

**Product Description**  
**CMR-435/CMR-435.M 1C-Protection-Film (high-gloss/matt)**  
**CMR-435.S 1C-Protection-Film "hand use"**



Version: V-2020-001



**Characteristic:**

**CMR-435/CMR-435.S/CMR-435.M** is a water based one-component clearcoat (self-crosslinking), its basic is acrylate polyurethane. It is used as protection and finishing of digital printed PVC tarpaulins, other vinyl films and non-printed flexible surfaces too. Medias printed with pigmented solvent inks are protected against attrition and scratches.

Coated surfaces achieve outstanding easy-to-clean properties. Because of its water and weather resistance, this protection film is used especially for outdoor applications e. g. for sealing large format billboards and truck side curtains and for their long-term protection against UV light.

In general the application is made manually or by machines and liquid coater (Mayer bar).



**Typical Data:**

Basic:	aqueous acrylate polyurethane dispersion	
Colour:	yellowish	
Solubility:	miscible with deionized water	
Wet film:	70 - 80 $\mu$	
Dry film:	20 - 30 $\mu$	
Spreading rate:	10 - 15 sqm per kg	
Solids content:	36 - 40 %	
Specific gravity/density (20 °C):	1.05 g/cm <sup>3</sup>	
pH value:	7.0 - 8.0	
Neutrality:	ammonia	
Viscosity at 20 °C (4 mm DIN flow cup):	40 - 50 s	CMR-435
Viscosity at 20 °C (4 mm DIN flow cup):	15 - 20 s	CMR-435.S
Viscosity at 20 °C (4 mm DIN flow cup):	20 - 25 s	CMR-435.M
Minimum film forming temperature (MFT):	0 °C	

**Suitable Substrates:**

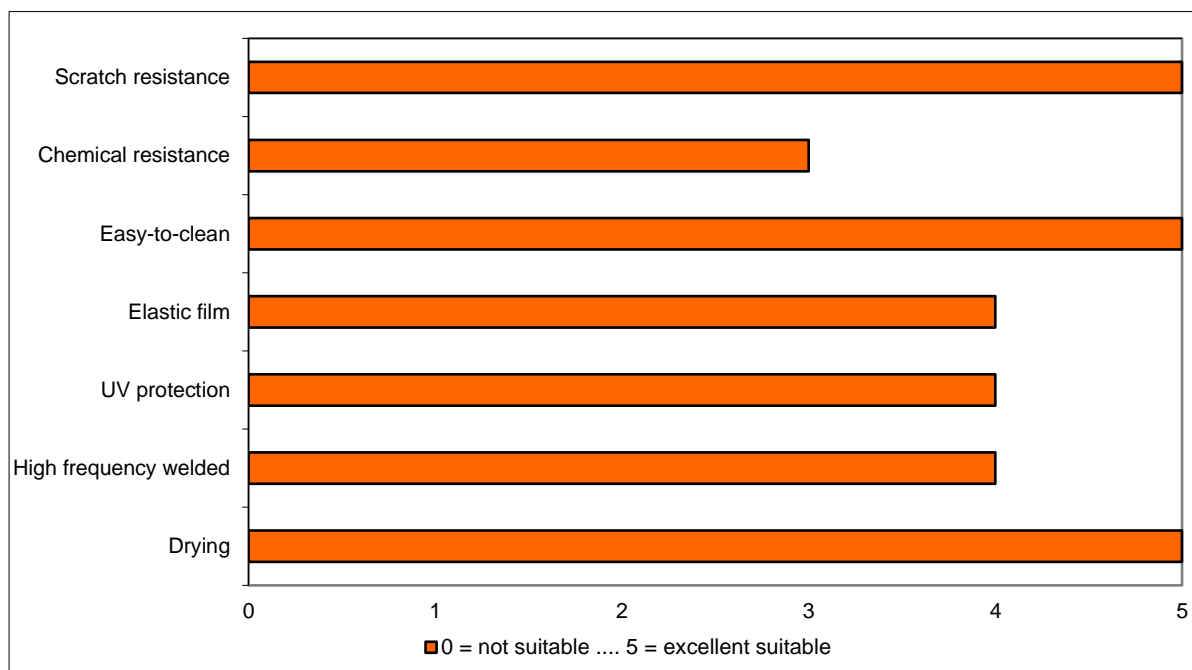
Plastic films: PVC  
Textiles/paper: Mesh, canvas, wallpaper  
With corona pre-treatment the system is suitable as a coating for all kinds of plastics.

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**Properties:**

- Transparent, high-gloss or matt
- High flexibility
- Scratch resistance, mechanical properties, hard and abrasion resistant
- High chemical resistance
- Easy-to-clean, polishable
- UV protection
- Elastic film (over 200 %)
- Blocking temperature 145 °C, cold stable until -20 °C
- Plasticizer blocking feature
- High frequency welded
- Coated surfaces can be varnished after 12 hours
- The high-gloss version is suitable for thermoforming and embossing (short time thermostable up to 180 °C)
- Without pre-treatment the system is suitable for all PVC and vinyl plastics.
- With corona pre-treatment the system is suitable as a coating for all kinds of plastics.



**Spreading Rate:**

Solids content	Thickness wet g/m <sup>2</sup>	Thickness dry g/m <sup>2</sup>	Coated surface m <sup>2</sup> /kg	kg for surface of 80 sqm
42%	75	31,5	13	6

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**Recommendation for end-use:**

**- Storage:**

The product may be stored at least 6 months if kept in tightly closed container and below 25 °C.

Protect against cold.

Don't store and apply the product below +5 °C.

**- Application:**

The product can be apply by usual methods: spraying, rolling and printing.

The viscosity of the lacquer was adjust for manual application by roll (e. g. Velours).

For spraying or automatic application further adjustment of viscosity can be necessary.

A dilution of max. 5% water is possible.

<b><u>Spray gun:</u></b>	Viscosity:	18 - 22 s
	Dilution:	water
	Nozzle:	1.2 - 1.6 mm
	Pressure:	3 - 4 bar
	Spraying:	1 - 2

**- Drying-Conditions:**

The laminate is a self-crosslinking product.

It can be dried by room temperature and forced drying.

<b><u>Drying time (for 25 µ dry film):</u></b> Dry at room temperature (20 - 25 °C) after 30 - 45 min. After 12 hours the layer is dry-to-touch and can be rolled up. Forced drying (60 - 80 °C) after 30 - 60 s.  After around one week the cross-linking process is finished and the ready surface has reached its definite chemical resistance and physical properties.
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In all cases of CMR coating-systems, the stamp of the single characteristics depends very strongly on the respectively related underground (substrate and/or inks).

For this reason we recommend to make trials in every special case.