

# HF-380 (High Flow Grade)

## Application

Air-conditioner, telephone, electric fan, mixer, water purifier, toy, kitchen good etc.

## Feature

Though high flow grade HF-380 has good flowability and excellent processability, the impact and tensile strength could be varied. So it is desirable that the grade is carefully selected by its characteristics for better injection conditions and shape of final products.

| Properties                                   | Test Method   | Test Condition                                | Unit               | Value   |
|--|---------------|---|--------------------|---------|
| <b>Physical</b>                              |               |   |                    |         |
| Specific Gravity                             | ASTM D792     |   | g/cc               | 1.04    |
| Molding Shrinkage                            | ASTM D955     |   | %                  | 0.4~0.7 |
| Melt Flow Index                              | ASTM D1238(G) | 200°C / 5kg                                   | g/10min            | 4       |
|  | –             | 220°C / 10kg                                  | g/10min            | 42      |
|  | ASTM D1238(I) | 230°C / 3.8kg                                 | g/10min            | 15      |
| <b>Mechanical</b>                            |               |   |                    |         |
| Tensile Strength at yield                    | ASTM D638     | 50mm/min                                      | kg/cm <sup>2</sup> | 440     |
|  |               |   | lb/in <sup>2</sup> | 6,300   |
| Tensile Modulus                              | ASTM D638     | 1mm/min                                       | kg/cm <sup>2</sup> | 21,900  |
|  |               |   | lb/in <sup>2</sup> |         |
| Elongation at yield                          | ASTM D638     | 50mm/min                                      | %                  | 6       |
| Elongation at break                          | ASTM D638     | 50mm/min                                      | %                  | 16      |
| Flexural Strength at yield                   | ASTM D790     | 15mm/min                                      | kg/cm <sup>2</sup> | 700     |
|  |               |   | lb/in <sup>2</sup> | 9,900   |
| Flexural Modules                             | ASTM D790     | 15mm/min                                      | kg/cm <sup>2</sup> | 24,500  |
|  |               |   | lb/in <sup>2</sup> | 348,000 |
| Izod Impact Strength<br>(Noched)             | ASTM D256     | 1/4" , '23°C                                  | kg·cm/cm           | 29      |
|  |               | 1/4" , '-30°C                                 | kg·cm/cm           | 12      |
|  |               | 1/8" , '23°C                                  | kg·cm/cm           | 32      |
|  |               | 1/8" , '-30°C                                 | kg·cm/cm           | 13      |
| Rockwell Hardness                            | ASTM D785     | R-Scale                                       | –                  | 107     |
| <b>Thermal</b>                               |               |   |                    |         |
| Heat Deflection Temp                         | ASTM D648     | 18.5kg/cm <sup>2</sup> , 1/4"<br>(annealed)   | °C                 | 90      |
|  |               |   | °F                 | 194     |
|  |               | 18.5kg/cm <sup>2</sup> , 1/4"<br>(unannealed) | °C                 | 87      |
|  |               |   | °F                 | 189     |
|  |               | 4.6kg/cm <sup>2</sup> , 1/4"<br>(annealed)    | °C                 | 92      |
|  |               |   | °F                 | 198     |
| 4.6kg/cm <sup>2</sup> , 1/4"<br>(unannealed) | °C            | 89  |                    |         |
|  | °F            | 192   |                    |         |
| Vicat Softening Temp                         | ASTM D1525    | 5kg, 50°C/h                                   | °C                 | 93      |
|  |               |   | °F                 | 199     |
| Flammability                                 | UL94          | 1/8"  | class              | HB      |
|  |               | 1/10"   | class              |         |
|  |               | 1/16"   | class              | HB      |
|  | IEC707        | 1/8"  | mm/min             | FH3-35  |
|  |               | 1/16"   | mm/min             |         |