

# Lumiflon products

## solvent grades

LUMIFLON solvent grade typical properties

| grade  | LF-200  | LF-552  | LF-600X                                   | LF-810                        | LF-810                                   | LF-910LM          |
|--|---|---|---|-------------------------------|--|-------------------|
| characteristics                              | standard  | improved flexibility                                  | improved flexibility                      | single component coatings     | single component coatings                | lower VOC         |
| application type                             | field application   | factory coil coating                                  | factory coil coating<br>field application | field application<br>aerosols | field or factory application<br>aerosols | field application |
| markets                                      | architecture, industrial maintenance, transportation, aerospace, alternative energy |   |   |                               |  |                   |
| substrates                                   |   | metal-steel & aluminum, plastic, fiberglass, concrete |   |                               |  |                   |
| molecular weight                             | moderate  | high  | high                                      | high                          | high                                     | low               |
| solid resin, wt%                             | 60  | 40  | 50  | 45                            | 55                                       | 66                |
| Tg, °C/F                                     | 35/95   | 20/68   | 20/68                                     | 45/113                        | 45/113                                   | 37/99             |
| specific gravity (as varnish), 25° C         | 1.12  | 1.06  | 1.08                                      | 0.98                          | 1.04                                     | 1.16              |
| OH value, mg KOH/g-polymer                   | 52  | 52  | 57  | 4                             | 4  | 100               |
| acid value, mg KOH/g-polymer                 | 0   | 5   | 0   | 0.3                           | 0  | 0                 |
| viscosity, stokes, cm <sup>2</sup> /s, 25° C | 20  | 4   | 9   | 18                            | 19                                       | 5                 |
| solvent                                      | xylene  | aromatic hydrocarbon solvent/cyclohexanone            | xylene                                    | mineral spirits               | xylene                                   | xylene            |

LUMIFLON aerospace resins typical properties

| grade  | LF-9716                     | LF-9721                   | LF-910LM |
|--|-----------------------------|---------------------------|----------|
| markets                                      | aerospace, other military   |                           |          |
| substrates                                   | aluminum, composites, steel |                           |          |
| solid resin, wt%                             | 70                          | 70                        | 66       |
| specific gravity, 25° C                      | 1.25                        | 1.26                      | 1.16     |
| OH value, mg KOH/g-polymer                   | 170                         | 160                       | 100      |
| gardner color                                | <1                          | <1                        | <1       |
| viscosity, stokes, cm <sup>2</sup> /s, 25° C | 35                          | 30                        | 5        |
| solvent                                      | ethyl 3-ethoxy propionate   | ethyl 3-ethoxy propionate | xylene   |

## solid grades

LUMIFLON solid grade typical properties

| grade                    | LF-200F   | LF-916F           |
|--------------------------|---|-------------------|
| markets                  | architecture, industrial maintenance, transportation, aerospace, alternative energy |                   |
| substrates               | metal-steel & aluminum, plastic, fiberglass, concrete                               |                   |
| appearance               | pale yellow flake   | pale yellow flake |
| solid resin, wt%         | >98   | >99               |
| OH value, mg KOH/g-resin | 49  | 100               |
| Tg, °C/F                 | 35/95   | 34/93             |
| Density, glcc, 25° C     | 1.42  | 1.39              |
| softening point, °C      | 119   | 117               |

# LUMIFLON products

## water emulsion grades

LUMIFLON emulsion grade typical properties

| grade                                  | FE-4300   | FE-4400                                       |
|--|---|---|
| characteristics                        | low OH value/low Tg<br>one component                  | high OH value/high Tg<br>one or two component |
| markets                                | architecture, industrial maintenance, transportation  |   |
| substrates                             | metal-steel & aluminum, plastic, fiberglass, concrete |   |
| solid resin, wt%                       | 50  | 50  |
| specific gravity, 25° C                | 1.13  | 1.16  |
| OH value, mg KOH/g-polymer             | 10  | 49  |
| pH                                     | 7-9   | 7-9   |
| average particle diameter, µm          | 0.1-0.2   | 0.1-0.2                                       |
| ionic character                        | Anionic   | Anionic                                       |
| minimum film forming temperature, °C/F | 30/86   | 55/131  |

## water dispersion grade

LUMIFLON dispersion grade typical properties

| grade                                  | FD-1000   |
|--|---|
| markets                                | architecture, industrial maintenance, transportation, aerospace |
| substrates                             | metal-steel & aluminum, plastic, fiberglass, concrete           |
| appearance                             | milky white liquid  |
| solid resin, wt%                       | 40  |
| specific gravity, 25° C                | 1.13  |
| OH value, mg KOH/g-polymer             | 85  |
| acid value, mg KOH/g-polymer           | 15  |
| pH                                     | 7-9   |
| average particle diameter, µm          | 0.05-0.15   |
| ionic character                        | Anionic   |
| minimum film forming temperature, °C/F | 29/84   |

## powder coating grades

LUMIFLON powder coating grade typical properties

| grade                      | LF-710F                      |
|----------------------------|------------------------------|
| markets                    | architecture, transportation |
| substrates                 | metal-steel & aluminum       |
| solid resin, wt%           | >99                          |
| Tg, °C/F                   | 51/125                       |
| OH value, mg KOH/g-polymer | 46                           |
| softening point, °C/F      | 90/194                       |
| solvent                    | none                         |