozzle	High	Short	45.000 @ 120°C	120-140
Rakoll® PUS 55OT	Alu Preheated ABS/PP/ PVC HPL Solid wood Melamine	High initial strength, short setting time. High thermal stability after final curing	Roller Nozzle	Very High	Short	35.000 @ 130°C	110 - 150
Advatac PU000 25	Alu Preheated ABS/PP/ PVC HPL Solid wood Melamine	High initial strength, short setting time. High thermal stability after final curing	Roller Nozzle	Very High	Short	35.000 @ 130°C	110 - 140
Ipatherm 9030			Wax cleaner for cleaning PU hot melt				

For further inquires please contact our head of adhesives
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TECHNICAL DATA SHEET

Rakoll® GXL 3

Type of Adhesive

One-component D3 PVAc adhesive and two-component D4 PVAc adhesive when mixed with hardener.

Product Benefits

- good water resistance
- quick setting time
- if heat is applied, very short pressing times can be achieved
- bonded joints with good high-temperature resistance
- classification according to EN 204: load group D4 as a two-component system (ift certified)
- classification according to EN 204: load group D3 as one-component system (ift certified)
- adhesive strength according to DIN EN 14257 (WATT 91) as a one-component system (ift certified)

Typical Applications

Areas of application:

- surface gluing of decor-finish film
- high-frequency bonding
- stationary edgebanding with veneers, plastic laminates and solid wood strips
- surface bonding of HPL/CPL in short cycle presses
- carcase and assembly gluing
- bonding joints in boards and block gluing of softwoods and chipboard as well as hardwoods

Suitable substrates

Wood and wood based material.

Typical Properties

Property	Value		
	Rakoll® GXL 3	Rakoll® GXL 3 Härter	Mixture
Basis	PVA Dispersion	Polyisocyanate	-
Colour	white	colourless	white
Viscosity	approx. 13.000 mPa.s	-	approx. 11.500 mPa.s
(Brookfield HB, spindle 3, 20 rpm, +20 °C on the day of production)			
White point	approx. 7°C	-	approx. 7°C
pH	approx. 3	-	approx. 3
Shelf life	9 months		

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Application Instructions

Apply Rakoll® GXL 3 thinly and evenly to one side or, if a high degree of water resistance is required, to both sides, using a spreading machine, glue roller, serrated trowel, glue brush or another suitable device.

Good results will be achieved if the following conditions are observed:

Room and material temperature	18 – 20°C
Moisture content of wood	8 – 10%
Relative humidity	60 – 70%
Amounts of adhesive to apply – For surface bondings – For assembly gluings	 80 – 140 g/m^2 160 – 180 g/m^2
Open time at 150 g/m^2	8 – 12 min

Application reference values:

Press pressure, depending on type of bonding	0,1 – 0,8 N/mm^2
Minimum pressing times: – Surface gluing of decor-finish film in short cycle presses – High-frequency bonding with longitudinal heating	 5 – 10 sec from 15 sec
Gluing: – Surface gluing of HPL/CPL in short cycle presses at +70 °C – Assembly gluing – Boards and block gluing	 from 45 sec 8 – 15 min 10 – 15 min
Mixing ratio: 100 parts by weight Rakoll® GXL 3 with 5 parts by weight Rakoll® GXL 3 Härter Mix the adhesive and the hardener together thoroughly.	
Pot life Approx. 24 hours at normal temperature. Temperatures above 20°C reduce the pot life.	

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Open time and setting time: strongly depend on working conditions such as temperature, humidity, absorbency of the materials being worked and amounts applied.

Laminating of wooden window profiles: In accordance with the Quality Guidelines of i.f.t. Rosenheim, “Laminated Profiles for Wooden Windows”, the wood moisture content must be 13+/-2%. The room temperature and the wood temperature must be at least 15°C.

Wood preparation: all parts should mate well and be dust and grease free. Over tolerances will lead to longer setting times and weaker bonds. The joints should be cut shortly before bonding.

Presses: Lay the items to be bonded together within the workable time and press them for as long a time as is needed to achieve the required initial firmness upon release. The pressure should be high enough to ensure contact of the parts over the entire area of the joint. Depending on the material and the type of bond being used, the mechanical firmness required for further processing of the parts is achieved within the shortest possible space of time. The higher levels of water resistance form more slowly and should be tested not earlier than 7 days after bonding.

Wood discoloration: Because of the varied nature of wood components, e. g., depending on the area of growth and the type of pre-treatment, unpredictable discoloration may in some cases appear on different types of wood, such as beech, cherry and others. In addition, it is possible that iron together with the tannin in wood can cause discoloration, especially in the case of oak. We recommend you test this for yourself.

Advice: Properties of storage tanks, pipelines and spreading devices made from steel, galvanised steel aluminium or other non-ferrous metals cannot be recommended due to the slightly acidic nature of the dispersion, as there is a danger of corrosion. For this reason, we recommend the use of storage tanks, pipes and spreading devices made from stainless steel of plastic (hard PVC, polyethylene, polyester resin).

Rakoll® GXL 3 can thicken a little after prolonged storage. The adhesive should then be thoroughly mixed and is then ready for use again.

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Cleaning Instructions	Clean machines and utensils with water before the adhesive dries.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	Store Rakoll® GXL 3 away from frost in tightly closed original containers at above 5°C. Storage temperatures in excess of 25°C considerably reduces the minimal storage time.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

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TECHNICAL DATA SHEET

Rakoll® ECO 3

Type of Adhesive

PVAc adhesive, meets the requirements of class D 3 as a one-component product and mixed with Rakoll® GXL-3-Härter meets the requirements for D 4 standard DIN EN 204.

Product Benefits

- excellent water resistance
- sets very quickly
- if heat is applied, you can shorten the pressing time
- the bonded joints are characterised by a good high-temperature resistance

Typical Applications

This product can be used for a variety of applications including:

- surface gluing of decor-finish film
- high-frequency bonding
- surface bonding of HPL/CPL in short cycle presses
- carcase and assembly gluing
- bonding joints in boards and block gluing of
- softwoods and chipboard as well as hardwoods

Suitable substrates

Wood and wood materials.

Typical Properties

Property	Value
Rakoll® ECO 3	
Base	PVA dispersion
Colour	white
Viscosity	approx. 13.000 mPa.s (Brookfield HB, Spindle 3, 20 rpm, 20°C) on the day of production
White point	6 °C
pH-value	approx. 3
Shelf life	9 months
Rakoll® GXL-3-Härter	
Base	polyisocyanate
Colour	colourless
Mixture	
Colour	white
Viscosity	approx. 11.500 mPa.s (Brookfield HB, Spindle 3, 20 rpm, 20°C) on the day of production
White point	6 °C
pH-value	approx. 3

Application Instructions

The open time and setting time depend strongly on working conditions such as temperature, humidity, absorbency of the materials being worked and amounts applied.
Good results will be achieved if the following conditions are observed:

- Room, material and adhesive temperature: 18 – 20°C
- Moisture content of the wood: 8 – 10%
- Relative humidity: 60 - 70%
- Amounts of adhesive to apply:
  - for surface bondings: 70 - 150 g/m^2
  - for assembly gluings: 150 - 190 g/m^2
- Press pressure, depending on type of bonding: 0,1 - 0,8 N/mm²
- Minimum pressing times:
  - surface gluing of decor-finish film in short cycle presses: 5 – 10 sec
  - high-frequency bonding with longitudinal heating: from 15 sec
- Surface gluing of HPL/CPL in short cycle presses at 70 °C: from 40 sec
- Assembly gluings: 8 - 15 min
- Boards and block gluing: 10 - 15 min

Laminating of wooden window profiles:
In accordance with the Quality Guidelines of i.f.t. Rosenheim, “Laminated Profiles for Wooden Windows”, the wood moisture content must be 13 +/- 2%. The room temperature and the wood temperature must be at least 15°C.

