

## Technical films

### Makrofol® LM 228 | TC 00128

---

**Description:** Makrofol® LM 228 | TC 00128 is an extruded polycarbonate film, which is filled with a light scattering agent.

---

**Properties:** Makrofol® LM 228 | TC 00128 displays a smooth homogenous illumination, even if a point source light is applied.

---

**Applications:** Makrofol® LM 228 | TC 00128 is used for vehicle instruments, backlit displays, displays and graphics as well as lamp- and projection screens.

---

**Delivery forms:** Makrofol® LM 228 | TC 00128 has a standard-thickness of 300 µm or 500 µm on a roll or tape, die-cut part or customized cut. Other delivery forms upon customer request.

---

## Makrofol® LM 228 | TC 00128

Property	Testmethod	Unit	Value
Density, 20°C	ISO 1183, Methode C	g/cm <sup>3</sup>	1,2
Thickness, 23°C	ISO 4593	µm	300, 500
Gloss, 60° backprinted black, front	ISO 2813		≥80
Gloss, 60° backprinted black, back	ISO 2813		<6
Coarseness R3z, front	ISO 4287/88	µm	<0,5
Coarseness R3z, back	ISO 4287/88	µm	<11
Light transmission, 300 µm back	ISO 13467-2	%	73
Light transmission, 300 µm front	ISO 13467-2	%	72
Light transmission, 500 µm back	ISO 13467-2	%	65
Light transmission, 500 µm front	ISO 13467-2	%	65
Haze, 300 µm back	ASTM D 1003	%	100
Haze, 300 µm front	ASTM D 1003	%	100
Haze, 500 µm back	ASTM D 1003	%	100
Haze, 500 µm front	ASTM D 1003	%	100
Half-power angle, 300 µm front	following DIN 5036	Degree	39
Half-power angle, 500 µm front	following DIN 5036	Degree	51
Stress at break, lengthwise	ISO 527-1,-3	MPa	≥50
Stress at break, crosswise	ISO 527-1,-3	MPa	≥50
Strain at break, lengthwise	ISO 527-1,-3	%	≥105
Strain at break, crosswise	ISO 527-1,-3	%	≥10
Tensile modulus, lengthwise	ISO 527-1,-3	MPa	≥1850
Tensile modulus, crosswise	ISO 527-1,-3	MPa	≥1800
Relative temperature index	UL 746 B	°C	80
Surface resistance	following DIN IEC 60093	Ohm	10 <sup>16</sup>
water absorption	following ISO 62	%	0,2

Dr. Dietrich Müller GmbH

## Makrofol® LM 228 | TC 00128

---

**Trademark information:** Makrofol® is a registered trademark of the company Bayer ScienceMaterials AG, Germany.

---

**Please note:**

The information in this data sheet is based on our current knowledge and experience. They do not disengage the fabricator and the user from own tests and inspections because of the plenty of possible effects. There is no judicial binding assurance of certain properties or of the qualification for a concrete application in our declaration. We recommend consulting us in individual cases. The acceptor of our products has to observe possible industrial property rights as well as present laws by himself.

---

Dr. Dietrich Müller GmbH