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Guarantee  
for  
Renolit MBAS II Laminating Film

Worms, Germany, 1<sup>st</sup> April 2000

## 1. Guarantee

Renolit produces film with the designation MBAS II which is suitable for laminating onto extruded section for windows and doors.

Provided this film is processed correctly and used as instructed, Renolit accepts guarantee responsibility for the articles to which it is applied being colour-fast and weatherproof.

The basis for this guarantee shall be the attached Technical Terms and Conditions of Supply, Version XIII dated 1<sup>st</sup> April 2000, and the relevant Appendix.

The assessment of any colour changes shall be subject to ISO 105-A02 (grey scale). The colour shall be deemed to have remained constant if Level 3 of the grey scale is attained or exceeded.

## 2. Duration of guarantee

The guarantee period shall start on the date on which Renolit delivers the MBAS II film (delivery date) and shall end upon expiry of the relevant period of time stated in the Appendix; this guarantee shall apply to new colours and patterns not listed in the Appendix only if Renolit has given express confirmation.

## 3. Preconditions for guarantee

- a) The film must be processed in accordance with the acknowledged rules of technology.
- b) The customer shall be under an obligation to document production and quality control and to retain the relevant documentation on production and quality control throughout the guarantee period.
- c) In the event of any complaint, Renolit shall be informed in writing and without delay, and in no case later than four weeks after the facts become known. This notification shall include the date on which the relevant defect first came to light and a description of its apparent nature and cause.
- d) The parties shall be under a mutual obligation to provide one another with all documentation relating to the product giving rise to the complaint.
- e) The parties shall inform one another mutually of any changes in the condition of any of their products that could influence the other's products. For this reason, this guarantee shall only apply to those processing conditions and for those products that were known to Renolit at the time of delivery. Should the customer make any major changes to materials or processes that could have any negative effect on the application of the film, he shall be deemed to be doing so at his own entire risk and Renolit shall be released and absolved from this guarantee obligation.

4. Extent of guarantee

If the films Renolit has delivered give rise to justified complaints within the guarantee period, Renolit shall either rectify the defect or replace the material and meet the cost of bringing the finished product into a free of fault condition.

5. Arbitration procedure

- a) If it should prove impossible to reach agreement on any guarantee matter, recognised and independent testing organisations, on which the parties shall be required to agree, shall be requested to produce the necessary expert assessments.
- b) Apart from this, any disputes that cannot be settled amicably and that have arisen either from the application of this guarantee undertaking or from the mutual contractual relationship, or both, shall be settled by the arbitration procedure based on the Arbitration Panel Ordinance of the German Institute of Arbitration, to the exclusion of recourse to the civil courts.

This guarantee shall apply to all consignments delivered on or after 1<sup>st</sup> April 2000, and supersedes all previous guarantee arrangements. All previous agreements are superseded at the same time.

Worms, Germany, 1<sup>st</sup> of April 2000  
Renolit-Werke GmbH

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## Technical Terms and Conditions of Supply TL No. XIII, 1<sup>st</sup> April 2000

Films for laminating extruded sections used out of doors and on components mounted vertically

Product:	Multi-layer film, embossed according to RAL-GZ 716/1 part 7 consisting of a semi-rigid base-film with a lightfast and weatherproof colouration and an acrylic film
Articles:	6576 RENOLIT MBAS II, plain 6577 RENOLIT MBAS II, printed
Application:	Laminating onto profiles
Supplier:	RENOLIT-WERKE GmbH Horchheimer Strasse 50 67547 Worms, Germany
Thickness: (Renolit PA-QSP 10.1)	200 µm
Tolerance MD:	± 15 µm When fully utilising within the tolerances, the winding of the roll must not be impaired
Thickness of the: Acrylat layer (Renolit PA-QSP 10.1)	≥ 50 µm
Weatherability : (DIN 53387)	A total irradiation of ≥ 8 GJ / m <sup>2</sup> with Grade 4 on the grey-scale (ISO105-A03) in compliance with the requirements of RAL-GZ 716/1 Part 7.
Tensile strength* : (ISO 527-3)	> 20 N/mm <sup>2</sup>
Elongation at break: (ISO 527-3)	> 80%
Dimensional stability: (DIN 53377)	> -2.5 % (10 minutes at 60°C)
Humidity resistance: (DIN 50017-KFT)	Permissible colour change after 14 days in an alternating condensation climate: ≥ Grade 3 on the grey-scale
Abrasion resistance: (ISO 105-X 12/ ISO 105-A03)	grade 5
Scratch resistance:	> 20 cN after testing on Erichsen instrument 435 (Schmiß hardness test)

- Embossing stability: No change to the embossing, the gloss, or the colour after short-time temperature test (10 minutes at 80°C)
- Temperature resistance: Long-term temperature stability  $\leq 65^{\circ}\text{C}$ .  
Welding is possible when the extruded section is being processed and will not affect the properties of the film if it adheres to the general rules of technology. The gloss level on the surface will increase at the temperatures necessary for bending the sections (up to 130°C). The original surface finish can be restored by buffing the surface with polisher's steel wool (000 grade), but care must be taken here to ensure that the thickness of the acrylate layer is not reduced in the process.  
This will not result in any measurable reduction in the film's weather-resistance.
- Whitening:  
(crazing) Because of the acrylic film, whitening (crazing) cannot be avoided when the section is bent sharply.
- Chemical resistance: Resistant to normal household chemicals such as ammonia solutions, aliphatic benzene, weak alcohol-water solutions, cleaning agents (other than scourers), water, and building materials such as cement or gypsum.  
Not resistant to organic solvents, mixtures containing organic solvents, or products made from solvents such as paint-thinner, paint-remover, polishes, or adhesives.
- Maintenance: Clean in the normal way with ordinary household cleaners, but not with scourers. No other maintenance is necessary.
- Colour properties: See Appendix

\* Normal climate: 23°C ( $\pm 1^{\circ}\text{C}$ ), 50 percent relative atmospheric humidity.