Mixing ratio
100 parts by weight Rakoll® ECO 3 with 5 parts by weight Rakoll® GXL-3-Härter. Mix the adhesive and the hardener together thoroughly.

Pot life
Approx. 24 hours at normal temperature.
Temperatures above +20°C reduce the pot life.

Application Instructions

Wood preparation

All parts should mate well and be dust and grease free. Over tolerances will lead to longer setting times and weaker bonds. The joints should be cut shortly before bonding.

Applying the adhesive

Apply Rakoll® ECO 3 thinly and evenly to one side or, if a high degree of water resistance is required, to both sides, using a spreading machine, glue roller, serrated trowel, glue brush or another suitable device.

Pressing

Lay the items to be bonded together within the workable time and press for as long as is needed to achieve initial firmness upon release.
The pressure should be high enough to ensure contact of the parts over the entire area of the joint. Depending on the material and the type of bond being used, the mechanical firmness required for further processing of the parts is achieved within the shortest possible space of time. The higher levels of water resistance form more slowly and should be tested not earlier than 7 days after bonding.

Wood discolouration

Because of the varied nature of wood components, e.g., depending on the area of growth and the type of pre-treatment, unpredictable discoloration may in some cases appear on different types of wood, such as beech, cherry and others.
In addition, it is possible that iron together with the tannin in wood can cause discoloration, especially in the case of oak.
We recommend you test this for yourself.

Rakoll® ECO 3 can thicken a little after pro-longed storage. The adhesive should then be thoroughly mixed and is then ready for use again.

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Cleaning Instructions	Clean machines and utensils with water before the adhesive dries.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	Store Rakoll® ECO 3 away from frost in tightly closed original containers between +5°C and +35°C.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

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TECHNICAL DATA SHEET

Rakoll® GXL 4 Plus

Type of Adhesive

One-component PVA adhesive.

Product Benefits

- Durability Class in accordance to DIN EN 204 - D4 and WATT 91: > 7 N/mm²
- excellent water resistance
- fast setting
- short press time
- improved adhesion on difficult wood species (oak, larch)
- no discolouration of the glue line due to the influence of process heat (e.g. HF-press)
- improved heat- and water resistance when using high process temperatures(e.g. 70°C)

Typical Applications

This product is suitable for laminating of wooden window profiles.

Suitable substrates

Wooden based materials.

Typical Properties

Property	Value
Base	PVA dispersion
Colour	white
Viscosity	approx. 3.500 mPa.s (Brookfield HB, Spindle 2, 20 rpm, at 20°C on the day of production)
pH-value	approx. 3,5
Shelf life	6 months

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Application Instructions

The open time and setting time depend strongly on working conditions such as temperature, humidity, absorbency of the materials being worked, and amounts applied.

Good results will be achieved if the following conditions are observed:

- room, material and adhesive temperature: 18-20°C
- moisture content of wood: 8-10%
- application quantity for assembly gluing: 150-180 g/m^2
- open time at 150 g/m^2: approx. 10 min (measured at 23°C/50% rel. humidity)
- chalk point: approx. 8°C
- press pressure for:
  - stress free workpieces 0,1-0,5 N/mm^2
  - soft wood 0,1-0,3 N/mm^2
  - hard wood 0,5-0,8 N/mm^2
- minimum pressing times:
  - assembly gluing: 8-15 min
  - short cycle press at 70°C: > 1 min
  - boards and block gluing: 20-40 min
  - window scantlings, depending on type of wood:
    softwood (e.g. spruce): from 15 min
    hardwood (e.g. oak, beech): approx. 2 hours

Laminating of wooden window profiles:
In accordance with the Quality Guidelines of i.f.t. Rosenheim, “Laminated Profiles for Wooden Windows”, the wood moisture content must be 13 +/- 2%. The room temperature and the wood temperature must be at least 15°C.

Wood preparation:
All parts should mate well and be dust and grease free. Mismachined parts will lead to longer setting times and weaker bonds. The joints should be processed shortly before bonding.

Application of the adhesive:
Apply the adhesive thinly and evenly to one side or, if a high degree of water resistance is required to both sides using a spreading machine, glue roller, serrated trowel, glue brush or another suitable device. For bonding of hardwood we recommend a double-sided application.

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Application Instructions	Pressing: Lay the items to be bonded together within the workable time and press them for as long a time as is needed to achieve the required initial firmness upon release. The pressure should be high enough to ensure contact of the parts over the entire area of the joint. Depending on the material and the type of bond being used, the mechanical firmness required for further processing of the parts is achieved within the shortest possible space of time. The higher levels of water resistance form more slowly and should be tested not earlier than 7 days after bonding. Wood discoloration: Because of the varied nature of wood components, e.g., depending on the area of growth and the type of pre-treatment, unpredictable discoloration may in some cases appear on different types of wood, such as beech, cherry and others. In addition, it is possible that iron together with the tannin in the wood can cause discoloration, especially in the case of oak. We recommend you test this for yourself.
Cleaning Instructions	Clean machines and utensils with water before the adhesive dries.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging protected from sun, dust, moisture and high temperatures. Clean and dry conditions below 22°C.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

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RAKOLL®
Woodworking Adhesives

Technical Data Sheet

Express 25 D

Universal hardwood glue for seating furniture and other joints subjected to high loads

Properties
RAKOLL®-Express 25 D is a high-quality PVA glue which reaches a very good final strength on setting. Joints glued using RAKOLL®-Express 25 D are characterised by good resistance to dynamic loading, while at the same time displaying good static load-bearing capabilities.

Classification according to DIN EN 204 - D 2

Application
- Manual doweled gluing of upholstered furniture frames
- Gluing of joints in boards and block gluing of hardwood
- Gluing of joints in boards and block gluing of softwood and chipboard
- Carcass and assembly gluing when average pressing times are required

Instructions for use
The open time and the setting time are strongly influenced by the working conditions, e.g. humidity, absorbency of the materials as well as the quantities applied and tension in the material.

