Fluoro-coating “ MARVELCOAT ”

ZERO OZONE DESTRUCTION!
ANTI-GLOBAL WARMING GRADE!

The fluoro-coating agent, “ **MARVELCOAT** ”, is derived by dissolving the high level fluoro- polymer in fluoro-solvent “ hydrofluoroether(HFE)” and is a revolutionary product that is more environmentally friendlier in terms of functionality, operability and safety.

“ **MARVELCOAT** ” is a liquid of low viscosity that forms a thin membrane of low surface tension and superior water-repellant and oil-repellant feature when coated on metal, glass surfaces etc.

■What is “ MARVELCOAT ” ?

Environmental consideration
Zero ozone destruction
ODP = 0
Extremely low global warming coefficient
GWP = 320
(About 1/30 of freon)

Operability
Quick drying property
(about 0.5~1 minutes)
Hardening at room temperature
One-component

Functionality
Large contact angle (flip the wood and oil thoroughly)
Low chemical attack (target object not chosen)
Low surface tension (precision code possible)
Thin membrane type (coating on electrical point possible)
Heat resistance (no change even under 175^{o}C)

Safety
Incombustibility (no flash-point)
Chemical stability

■Product Line-up

Transparent general-purpose grade
RFH – 01 (fluoro-polymer content 2%)
RFH – 02 (fluoro-polymer content 1%)
RFH – 10 (fluoro-polymer content 0.2%)

Red coloring grade
RFH – 10R (fluoro-polymer content 0.2%)

Blue coloring grade
RD – 02B (fluoro-polymer content 0.2%)

Fluorescence coloring grade
RD – 02L (fluoro-polymer content 0.2%)

* Other fluoro-polymer content concentration can be adjusted.

■Usage

Damp proofing of electronic components and electronic substrate
Prevent shifting of lubricant, adhesive and resin
Sealing of anodic oxide coating for precision components
Rust prevention for metallic components
Chemical resistance process

* The above are used as examples. Please use to enhance the reliability of other devices and components.

■Usage Instructions

Full processing – Dipping method
Spin coating method
Partial processing – Brush coating
Use of coating machine

■Materials

1kg bottle
1kg bottle (10bottles/case)
5kg bottle
20kg can

■Representative Physical Properties of “MARVELCOAT”

【Liquid Characteristics】

Appearance	Transparent or Red or Blue liquid
fluoro-polymer content (%)	0.2~2
Solvent	Hydrofluoroether（HFE）
Density (g/cm^3)	About1.5
Viscosity (cps)	Below 10
Flash point	None

【Coating Membrane Characteristics】

Membrane thickness (μm)	Below 5
Time for drying to the touch (minutes)	0.5~1
Pencil hardness	Below 6B
Heat resistance (^{o}C)	175

■Comparison of water-repellent and oil-repellent feature

Quality	Contact angle (degrees)	
	Distilled water/Glass	n-Hexadecane/ Glass
Unprocessed	Below 5	Below 5
RFH-01	121	80
RFH-02	121	80
RFH-10	120	80
RFH-10R	116	81
RD-02B	118	78
RD-02L	118	78

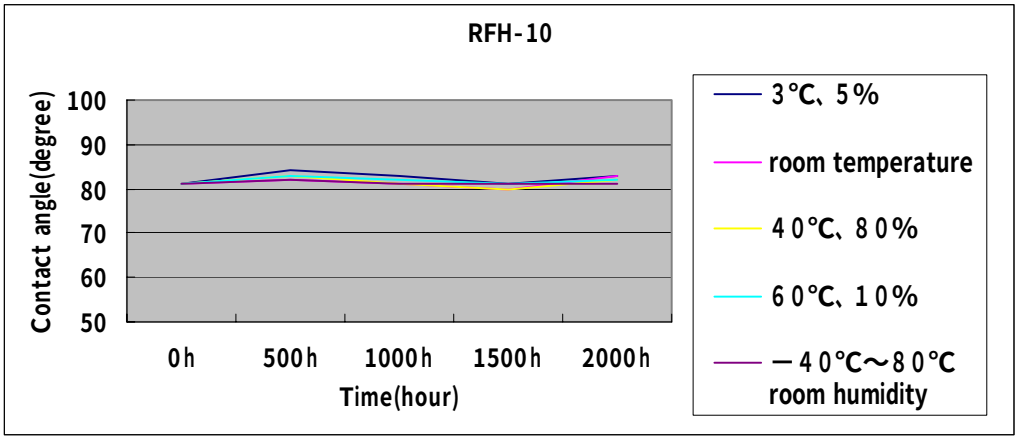
■ Compatibility with plastic

	Volume change (%)	Weight change (%)
PVC (hardened)	0	0
PP	−0.1	0
PE	−0.1	0
ABS	0	0
PPO	−0.1	−0.1
PPS	0	0
Polycarbonate	−0.1	0
Acryl	−0.1	−0.1
Polystyrol	−0.1	0
Glass epoxy	−0.1	0
Polyacetyl	−0.1	0
Nylon B	−0.1	0
Nylon BB	−0.1	0
Phenol	−0.1	0
PTFE	+0.8	+0.9
REP	+0.5	+0.4

Condition： room temperature x 1 week

*Please verify compatibility with the target object in advance.

■ Environmental test data



*Material：Ester oil／Alminium

■Points to Note

(1) Install ventilation equipment at the operating site. Use protective mask and protective gloves.
(2) During operation, try to prevent the suction of the steam and avoid contact with the skin.
(3) At a temperature of 150^{o}C, toxic components such as hydrofluoride and par-isobutylene are formed. Pay attention to naked flame in particular.
(4) For storage, avoid direct sunlight and choose a dark, cool and well-ventilated place.
(5) To prevent contamination by rubbish and water, seal tightly after use.

* Before using, study the product safety datasheet (MSDS) issued by our company.

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