These Technical Terms and Conditions of Supply shall apply to all consignments delivered on or after 1<sup>st</sup> April 2000, and supersede all previous terms and conditions.

Appendix dated 1<sup>st</sup> April 2000 of TL-No. XIII dated 1<sup>st</sup> April 2000

Country group I: Belgium, Denmark, Germany, Estonia, Finland, Great Britain, Ireland, Island, Latvia, Lithuania, Luxembourg, Netherlands, Norwegian, Poland, European part of Russia, Sweden, Slovakia, Czech Republic.

Country group II : Liechtenstein, Austria, Switzerland, Slovenia, Hungary.

Country group III: France, Monaco.

Country group IV : Andorra, Bulgaria, Greece, Italy, former Yugoslavia without Slovenia, Moldavia, Portugal, Rumania, San Marino, Spain, Ukraine, White Russia, European part of Turkey incl. Asian part of Istanbul.

These Technical Terms and Conditions of Supply shall apply to all consignments delivered on or after 1<sup>st</sup> April 2000, and supersede all previous terms and conditions.

Appendix dated 1<sup>st</sup> April 2000 of TL-No. XIII dated 1<sup>st</sup> April 2000

Renolit Article-No.:	Renolit colour- /Decor-No:	Embossing	Duration of Guaranty in years			
			Country group			
			I	II	III	IV
6576	1.1087.05	167	7,5	7,5	7,5	5
6576	1.1379.05	167	7,5	7,5	7,5	5
6576	1.3005.05	167	7,5	7,5	7,5	5
6576	1.3054.05	167	7,5	7,5	7,5	5
6576	1.3081.05	167	7,5	7,5	7,5	5
6576	1.5007.05	167	7,5	7,5	-	-
6576	1.5030.05	167	7,5	7,5	-	-
6576	1.5056.05	167	7,5	7,5	-	-
6576	1.5150.05	167	7,5	7,5	7,5	5
6576	1.6005.05	167	7,5	7,5	7,5	5
6576	1.6110.05	167	7,5	7,5	7,5	5
6576	1.6125.05	167	7,5	7,5	7,5	5
6576	1.7016.05	167	7,5	7,5	7,5	5
6576	1.7038.05	167	7,5	7,5	7,5	5
6576	1.7155.05	167	7,5	7,5	7,5	5
6576	1.7251.05	167	7,5	7,5	7,5	5
6576	1.8099.05	167	7,5	7,5	7,5	5
6576	1.8518.05	167	10	7,5	7,5	5
6576	1.8875.05	167	10	7,5	7,5	5
6576	1.9152.05	168	7,5	7,5	7,5	5

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Appendix dated 1<sup>st</sup> April 2000 of TL-No. XIII dated 1<sup>st</sup> April 2000

Renolit Article-No.:	Renolit colour- /Decor-No:	Embossing	Duration of Guaranty in years			
			Country group			
			I	II	III	IV
6577	3.1179 002	167	7,5	7,5	7,5	5
6577	3.1192 001	167	7,5	7,5	7,5	5
6577	3.2052 089	167	7,5	7,5	7,5	5
6577	3.2052 090	167	7,5	7,5	7,5	5
6577	3.2065 021	167	10	7,5	7,5	5
6577	3.2097 013	167	10	7,5	7,5	5
6577	3.2115 008	167	7,5	7,5	7,5	5
6577	3.2158 001	167	7,5	7,5	7,5	5
6577	3.2178001	167	10	7,5	7,5	5
6577	3.3069 037	167	7,5	7,5	7,5	5
6577	3.3069 041	167	7,5	7,5	7,5	5
6577	3.3118 076	168	7,5	7,5	7,5	5
6577	3.3149 008	167	7,5	7,5	7,5	5
6577	3.3152 009	167	7,5	7,5	7,5	5
6577	3.3156 003	167	7,5	7,5	7,5	5
6577	3.3167 002	168	7,5	7,5	7,5	5
6577	3.3167 004	167	7,5	7,5	7,5	5
6577	3.3167 011	167	7,5	7,5	7,5	5
6577	3.3202.001	155	10	7,5	7,5	5

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Appendix dated 1<sup>st</sup> April 2000 of TL-No. XIII dated 1<sup>st</sup> April 2000

FloPlast Classification:	Renolit Article-No.:	Renolit colour- /Decor-No:	Embossing	Duration of Guaranty in years			
				Country group			
				I	II	III	IV
Black Ash	6576	1.8518.05	167	<b>10</b>	7,5	7,5	5
Rosewood	6577	3.2097 013	167	<b>10</b>	7,5	7,5	5
Golden Oak	6577	3.2178 001	167	<b>10</b>	7,5	7,5	5
Mahogany	6577	2.065.030	155	<b>10</b>	7,5	7,5	5

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