Good results will be achieved under the following conditions:

Room, material and glue temperature	18 ... 20 °C
Moisture content of the wood	8 ... 10 %
Relative humidity	60 ... 70 %

Glue spread:	
for assembly gluing	140 ... 200 g/m²
for surface gluing	80 ... 140 g/m²
Open time at 150 g/m²	6 ... 9 min
Press pressure for tension-free work-pieces	0,1 ... 0,5 N/mm²
Minimum pressing times:	
Doweled and dovetail joints in hardwood depending on fit of joints	10 min
Block gluing of hardwoods	12 ... 15 min
Joints in softwoods and chipboard	8 ... 13 min

Wood preparation
In the case of hardwoods, the moisture content of the wood must be strictly within the specified range of 8 ... 10 %.

Cutting out the joints, joining and gluing should preferably be carried out on the same day.

Glue spread
RAKOLL®-Express 25 D is normally applied evenly to one side using a brush or other suitable spreading appliance.

Pressing
Lay the items to be bonded together within the open time and press for as long as is required to obtain sufficient initial strength.

Wood discolouration
RAKOLL®-Express 25 D does not cause discolouration of the wood. Iron in combination with the tannic acid of the veneer can however lead to changes of colour, particularly in the case of oak.

Cleaning
Clean tools with water before the adhesive dries.

Chemical-technical data

	RAKOLL®-Express 25 D
Basis:	Polyvinyl acetate dispersion (PVA)
Colour:	yellowish, dries to light brown translucent
Viscosity: (Brookfield HB, spindle 3, 20 rpm, +20 °C measured at on the day of manufacture)	approx. 16.000 mPa.s
White point:	approx. +3 °C
pH value:	approx. 7

Labelling
RAKOLL®-Express 25 D is not subject to marking regulations pursuant to the Dangerous Goods Act in its present version.

Storage
Store RAKOLL®-Express 25 D in tightly closed original containers protected from frost.
The shelf life is at least 12 months.

Technical stage of development: March 2006
The data in former leaflets which differ from this version are no longer valid .

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TECHNICAL DATA SHEET

Rakoll®express LK 50

Type of Adhesive

PVA glue for automatic doweling machines using high-pressure pumps.

Product Benefits

It has a relatively poor adhesion to metallic parts and therefore requires only a small amount of setting-up time.

Typical Applications

Mechanical dowel gluing in automatic doweling machines using high-pressure pumps, automatic carcase-gluing machines which operate using the folding method.

Suitable substrates

Wood and wood based materials.

Typical Properties

Property	Value
Basis	polyvinyl acetate dispersion (PVA)
Colour	white, drying to transparent
pH value	approx. 7
White point	approx. 2°C
Viscosity at 20°C	Brookfield HB; spindle 3; 20 rpm approx. 10.500 mPa.s
Shelf life	12 months

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Application Instructions	The pressure setting of the glue pumps should be adapted to the working conditions in accordance with the instructions of the machine manufacturer. The best setting can only be found through trials. Generally, a container pressure of 3 bar is used together with a pressure ratio of 1: 30 to 1: 40. The viscosity of this product depends on the temperature and can change during the course of the day through warming up. The pump pressure must then be re-adjusted accordingly. The nozzles do not normally require cleaning after shorter work breaks, it should however be checked that the spray enters the hole cleanly. It is helpful to clean the spray nozzles with an oil-impregnated rag at the beginning of each break. This is supplied ready for use. The aspiration lance of hose of the glue pump generally fits into the pourer of the glue container. It can therefore be used directly out of the original containers.
Cleaning Instructions	Please contact your local Sales Office for available cleaning solutions.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	Store in tightly closed original containers protected from frost.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

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Technical Data Sheet
ADVATAC DBH

ADVATAC
Adhesives for Industry

PRODUCT DESCRIPTION

Advatac DBH is a high viscosity polyvinyl acetate (PVAc) based adhesive, developed for use on automatic dowelling machines using high pressure application pumps such as Koch and Nottmeyer. It conforms to EN204/205 standard group D2.

TECHNICAL DATA

Colour:	White
Viscosity:	6500 ± 500 mPa.s (Brookfield @ 20°C, 20 rpm)
Solids content:	48 ± 1%
pH:	5.5 – 6.5
TMF:	6°C

CONDITIONS OF USE

Temperature of room, materials to be bonded and adhesive:	18-20°C
Humidity of wood:	8-12%
Open time:	12 – 15 minutes

APPLICATION

Advatac DBH is ready for use but should be stirred before filling the pressure tank of the dowelling machine.

The dowelling machines, and in particular the pressure of the glue pumps should be adjusted according to the manufacturers recommendations.

Tests should be done to determine the correct pressure and application conditions.

Generally, the pressure of the glue tank should be in the region of 3 Bar (44 PSI) and a pressure transmission of 1:30 to 1:40.

After short interruptions in work the glue nozzles should be cleaned with a damp cloth to prevent blocking.

The pressing time is greatly influenced by the ambient conditions, types of wood, amount of adhesive spread and the structure of the materials to be bonded.

DOWELS

Wooden dowels should be grooved and be of a good quality with a tolerance of ± 0.2mm in diameter and ± 1mm in length. Moisture content should be a maximum 10%.

Differences in size will cause prolonged setting times and reduce bond strength. If using plastic dowels tests should be carried out to determine suitability as they differ from wooden dowels which swell to develop initial strength.

SUGGESTIONS FOR USE

Bonding must be carried out at temperatures above the minimum film forming temperature (TMF). We suggest this should be at least 5 – 8°C higher.

During the hot season, the viscosity of the adhesive could increase, during time. If this is the case, 1-3% water should be enough to bring the viscosity to the original value.

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Technical Data Sheet
ADVATAC DBH

ADVATAC
Adhesives for Industry

CLEANING

Clean all working tools and equipment immediately after use with water.

STORAGE AND SHELF LIFE

The adhesive should be stored in a cool, dry area at temperatures between 15°C and 25°C. Under these conditions the product has a shelf life of 12 months when stored in the original, unopened container.

DO NOT ALLOW THE PRODUCT TO FREEZE

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Technical Data Sheet
ADVATAC DBL

ADVATAC
Adhesives for Industry

PRODUCT DESCRIPTION

Advatac DBL is a low viscosity polyvinyl acetate (PVAc) based adhesive, developed for use on automatic dowelling machines using high pressure application pumps such as Koch, Morbidelli, Biesie and Nottmeyer. It conforms to EN204/205 standard group D2.

TECHNICAL DATA

Colour:	White
Viscosity:	250 ± 50 mPa.s (Brookfield @20°C, 20 rpm)
Solids content:	36 ± 1%
pH:	4-5
TMF:	6°C

CONDITIONS OF USE

Temperature of room, materials to be bonded and adhesive:	18-20°C
Humidity of wood:	8-12%

APPLICATION

Advatac DBL is ready for use but should be stirred before filling the pressure tank of the dowelling machine.

The dowelling machines, and in particular the pressure of the glue pumps should be adjusted according to the manufacturers recommendations.

Tests should be done to determine the correct pressure and application conditions.

Generally, the pressure of the glue tank should be in the region of 3 Bar (44 PSI) and a pressure transmission of 1:30 to 1:40.

After short interruptions in work the glue nozzles should be cleaned with a damp cloth to prevent blocking.

The viscosity of Advatac DBL may change during the day due to ambient temperatures. In this case the machines should be adjusted accordingly, particularly the pressure of the pumps.

