

難燃/特殊グレード 物性データ
Flame resistant / special grade of VYLOPET® and their properties
Data

| 区分 Classification | | | | GF(+MD)強化難燃 GF(+MD) reinforced flame resistant | | | | | | | | | | | 特殊 Special | | | |
|---|---|----------------------------------|------------------------|--|------------|--|------------------------------|------------------------------|---|--|---|------------|------------|--------------------------------|--------------------|------------------------|---|---------------------------------------|
| | | | | PET | | | | | PBT/PET | | PBT | | | | ブロー Blow | 放熱PET Heat radiate PET | PC/PET | |
| 強化材量 Content rate of reinforcing material | | | | EMC-130-01 | EMC-130-20 | EMC-132-01 | EMC-133 | EMC-143 | EMC-618 | EMC-630 | EMC-915-90 | EMC-930-90 | EMC-933HS | EMC-706E | EMC-720E | EMC-806CP | FA-7315 | |
| 性質 Properties | | 条件 Condition | 試験方法 ISO Method | 単位 Unit | 標準 General | 難燃5VA 耐アーク性 Flame resistant 5VA Arc resistance | 高強度 High mechanical strength | 耐加水分解性 Hydrolysis resistance | 高剛性 高耐熱 High rigidity Heat aging resistance | 良外観 低ソリ Excellent (exceptional) appearance Low warpage | 高強度 良外観 High mechanical strength Excellent (exceptional) appearance | 標準 General | 標準 General | 耐ヒートショック Heat-shock resistance | 非強化 Non-reinforced | GF強化 GF-reinforced | 高流動 熱伝導性 High flow Thermal conductivity | MD強化 高靱性 MD-reinforced High toughness |
| 物理的性質 Physical properties | 強化材含有率 Content rate of reinforcing material | — | — | % | 30 | 50 | 30 | 30 | 40 | 25 | 30 | 15 | 30 | 30 | — | 20 | 45 | 15 |
| | 比重 Specific gravity | — | ISO1183 | — | 1.74 | 1.91 | 1.71 | 1.71 | 1.85 | 1.63 | 1.7 | 1.57 | 1.69 | 1.61 | 1.31 | 1.38 | 1.63 | 1.36 |
| | 硬度 Hardness | — | ISO2039-1 | Mスケール | 95 | 90 | 95 | 95 | 100 | 90 | 95 | 90 | 90 | 90 | 78 | 90 | — | — |
| | 吸水率 Water absorption | 23℃水中24時間 23°C, 24hours in water | — | % | 0.06 | 0.05 | 0.06 | 0.06 | 0.05 | 0.06 | 0.05 | 0.06 | 0.06 | 0.06 | 0.08 | 0.07 | 0.06 | 0.2 |
| 機械的性質 Mechanical properties | 引張強度 Tensile strength | -40℃ | ISO527 | MPa | 119 | 104 | 136 | 145 | 152 | 130 | 170 | 118 | 161 | 156 | 45 | 135 | 37 | 84 |
| | | 23℃ | | | 111 | 100 | 125 | 135 | 140 | 100 | 136 | 102 | 121 | 117 | 35 | 93 | 30 | 67 |
| | | 80℃ | | | 76 | 70 | 90 | 94 | 108 | 65 | 74 | 57 | 73 | 60 | 20 | 45 | 21 | 40 |
| | 引張伸び Tensile elongation | 23℃ | ISO527 | % | 1.3 | 0.5 | 0.9 | 1.4 | 1.2 | 1.5 | 1.8 | 2.2 | 1.6 | 2.1 | 20 | 6.4 | 0.6 | 3.9 |
| | 曲げ強度 Flexural strength | -40℃ | ISO178 | MPa | 173 | 165 | 213 | 225 | 268 | 190 | 260 | 206 | 261 | 240 | 57 | 220 | 56 | 146 |
| | | 23℃ | | | 170 | 160 | 205 | 215 | 260 | 167 | 206 | 175 | 205 | 185 | 50 | 165 | 47 | 114 |
| | | 80℃ | | | 98 | 121 | 140 | 163 | 183 | 85 | 100 | 91 | 113 | 82 | 25 | 55 | 33 | 58 |
| | 曲げ弾性率 Flexural modulus | -40℃ | ISO178 | GPa | 11.8 | 15.7 | 14.4 | 12.5 | 19 | 9 | 11.6 | 6.9 | 11.5 | 9.2 | 1.7 | 6.4 | 8.6 | 5.1 |
| | | 23℃ | | | 11 | 15.1 | 13.2 | 12 | 18.1 | 8.5 | 10.4 | 6.7 | 11.2 | 8.9 | 1.5 | 6 | 8.4 | 4.8 |
