

Polycarbonate film

MR Film Grade

June, 2021.

 **MITSUBISHI GAS CHEMICAL COMPANY, INC.**

Specialty Chemicals Business Sector

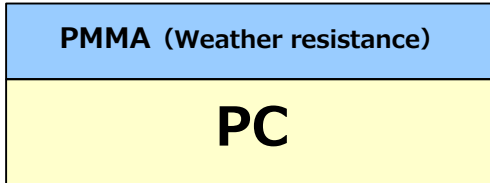
Engineering Plastics Division

Performance Products Department

Types and layer structure of MR Film

DF02U

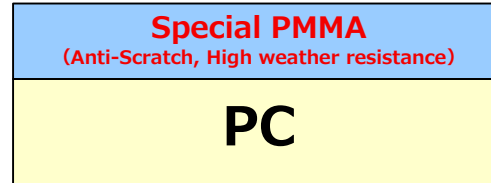
A-side (Transparent masking film)



B-side (Green masking film)

DF02PU

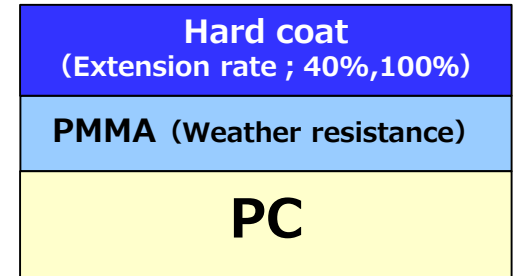
A-side (Transparent masking film)



B-side (Green masking film)

MRF08U

A-side (Transparent masking film)



B-side (Green masking film)

DF02U(L), DF02PU(L) line up

| Grade | Model | Thickness | Width (Within guarantee) | Length | Product form |
|-----------------------|-------|-----------|--------------------------------|---------|--------------|
| DF02U(L) DF02PU(L) | Nil | 125μm | 1,240mm | 1,300m | Roll |
| | | | | 1,060mm | Sheet |
| | | 180μm | | 900m | Roll |
| | | | | 1,060mm | Sheet |
| | | 254μm | | 780m | Roll |
| | | | | 1,060mm | Sheet |
| | | 300μm | | 660m | Roll |
| | | | | 1,060mm | Sheet |
| | | 375μm | | 550m | Roll |
| | | | | 1,060mm | Sheet |
| | | 500μm | | 420m | Roll |
| | | | | 1,060mm | Sheet |

※Roll type products have an "L" at the end of those grade names.

MRF08U(L) line up

| Grade | Model | Thickness | Width (Within guarantee) | Length | Product form |
|-----------|------------|-----------|--------------------------------|--------------------|--------------|
| MRF08U(L) | D50 D51 | 125μm | 1,200mm | Please contact us. | |
| | | 180μm | | 840m | Roll |
| | | 254μm | | 1,060mm | Sheet |
| | | 300μm | | 775m | Roll |
| | | 375μm | | 1,060mm | Sheet |
| | | 500μm | | 655m | Roll |
| | | | | 1,060mm | Sheet |
| | | | | 545m | Roll |
| | | | | 1,060mm | Sheet |
| | | | | 415m | Roll |
| | 1,060mm | Sheet | | | |

※Roll type products have an "L" at the end of those grade names.

Properties of each grade

| | DF02U Standard grade | DF02PU Scratch resistance, Weather resistance | MRF08U Scratch resistance, Chemical resistance | | Test method |
|---|---------------------------------------|---|--|--------------------|--|
| | | | model ; D50 | model ; D51 | |
| Light transmission rate | 91% | 91% | 91% | 91% | JIS K 7361-1 |
| HAZE | 0.1% | 0.5% | 0.1% | 0.2% | JIS K 7136 |
| Processability | ◎ >200% | ◎ >200% | △ <40% | ○ <100% | - |
| Pencil hardness | H~2H | H~2H | H~2H | H~2H | JIS K 5600-5-4 |
| Scratch resistance | × | ○ | ○ | ○ | Our method Steel wool #0000 100g/cm ² ; reciprocates 15 times. Visual check condition of surface. |
| Chemical resistance (Alcohol/Sun screen) | ○/× | ○/× | ○ | ○ | Arbitrary method |
| Light resistance | ○ | ◎ | ○ | ○ | PV1303 5cycles (70MJ/m²) |
| Remarks | -High hardness -Weather resistance | -Scratch resistance -Weather resistance (Can be used on the exterior) | -Formable Pre Cure type hard coat(HC) -Excellent scratch resistance and chemical resistance | | - |
| | | | -AFP function | -More formable H/C | |

Values on the above chart are for reference, not guaranteed.

Properties of each grade

| Test | DF02U | DF02PU | MRF08U | | Test method |
|-------------------------|--|--|--|--|----------------|
| | | | model ; D50 | model ; D51 | |
| Density | 1.2g/cm ³ | 1.2g/cm ³ | 1.2g/cm ³ | 1.2g/cm ³ | JIS K 7112 |
| Tensile strength | 60MPa | 60MPa | 60MPa | 60MPa | JIS K 7161-1 |
| Nominal strain at break | 6% | 4% | 6% | 4% | JIS K 7161-1 |
| Tensile modulus | 2,660MPa | 2,640MPa | 2,620MPa | 2,600MPa | JIS K 7161-1 |
| Linear expansion rate | 8×10 ⁻⁵ K ⁻¹ | 8×10 ⁻⁵ K ⁻¹ | 8×10 ⁻⁵ K ⁻¹ | 8×10 ⁻⁵ K ⁻¹ | JIS K 7197 |
| Volume resistivity | > 10 ¹⁶ Ω · cm | > 10 ¹⁶ Ω · cm | > 10 ¹⁶ Ω · cm | > 10 ¹⁶ Ω · cm | JIS C 2139-3-1 |
| Surface resistivity | A-side : > 10 ¹⁶ Ω B-side : > 10 ¹⁶ Ω | A-side : > 10 ¹⁶ Ω B-side : > 10 ¹⁶ Ω | A-side : > 10 ¹⁶ Ω B-side : > 10 ¹⁶ Ω | A-side : > 10 ¹⁶ Ω B-side : > 10 ¹⁶ Ω | JIS C 2139-3-2 |
| Dielectric constant | 3.0/2.8 | 3.0/2.8 | 3.0/2.8 | 2.9/2.8 | JIS C 2138 |
| Poisson's ratio | 0.35~0.4 | 0.35~0.4 | 0.35~0.4 | 0.35~0.4 | - |

Values on the above chart are for reference, not guaranteed.

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