The pressing time is greatly influenced by the ambient conditions, types of wood, amount of adhesive spread and the structure of the materials to be bonded.

DOWELS

Wooden dowels should be grooved and be of a good quality with a tolerance of ± 0.2mm in diameter and ± 1mm in length. Moisture content should be a maximum 10%.

Differences in size will cause prolonged setting times and reduce bond strength. If using plastic dowels tests should be carried out to determine suitability as they differ from wooden dowels which swell to develop initial strength.

SUGGESTIONS FOR USE

Bonding must be carried out at temperatures above the minimum film forming temperature (TMF). We suggest this should be at least 5 – 8°C higher.

Avoid the addition of flour and other substances which could affect the adhesive performance.

During the hot season, the viscosity of the adhesive could increase, during time. If this is the case, 1-3% water should be enough to bring the viscosity to the original value.

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Technical Data Sheet
ADVATAC DBL

ADVATAC
Adhesives for Industry

CLEANING

Clean all working tools and equipment immediately after use with water.

STORAGE AND SHELF LIFE

The adhesive should be stored in a cool, dry area at temperatures between 15°C and 25°C. Under these conditions the product has a shelf life of at least 6 months when stored in the original, unopened container.

DO NOT ALLOW THE PRODUCT TO FREEZE

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Technical Data Sheet
ADVATAC CYANOACRYLATE

ADVATAC
Adhesives for Industry

PRODUCT DESCRIPTION

Advatac Cyanoacrylate Adhesive is a high viscosity product for bonding porous and non-porous surfaces as listed below. Bonding speeds can be improved with the use of Advatac Activator 100.

APPLICATION

All surfaces to be bonded must be clean, dry, oil and grease free. Apply a thin film to one side only and bring together immediately. Clamp or hold for a few seconds. Avoid contact with skin. Bonds skin and eyes in seconds.

TECHNICAL DATA

Ester Base	ethyl-2-cyanoacrylate
Appearance	Clear, colourless
Flashpoint	>81°C
Density	1,05
Shelf Life	12 months, unopened
Viscosity (Brookfield) @ 25°C (Spindle 1, 20rpm)	1300 - 1700cP
Appearance	Clear, colourless
Softening Point	c. 130°C
Refractive Index, n_D^{20}	1,45
Full Cure Time	24 hours
Solubility	DMF, acetonitrile, acetone

CURED PERFORMANCE

	Cure Speed
Balsa / Balsa	<5 seconds
Oak / Oak	90-180 seconds
Nitrile / Nitrile	<5 seconds
Neoprene / Neoprene	<5 seconds
EPDM / EPDM	<5 seconds
Steel / Steel	10-20 seconds
PVC / PVC	3-10 seconds
Polycarbonate / Polycarbonate	10-40 seconds

	Shear Strength
Grit Blasted Steel	>15 N/mm²
Etched Aluminium	>11 N/mm²
Nitrile Rubber	>10 N/mm²
Polycarbonate	>12 N/mm²

	Tensile Strength
Grit Blasted Steel	>18 N/mm²
Nitrile Rubber	>5 N/mm²
Neoprene Rubber	>5 N/mm²
EPDM Rubber	>2.5 N/mm²

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Technical Data Sheet
ADVATAC CYANOACRYLATE

ADVATAC
Adhesives for Industry

STORAGE AND SHELF LIFE

Advatac Cyanoacrylate Adhesive should ideally be stored in original sealed containers until used. Containers should be stored between 10°C and 22°C. Avoid exposure to strong light and heat sources. Refrigeration can prolong shelf life.

PACKAGING

50g bottles.

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Technical Data Sheet
ADVATAC TUSKBOND

ADVATAC
Adhesives for Industry

PRODUCT DESCRIPTION

Tuskbond is a CFC free, multipurpose sprayable adhesive with low odour, developed to bond a wide variety of substrates. It has excellent grab and a long open time. The product is delivered through a hose and spray gun system, which means application is clean and efficient. After use the gun is locked off and the system remains ready for instant re-use.

PRODUCT USES

Tuskbond will bond a wide variety of substrates, including wood, metals, rubber, fabric, most plastics, cardboard, polythene and concrete, as well as decorative laminates. It can also be used to bond expanded polystyrene when forming a bond to a different substrate. In this instance the product should be used as a one way stick and only applied to the opposite substrate (do not spray onto the expanded polystyrene). It is ideal for permanent bonds that require good initial bond strength. It provides good temperature resistance and if protected from contamination has an open time of several hours. Always test a small sample of the materials first to ensure the suitability of the product for the application. For instance, some vinyls contain large amounts of plasticiser which, over time, can migrate and soften the bond. When in doubt, test first.

APPLICATION

USE IN A WELL VENTILATED AREA

1. Surfaces to be bonded should be clean, dry and free from dust and grease.
2. Substrates should be conditioned before assembly. This is particularly important with laminates. Condition for 48 hours at 20°C with a relative humidity of 45-55%. Air should be able to circulate freely around the components.
3. Connect the hose to the canister and the spray gun to the hose and tighten the connections.
4. Open the valve on the canister. The valve should remain open until the canister is used up. Use the locking nut on the gun after use. Turning off the valve will result in the adhesive drying in the hose and gun causing blockages.
5. Hold the spray gun at 90° to the surface and apply a uniform generous coat of adhesive, ensuring 80-100% coverage.
6. Move the gun in parallel to the surface and pay particular attention to the edges.
7. Do not allow the adhesive to puddle as this can cause an unevenness that can “show” through the laminate.
8. On porous surfaces it may be necessary to apply a second coat. Always apply to the laminate first and spray one substrate horizontally and the other vertically.
9. It is important to remember that Tuskbond is a contact adhesive and forms it’s bond by sticking to itself, so there must be sufficient adhesive for this to happen.
10. Allow the adhesive to tack up and protect from contamination whilst this happens. The adhesive is ready when it feels dry to the touch and does not transfer to the finger tips.

Note: Tuskbond dries in two minutes under normal conditions, but this will vary under different temperatures and humidities. High humidity and low temperatures will slow the drying time and if the temperature gets very low, can produce bloom. Bloom is moisture which forms on the glue line caused by solvent evaporation lowering the air temperature above it.

ASSEMBLY

1. Once the two surfaces have been brought together, an aggressive bond will be made. Spacers can be used to ensure the surfaces do not come into contact prematurely.
2. Once the two surfaces are brought together, apply a uniform pressure over the work piece, starting in the middle and working outwards. Use blocks or a 3 inch roller and ensure the whole piece has been worked to ensure adequate contact of the adhesive.
3. Pay particular attention to the edges. Please note that testing at this point by lifting the edge will weaken the bond. A nip roller will give the best results.
4. Once assembled, the piece can be machined or trimmed as required.
5. Full cure will take 24 hours.

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Technical Data Sheet
ADVATAC TUSKBOND

ADVATAC
Adhesives for Industry

TECHNICAL DATA

Colour:	Clear or red
Appearance:	Liquid
Solids content:	28-30%
Specific gravity:	90-99
Coverage:	5-10 square metres per litre

CLEANING

Tuskbond can be removed with Advatac Solvent Cleaner.