| | | 80℃ | | | 5.8 | 9.1 | 8.4 | 7 | 11.2 | 3.8 | 4.7 | 3 | 5.9 | 3.7 | 0.3 | 2 | 4.3 | 2.8 |
| シャルピー衝撃強度 (ノッチ付) Charpy notched impact strength | -40℃ | ISO179 | kJ/m ² | 4.7 | 6.9 | 7.5 | 7.7 | 14 | 4 | 7.2 | 6.1 | 8.6 | 8.2 | 20 | 15 | 4.9 (ノッチなし) | 3.1 | |
| | 23℃ | | | 5.2 | 6.8 | 7.4 | 7.5 | 13.5 | 4.2 | 7.5 | 6 | 8.8 | 8.8 | N.B | 16.5 | 4.8 (ノッチなし) | 3.4 | |
| テーバー磨耗 Taber abrasion | CS-17 1000cycles | — | mg/1000回 mg/1000cycles | 55 | 55 | 55 | 55 | 55 | 25 | 28 | 19 | 25 | 25 | 18 | 20 | 28 | 43 | |
| 線膨張係数 Linear expansion coefficient | — | ISO11359 | 10-5/K | 4 | 4 | 5 | 6 | 5 | 5 | 5 | 6 | 5.5 | 6 | 11 | — | 4 | 5 | |
| 荷重たわみ温度 Heat deflection temp. | 0.46MPa | ISO75 | ℃ | 245 | 245 | 250 | 245 | 245 | 220 | 220 | 214 | 219 | 215 | 55 | 204 | 230 | 126 | |
| | 1.82MPa | | | 215 | 230 | 232 | 220 | 230 | 185 | 195 | 188 | 204 | 191 | 50 | 160 | 160 | 115 | |
| 難燃性 Flammability | — | UL94 | class/mm | V-0/0.75 | V-0/0.75 | V-0/0.75 | V-0/1.5 | V-0/1.5 | V-0相当 | V-0/1.5 | V-0相当 | V-0相当 | V-0相当 | HB相当 | HB相当 | — | — | |
| 絶縁破壊強度 Dielectric strength | 2mmt | IEC60243 | MV/m | 27 | 24 | 24 | 25 | 25 | 26 | 26 | 26 | 26 | 26 | 14 | 22 | — | 65 | |
| 体積固有抵抗 Volume resistance | — | IEC60093 | Ω·m | 1E+17 | 1E+17 | 1E+17 | 1E+17 | 1E+17 | 1E+15 | 1E+15 | 1E+15 | 1E+15 | 1E+15 | 1E+17 | 1E+17 | 1E+06 | 1E+15 | |
| 耐アーク性 Arc resistance | (タングステン電極) Tungsten electrode | IEC60950 | sec. | 70 | 125 | 70 | 44 | 52 | 55 | 55 | 50 | 50 | 50 | — | — | — | — | |
| トラッキングインデックス Tracking index | — | IEC 60112 | CTI | 225 | 225 | 225 | 200 | 200 | 225 | 225 | 250 | 250 | 250 | 275 | 275 | — | — | |
| 成形性 Moldability | MFR Melt Flow Rate | 荷重2.16kg | ISO1133 | g/10min | 50 (275℃) | 3 (275℃) | 40 (275℃) | 25 (275℃) | 6 (275℃) | 45 (265℃) | 15 (265℃) | 45 (265℃) | 40 (265℃) | 12 (250℃) | 4 (250℃/10kg) | 7 (250℃/10kg) | 15 (275℃) | 40 (280℃) |
| | 樹脂温度設定 Resin temperature setting | — | — | ℃ | 255~275 | 255~275 | 255~275 | 255~275 | 255~275 | 255~275 | 255~275 | 250~265 | 250~265 | 250~265 | 240~260 | 240~260 | 255~275 | 270~290 |
| | 金型温度設定 Mold temperature setting | — | — | ℃ | 120~140 | 120~140 | 120~140 | 120~140 | 120~140 | 60~120 | 60~120 | 70~90 | 70~90 | 70~90 | — | — | 120~140 | 70~90 |
| | 成形収縮率 Mold shrinkage | 2mm厚 | 100mm×100mm平板 | % | 0.3/1.2 | 0.2/0.9 | 0.3/1.2 | 0.3/1.2 | 0.3/1.0 | 0.3/1.0 | 0.2/1.0 | 0.5/1.3 | 0.3/1.2 | 0.3/1.0 | 1.0/1.0 | 0.3/0.9 | 0.5/0.6 | 0.5/0.5 |
| 3mm厚 | | 0.3/1.2 | | | 0.3/0.9 | 0.3/1.1 | 0.3/1.1 | 0.3/1.0 | 0.4/1.3 | 0.3/1.1 | 0.6/1.6 | 0.4/1.4 | 0.3/1.1 | 1.2/1.2 | 0.3/1.0 | 0.7/0.8 | 0.5/0.5 | |

※本表記載のデータは代表値であり、保証値ではありません。*The values and properties are typical values, not a guaranteed values.
 ※本表記載のデータは、一般ブラック、ナチュラル色の物性値であり、着色した場合は、物性値が変わる可能性があります。
 *The values and properties are values of typical black and natural colors. In case of coloring, There are possibility that the values and properties would change.