STORAGE AND SHELF LIFE

Protect from extremes of temperature in a controlled environment between 15 and 35°C, and away from direct sunlight. **Do not stand on a cold concrete floor**. Low temperatures can result in low adhesive coat weights and poor bonds. If canisters are subjected to low temperatures the adhesive will thicken and sometimes separate from the propellant. After bringing the canister back to room temperature, shake or roll the canister to mix the adhesive and propellant.

Stored under the correct conditions, in original, unopened containers, the product will have a shelf life of 12 months.

DO NOT ALLOW THE PRODUCT TO FREEZE

DISPOSAL

Tuskbond is supplied in three different types of canister.

1. The one trip of disposable type (17Kg) has a circular piercing ring near the neck which is designed to be punched out when the canister is completely empty so that the canister can then be safely disposed of ensuring compliance with all Local, Regional, National and EC Regulations.
2. The second type (15.5Kg) is returnable and a payment will have been made on the canister. Subsequently, customers only pay for the canister to be refilled. The canister remains the property of Advatac Limited at all times. Ensure the canister is empty before returning. Do not pierce or incinerate even when the container is empty.
3. The third type (85Kg) is also returnable and remains the property of Advatac Limited. If the canister is not returned to Advatac Limited within 3 months, a £100 charge will be levied.

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Technical Data Sheet ADVATAC PU LC-5

ADVATAC
Adhesives for Industr

PRODUCT DESCRIPTION

Advatac PU LC -5 is a one component, solvent free, quick setting, moisture curing adhesive specially formulated fo water resistant bonding. It can be used for the bonding of joinery, garden furniture, staircases, boats, sandwich panels and insulation materials. It offers excellent adhesion to hard and soft wood, chipboard, laminates, metals, expanded and extruded polystyrene foams, concrete, stone, bricks, gypsum boards and most traditional porous building substrates.

APPLICATION

Substrates to be bonded must be clean, dry and free from dust and grease. The ambient temperature of the substrates should be above 5°C and the moisture content less than 30%. Apply the adhesive to one surface of the substrates to be bonded at a rate of 120 to 250 g/m². Apply to both substrates if they are porous. If necessary, a light misting of water (approx. 30 g/m² is sufficient) will aid curing and enable the adhesive to expand slightly, thus filling any surface irregularities. Clamping the substrates together will improve the overall bond strength.

CURING

Curing time is 5 to 15 minutes, depending on the ambient temperature and moisture content etc. Full strength is normally achieved after 24 hours.

TECHNICAL DATA

Colour:	Brown
Density:	1.10 g/m³
Application temperature:	10 to 35°C
Usage:	120 to 150 g/m², depending on substrate
Temperature resistance:	-30 to 100°C, once cured

CLEANING

Uncured adhesive can be removed using Advatac Solvent Cleaner. Cured adhesive can only be removed mechanically, i.e. by scraping.

STORAGE AND SHELF LIFE

Advatac PU LC-5 should be stored at temperatures between 5°C and 25°C in the original unopened containers. Under these conditions the product should have a shelf life of 6 months.

Technical Data Sheet ADVATAC PU L15 30

ADVATAC
Adhesives for Industr

PRODUCT DESCRIPTION

Advatac PU L15 30 is a one component, solvent free, quick setting, moisture curing adhesive specially formulated for water resistant bonding. It can be used for the bonding of joinery, garden furniture, staircases, boats, sandwich panels and insulation materials. It offers excellent adhesion to hard and soft wood, chipboard, laminates, metals, expanded anc extruded polystyrene foams, concrete, stone, bricks, gypsum boards and most traditional porous building substrates.

APPLICATION

Substrates to be bonded must be clean, dry and free from dust and grease. The ambient temperature of the substrates should be above 5°C and the moisture content less than 30%. Apply the adhesive to one surface of the substrates to be bonded at a rate of 120 to 250 g/m². Apply to both substrates if they are porous. If necessary, a light misting of water (approx. 30 g/m² is sufficient) will aid curing and enable the adhesive to expand slightly, thus filling any surface irregularities. Clamping the substrates together will improve the overall bond strength.

CURING

Curing time is 15 to 30 minutes, depending on the ambient temperature and moisture content etc. Full strength is normally achieved after 24 hours.

TECHNICAL DATA

Colour:	Brown
Density:	1.05 g/m³
Application temperature:	10 to 35°C
Usage:	120 to 150 g/m², depending on substrate
Temperature resistance:	-30 to 120°C, once cured

CLEANING

Uncured adhesive can be removed using Advatac Solvent Cleaner. Cured adhesive can only be removed mechanically i.e. by scraping.

STORAGE AND SHELF LIFE

Advatac PU L15 30 should be stored at temperatures between 5°C and 25°C in the original unopened containers. Unde these conditions the product should have a shelf life of 6 months.

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TECHNICAL DATA SHEET

Icema™ R 145/44

Type of Adhesive

Moisture curing one component polyurethane adhesive.

Product Benefits

- solvent free
- sag resistant
- low foaming
- medium open time

Typical Applications

Different kinds of assembly work.

Suitable substrates

Galvanised or treaded steel, anodized or coated aluminium, non-ferrous metals thermosetting plastics, HPL, GRP, rigid PVC, PS, ABS. Wood and cemented materials. Concrete and tiles.

Typical Properties

Property	Value
Base	Polyurethane
Colour	white
Density at 20°C	approx. 1.50 g/cm^3
Viscosity at 20°C	approx. 140000 mPa*s
Shelf life	12 months

Application Instructions

Application temperature: at least 10°C.
According to type of application use: 150 – 300 g/m^2
Open time (at 20°C, 50% relative humidity):

- without spraying of water: approx. 15 minutes
- after spraying of water: approx. 5 minutes

General:

- This adhesive cross links in the presence of moisture to form a solid, permanently elastic film. The water in the ambient air and parts to be bonded may already be sufficient for this process. In normal cases water is sprayed. Analyses on the influence of temperature and humidity on the strength of a completely cured glue should be carried out with respect to the specific application.
- More moisture and higher temperatures accelerate the cross linking process and therefore influences the shelf life, open- and curing time of the adhesive.
- The times indicated in this data sheet are therefore only guidelines, which may vary according to the existing condition.

Special attention:

- Carbon dioxide forms during the curing reaction so that the adhesive foams to a varying degree, depending on the amount applied, the type of bond, the temperature and the pressure exerted. This property is desired for many applications and is a special advantage of this adhesive. In certain individual applications foaming may however be disadvantageous or exclude this type of adhesive.
- The foam developing in the glue joint, when bonding together porous materials, normally penetrates the underground quite independently of the processing viscosity.
- This also holds true for EPS foam, as long as the adhesive still features a processing viscosity of less than 8000 mPas (20°C). Homogeneous penetration is no longer guaranteed for higher viscosities. Visible bulges may very likely form on the top layer.
- The bonding of dense materials, e.g. aluminium sheet with extruded polystyrene foam, there is generally the liability of bulges to appear, as the foaming adhesive cannot expand freely. A possible solution are ventilation slots, cutting 1 – 2 mm deep into the rigid-foam.

Instructions for Application:

This adhesive is applied onto one side.
Following methods are suitable for application:

- toothed trowel
- cartridge or tubular bag
- nozzle with drum unloader

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TECHNICAL DATA SHEET

Addition of Moisture:

- To accelerate curing and gain independence from the varying degrees of moisture available, a fine spray of water is applied.
- The water is sprayed onto the applied adhesive. In some cases the opposite side may also be sprayed.
- Usually 2 – 5% of the applied adhesive is sufficient.

Assembling and Pressing:

- The parts may be assembled and pressed immediately after applying the adhesive and spraying it with water. This must take place within the open wet time. The parts should continue to be pressed until the adhesive has cured to ensure the closest contact of the bonding surface.
- The amount of pressure required and the type of pressing process employed is largely determined by the type and size of the parts to be bonded, since the adhesive itself does not require pressure in order to cure and the pressure only serves to hold the bonding parts together.
- The pressing times required are completely dependent on substrate, temperature and degree of moisture available.
- Exact times for the applications must be individually determined, as they may vary due to existing conditions. Ask for our advice on this.

Cleaning Instructions	Please contact your local Sales Office for available cleaning solutions.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging protected from sun, dust, moisture and high temperatures. Clean and dry conditions above -25°C and below 35°C.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

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TECHNICAL DATA SHEET

Rakoll®surepress LV

+

Rakoll®surepress MP Crosslinker

Type of Adhesive

Rakoll®surepress LV is a polyurethane dispersion.

Rakoll®surepress MP Crosslinker is a solvent-free, liquid isocyanate.

Product Benefits

- Rakoll®surepress LV has good adhesion properties which is used mixed with Rakoll®surepress MP Crosslinker.
- Rakoll®surepress MP Crosslinker mixes easily with the dispersion component.
- Due to its low viscosity, the mixture can be sprayed more easily and provides a good and even coating.

Typical Applications

Bonding of thermolaminates on shaped parts in membrane presses as well as in non-membrane presses.

Suitable substrates

MDF, PVC, ABS, PP foils.

Typical Properties

Rakoll®surepress LV	
Property	**Value**
Base	PUR-Dispersion
pH	6.0 – 8.0
Viscosity (Brookfield RV, Sp 2, 20 rpm, at +20°C)	approx. 400 mPa.s
Shelf life	6 months

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TECHNICAL DATA SHEET

Press conditions:
The pressing conditions depend on factors such as the thickness of the thermolaminate (and its stiff-ness), the shape of the part to be coated, etc. They must be adapted to the situation.

Starting values for trials:
Membrane temperature: 80 – 120°C
(Not identical with the temperature setting of the press!)
Recommended reactivation temperature in the glue line: minimum 62°C
Press pressure: 3 – 4 bar
Pressing time: 50 – 120 sec

Final strength of the bond is achieved after several days. The initial strength is adequate for careful processing.

Heat resistance:
The heat resistance of the manufactured pieces depends amongst other factors on the glued materials and the shape of the profiles. No general statement can therefore be made regarding the heat resistance. Typical values reached approx. 90°C.

Cleaning Instructions	Please contact your local Sales Office for available cleaning solutions.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging protected from sun, dust, moisture and high temperatures in clean and dry conditions and protected from frost.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

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Technical Data Sheet
ADVATAC MB 1/45-15

ADVATAC
Adhesives for Industry

PRODUCT DESCRIPTION

Advatac MB 1/45-15 is a cross-linking, single component, polyurethane dispersion adhesive, developed for applying PVC to wood based materials via membrane press. It has excellent heat resistance due to it's self cross-linking qualities and shows particularly high initial bond strength. The qualities of Advatac MB 1/45-15 outweigh those of some two part products which incorporate an isocyanate hardener.

THIS PRODUCT SHOULD NOT BE MIXED WITH AN ISOCYANATE HARDENER.

TECHNICAL DATA

Colour:	White / Opaque when dry
Viscosity:	1450 ± 200 mPa.s @ 20°C
Press temperature:	Approx 65-70°C on the glue line
Pot life:	Unlimited

APPLICATION

Advatac MB 1/45-15 has been developed for spray application, either manual or automatic.

All surfaces must be clean and free from grease and dust. The adhesive should be applied to one surface in an even coat. Two coats of adhesive should be applied to areas where there is likely to be more stress. Glue spread should be 80 g/m² on the surface, 160 g/m² on the edges and routed parts. Reactivation of the glue line should be possible for up to 3 days after application of the adhesive.

WORKING CONDITIONS

Temperature of adhesive/substrates/workplace:	18 - 20°C
Moisture content of wood:	8 - 10%
Relative humidity:	60 - 75%

EQUIPMENT

Nozzle diameter:	1 - 1.5 mm
Pot pressure:	1 - 1.5 Bar
Air pressure:	4 - 6 Bar

DRYING

Drying can take place at an ambient temperature of 20°C. This will take approximately 20-40 minutes. Time can be reduced by flash drying, however ensure the adhesive does not burn.

CLEANING

Use cold water to clean machinery and tools before the adhesive sets.

STORAGE AND SHELF LIFE

The adhesive should be stored in a cool, dry area at temperatures between 10°C and 30°C. Under these conditions the product has a shelf life of 6 months when stored in the original, unopened container.

DO NOT ALLOW THE PRODUCT TO FREEZE

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TECHNICAL DATA SHEET

Rakoll® K4/570 Nat

Type of Adhesive

EVA based hot-melt adhesive.

Product Benefits

The adhesive presents good melting and flowing properties. The hot-melt has good heat resistance.

Typical Applications

This adhesive is especially suitable to be universally used on edgebanders with several types of edges, for straight edgebanding processes. It is also suitable for the pre-coating of some edging materials and the pre-coating lines can run at a relatively high feed speed.

Suitable substrates

Plastic edges (PVC, ABS, PP, …), veneer edges, melamine-resin edges, HPL (possible with primer agent).

Typical Properties

Property	Value
Base	Ethylene-Vinyl acetate copolymer (EVA)
Viscosity	Brookfield RVT, Spindle SC 4-29 at 204°C approx. 65.000 mPas
Softening point	R&B - ASTM E-28 approx. 97°C
Heat resistance	approx. 85°C * (using the RAKOLL® method tested in increasing temperatures)
Shelf life	12 months

(*) - Results may vary depending on the applications conditions

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TECHNICAL DATA SHEET

Application Instructions

Adjust the machine in accordance to the manufacturer instructions. Can be processed using the usual pre-melting equipment.

Recommended application conditions:

- Room and material temperature: 18 – 20°C
- Wood moisture: 8 – 10%
- Processing temperature at the applicator roller:
  - straight edgebanding: 190 – 210°C
  - pre-coating: 160 – 180°C
- Feed speed: at least 15 m/min

Heating up the edge-surfaces before gluing may improve the bonding quality of some more difficult edges.
Edges strips can have very different adhesion properties, even if the base material is the same. For this reason, it is advisable to make preliminary trials in order to test the suitability of the adhesive and to identify the correct application conditions. The recommendations given by the edge strip manufacturers should be followed.
During long stops the adhesive temperature should be lowered to 160°C to avoid degradation of the characteristics.
All residual encrustations of adhesive must be completely cleaned from the melting tank from time to time as they conduct heat poorly and cause a lowering of the adhesive temperature.

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TECHNICAL DATA SHEET

Cleaning Instructions	The pre-melter, melting pot and the spreading tools should be cleaned at regular intervals. Please contact your local Sales Office for available cleaning solutions.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging, under clean and dry conditions at room temperature.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	At the working temperature, hot-melt may give off fumes, which can irritate the respiratory organs. If the working temperature is exceeded over a long period, harmful decomposition products may occur. In any case, an appropriate exhausting system shall be installed in the working area. For additional information, please refer to the MSDS for safety advices.

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TECHNICAL DATA SHEET

Rakoll® K 4/581 LV NAT

Type of Adhesive

EVA based hot-melt adhesive.

Product Benefits

Presents good melting and flowing properties.

Typical Applications

Is suitable for most types of edge materials which have been tested and approved by the substrate manufacturers for use with hot melt adhesive procedures.

Suitable substrates

Not applicable.

Typical Properties

Property	Value
Base	EVA
Colour	Natural
Viscosity at 204°C	Brookfield HB approx. 80.000 mPa.s
Softening point (R&B)	approx. 100°C
Shelf life	12 months

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TECHNICAL DATA SHEET

Application Instructions

The machine should be adjusted according to the recommendations of the machine manufacturers. This product can be processed in the usual way.

Recommended application conditions:

- room and materials temperature: 18 – 20°C
- wood moisture: 8 – 10%
- temperature at the applicator roll: 170 – 190°C
- feed speed: at least 6 m/min

Edging strips can have very different adhesion properties, even across a certain group of material. Appropriate tests must therefore be carried out, in order to check the suitability of the adhesive.
The recommendations of the substrate manufacturer must also be observed.

Heat resistance tested with rising temperatures according to Rakoll® method: approximately 75°C.

During long stops the adhesive temperature should be lowered to 160°C.

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TECHNICAL DATA SHEET

Cleaning Instructions	The melting pots should be cleaned at regular intervals and not allowed to go down too much.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging, under clean and dry conditions at room temperature.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Hot-melt adhesives release vapours even when the recommended processing temperature is observed. These can irritate the respiratory system. Measures should therefore be taken for the removal of vapours, e.g. by means of an extraction system. For additional information, please refer to the MSDS for safety advices.

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TECHNICAL DATA SHEET

Rakoll®supermelt Plus

Type of Adhesive

Transparent Edgebanding hot-melt adhesive.

Product Benefits

- long open time
- good tack and high initial strength
- good working and adhesion properties
- can be used at extreme low coat weights

Typical Applications

Developed for the bonding of edge materials. It has been thoroughly tested on most application systems on straight edges and soft forming applications.

Suitable substrates

Plastic edges (PVC, ABS, PP ...), melamine, HPL, wooden edges, etc. to chipboard or MDF panels.

Typical Properties

Property	Value
Basis	Ethylene Vinyl Acetate Copolymer (EVA)
Colour	Yellowish; transparent
Viscosity at 204°C	Brookfield HB approx. 54.000 mPa.s
Softening point (R&B – ASTM E 28)	approx. 106°C
Shelf life	12 months

Application Instructions

Set up the machine in accordance with the manufacturer's instructions.

Recommended working conditions:

- Room, material and adhesive temperature: 18 – 20°C
- Moisture content of material: 8 – 10%
- Processing temperature at the applicator roll: 180 – 200°C
- Feed speed: at least 12 m/min

Edges strips can have very different adhesion properties, even if the base material is the same. For this reason, it is advisable to make trials if the edges are of an unknown type in order to test the suitability of the adhesive. The recommendations given by the edge strip manufacturers should be followed.

The heat resistance of this product is adequate for all normal requirements for home, used in cold, moderate, dry warm and humid climates.
Heat resistance measured using the method in a test involving increasing temperatures and using 3 melamine edges, 1 PVC edge, 1 veneer edge and 2 extruded PVC-ABS edges: approx. 100°C.

- During long stops the adhesive temperature should be lowered to 160°C to avoid premature degradation of the hot-melt adhesive characteristics.

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TECHNICAL DATA SHEET

Cleaning Instructions	Please contact your local Sales Office for available cleaning solutions.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging in a clean and dry conditions at room temperature.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	At the recommended working temperature, the hot melt will cause burns in contact with skin. Do not inhale fumes that are released at the working temperature. In any case, a suitable exhausting system shall be installed in the working area. For additional information, please refer to the MSDS for safety advices.

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TECHNICAL DATA SHEET

Rakoll® P2/650 nat

Type of Adhesive

EVA based hot-melt adhesive.

Product Benefits

Very good processing-properties on the HOLZ-HER type edgebanding machines, which work with cartridges (80 mm length x 63 mm diameter). Suitable for almost all types of edges. The hot-melt adhesive melts very easily and has good heat resistance.

Typical Applications

Straight and round edgebanding on the HOLZ-HER type edgebanding machines.

Suitable substrates

Veneer edges, melamine-resin edges, HPL (possible with primer agent), plastic edges (PVC, ABS, PP, …).

Typical Properties

Property	Value
Colour	natural
Viscosity (Brookfield HB; 204ºC)	approx. 65 000 mPa.s
Softening point (ring & ball method based on ASTM E 28)	approx. 97 ºC
Shelf life	12 months

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TECHNICAL DATA SHEET

Application Instructions	The carrier-material and the edge-strips have to be perfectly clean. Adjust the machine in accordance with the instructions of manufacturer. Recommended application conditions: – Room and material temperature: 18 - 20 ºC – Wood moisture: 8 - 10 % – Working application temperature: 180 - 200 ºC – Feed speed: minimum 15 m/min Heating up the edge-surfaces before gluing may improve the bonding quality of some more difficult edges. Edges strips can have very different adhesion properties, even if the base material is the same. For this reason, it is advisable to make preliminary trials in order to test the suitability of the adhesive and to identify the correct application conditions. The recommendations given by the edge strip manufacturers should be followed. The heat resistance of RAKOLL® P2/650 is adequate for all normal requirements for furniture for use in homes as met in the several types of climates.
Cleaning Instructions	Please contact your local Sales Office for available cleaning solutions.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging, under clean and dry conditions at room temperature.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Hot melt adhesives release vapours even when the prescribed processing temperatures are observed. These can irritate the respiratory organs. Measures should therefore be taken for the elimination of vapours, e.g. through the use of a suitable extraction system. Please refer to the MSDS for safety advice.

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TECHNICAL DATA SHEET

Rakoll® PUS 450 R UV

Type of Adhesive

Polyurethane hot-melt adhesive.

Product Benefits

- short open time which can be processed at relatively low temperatures
- the adhesive sets on cooling and shows good initial strength
- crosslinking takes place during storage with ambient water or humidity from substrates, which therefore have to be permeable to moisture
- after total crosslink the bonding is no longer reversible
- the bonding achieved is usually highly elastic, cool flexible and highly resistant to heat and water
- this adhesive contains UV detector for optical application test

Typical Applications

It is suitable for all types of edge banding machines and various kinds of edge banding materials via roller application.

Suitable substrates

Edge banding materials and machines.

Typical Properties

Property	Value
Basis	polyurethane
Colour	white
Density	approx. 1,10 g/cm³
Viscosity	approx. 45.000 mPa.s at 120°C approx. 20.000 mPa.s at 150°C
Shelf life	9 months

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TECHNICAL DATA SHEET

Application Instructions

Set up the machine in accordance with the instructions of the machine manufacturer.
As polyurethane adhesives can react with moisture from the environment, they must be melted under the exclusion of humidity.
Avoid excess heating or temperature peaks as this may deteriorate the adhesive.
The molten adhesive is applied using rollers or nozzles.

- Melting temperature: 110°C – 150°C
- Processing temperature: 100°C – 140°C
- Feed speed: 10 – 80 m/min
- Coat weight: 100 – 120 g/m²

Heat resistance:
Heat resistance as measured with this adhesive test method, raising temperature results in values greater than 120°C. As with all polyurethanes the thermal stability of the polymer is limited to 170°C to 180°C. Prolonged storage at higher temperature levels will cause decomposition of the adhesive.

Water resistance:
Substrates bonded with this adhesive passed the water resistance test with immersion in water for several days. However the bond must be tightly closed and must cover the entire mat surface.

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Cleaning Instructions	Please contact your local Sales Office for available cleaning solutions.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging protected from sun, dust, moisture and high temperatures. Clean and dry conditions above -25°C and below +35°C. Sensitive to humidity.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

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TECHNICAL DATA SHEET

Rakoll® PUS 550 T

Type of Adhesive

Polyurethane-based reactive hot-melt.

Product Benefits

- high initial strength
- short setting time
- high thermal stability after final curing

Typical Applications

This product is suitable for all types of edge banding machines and various kinds of edge banding materials via roller application.

Suitable substrates

Various kinds of edge banding materials.

Typical Properties

Property	Value
Colour	white
Density	approx. 1.10 g/cm^3 (20°C)
Viscosity	approx. 35.000 mPas (130°C)
Shelf life	9 months

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TECHNICAL DATA SHEET

Application Instructions

- processing temperature: 110°C - 150°C
- melting temperature: 120°C - 150°C
- coat weight: 120 - 250 g/m^2
- feed speed: 10 – 80 m/min

Set up the machine in accordance with the instructions of the machine manufacturer.
As polyurethane adhesives can react with moisture from the environment, they must be melted under the exclusion of humidity.
Avoid excess heating or temperature peaks as this may deteriorate the adhesive.
The molten adhesive is applied using rollers.

Cleaning Instructions

Please contact your local Sales Office for available cleaning solutions.

Typical Packaging

Please contact your local Sales Office for available packaging options.

Storage Conditions

In original sealed packaging protected from sun, dust, moisture and high temperatures.

Disposal Advice

Please refer to the MSDS for disposal instructions.

Safety Advice

Please refer to the MSDS for safety advice.

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Technical Data Sheet ADVATAC PU 0025

ADVATAC
Adhesives for Industr

PRODUCT DESCRIPTION

Advatac PU 0025 is a reactive PUR hot melt adhesive specially developed for edgebanding using roller or slot application. It is especially suitable for the bonding of solid wood lippings in the production of fire doors. The product has an application temperature of 130°C-150°C, very high initial tack as well as pronounced stickiness. It also has heat resistance of more than 130°C and cold resistance down to -40°C.

APPLICATION

Advatac PU 0025 is available in sealed foil bags, suited for melting systems. The application equipment for the ho melt adhesive should be such that the adhesive is protected from humidity. Particular attention has to be paid to a precise temperature control of the entire working system.

Note: Hot melt adhesives release vapours, even at recommended application temperatures. Hot melt adhesives, when molten during application, can give off unpleasant odours. If the recommended application temperature is exceeded, there is a danger of decomposition. Precautions should be taken to eliminate all vapours by suitable extraction.

TECHNICAL DATA

Viscosity:	@ 130°C	approx. 36,000 ± 15,000 mPa.s
(Brookfield HBTD, 10 rpm)	@ 160°C	approx. 18,000 ± 20,000 mPa.s
Specific gravity:		approx. 1.10 g/cm³
Application temperature:		approx. 140°C
Feed Speed:		10-50 m/min

CLEANING

Drain off the remaining adhesive. Use EVA hot melt cleaner immediately to flush out all remaining adhesive. Any cured hot melt must be removed mechanically.

STORAGE AND SHELF LIFE

Advatac PU 0025 can be stored in original, unopened containers at temperatures between 7°C and 20°C. Under these conditions, the product will have a shelf life of at least 6 months.

PROTECT FROM HUMIDITY.

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TECHNICAL DATA SHEET

Ipatherm® Cleaner 9030

Type of Adhesive

Ipatherm® Cleaner 9030 is a cleaning agent.

Product Benefits

Ipatherm® Cleaner 9030 is in granules format and has blue colour that helps the users to distinguish the cleaner from the PUR-hot melt adhesive. Ipatherm ® Cleaner 9030 neutralizes residual free isocyanates in the equipment avoiding the cross-linking process of the PUR-hot melt adhesive.

Typical Applications

Ipatherm® Cleaner 9030 has been developed for cleaning equipment use for processing and applying moisture cure Polyurethane (PUR) hot melt adhesives.

Typical Properties

Color	blue
Viscosity	Brookfield; RV Sp 27; ASTM D 3236-88 approx. 5000 mPa*s (150°C)
Softening point	approx. 76 °C R&B - ASTM E28-99
Recommended processing temperatures	Melting plate / Tank: approx. 140°C Hose : approx. 140°C

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TECHNICAL DATA SHEET

Application Instructions	Ipatherm ® Cleaner 9030 must be applied before the cross-linking process take place. Pump rest PUR-hot melt out of the equipment. Depending on the size of the equipment, melt 5 to 10kg. Ipatherm ® Cleaner 9030, pump and purge it through the equipment until PUR-hot melt adhesive has been removed completely. The cleaning process is completed when there is only blue hot melt flowing from the application system. If the equipment is not going to be used on the same day, the cleaning agent is left in the equipment and switched off. When the equipment is to be used again, the cleaning agent in equipment is melted and pumped out. Molten PUR-hot melt is purged through the equipment until there is no longer blue hot melt flowing out of the system. Take care to remove the entire cleaning agent out of the system since mixture of cleaning agent and PUR-hot melt can lead to bonding failure.
Cleaning Instructions	Cured PUR-hot melt can only be removed by mechanical means.
Typical Packaging	Delivery Form – granules in 10kg or 20kg bag. Please contact your local Sales Office for available packaging options.
Storage Conditions	Clean and dry conditions in original sealed packaging protected from sun, dust, moisture and high temperatures up to 12 months.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

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For further inquires please contact our head of adhesives
Mr. Kieran Cullinane **087 267 3408** or email: **kieran@naa.ie**