

TECHNICAL DATA SHEET

TECHNYL 4EARTH C2E 216 BK H  
(Previously ECONAMID FL 6 BK)

Polyamide 6, for injection moulding, black

General

|                       |                   |
|-----------------------|-------------------|
| Polymer type          | PA6 (Polyamide 6) |
| Processing technology | Injection molding |
| Certification         | RoHS              |

Product identification

|                       |                       |
|-----------------------|-----------------------|
| ISO 1043 abbreviation | PA6                   |
| ISO 16396 designation | PA6,(R100),M1,S14-030 |

|                              | Condition      | Standard        | Unit  | Value     |
|------------------------------|----------------|-----------------|-------|-----------|
| Physical properties          |                |                 |       |           |
| Density                      |                | ISO 1183        | g/cm³ | 1.14      |
| Humidity absorption          | T=23°C, 50% RH | ISO 62          | %     | 3.3 - 3.4 |
| Water absorption             | 24 hr, 23°C    | ISO 62          | %     | 1.9 - 2   |
| Water absorption, saturation |                |                 | %     | 9.1       |
| Molding shrinkage, parallel  |                | ISO 294-4, 2577 | %     | 0.8 - 1   |
| Molding shrinkage, normal    |                | ISO 294-4, 2577 | %     | 0.9 - 1.1 |
| Viscosity number             | 96% H2SO4      | ISO 307         | cm³/g | 135       |

|                                       |           |              |        |              |
|---------------------------------------|-----------|--------------|--------|--------------|
| Mechanical properties                 |           |              |        | dam / cond.* |
| Tensile modulus                       | 1 mm/min  | ISO 527-1/-2 | MPa    | 3000 / 1000  |
| Strain at break                       | 50 mm/min | ISO 527-1/-2 | %      | 15 / 50      |
| Yield stress                          | 50 mm/min | ISO 527-1/-2 | MPa    | 70 / 40      |
| Flexural modulus, ISO 178             | 2 mm/min  | ISO 178      | MPa    | 2650 / 850   |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa    | 95 / 30      |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  |        | NB / NB      |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m²  | 5 / 20       |
| Izod impact strength, +23°C           | +23°C     | ISO 180/1U   |        | NB / NB      |
| Izod notched impact strength, +23°C   | +23°C     | ISO 180/1A   | kJ/m²  | 4.5 / 20     |
| Rockwell hardness                     |           | ISO 2039/2   | ScaleR | 120 / -      |

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|-----------|----------|------|-------|
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Thermal properties

|                                          |              |             |    |     |
|------------------------------------------|--------------|-------------|----|-----|
| Melting temperature, 10°C/min            |              | ISO 11357-1 | °C | 221 |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa     | ISO 75      | °C | 170 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa     | ISO 75      | °C | 70  |
| Vicat softening temperature              | 50°C/h - 50N | ISO 306     | °C | 200 |

Electrical properties

|                     |  |               |       |        |
|---------------------|--|---------------|-------|--------|
| Volume resistivity  |  | IEC 62631-3-1 | ohm.m | 1E+016 |
| Surface resistivity |  | IEC 62631-3-1 | ohm   | 1E+014 |

Burning behaviour

|                                     |         |                |    |              |
|-------------------------------------|---------|----------------|----|--------------|
| Flammability, 0.75 mm               | 0.75 mm | UL 94          |    | HB           |
| Glow-wire flammability index, GWFI  | 1-3 mm  | IEC 60695-2-12 | °C | 650          |
| Burning rate, FMVSS, Thickness 1 mm |         | FMVSS 302      |    | < 100 mm/min |

Test run at 23°C if not differently specified, DAM state (dry as moulded).  
\*: conditioned according to ISO 1110

Processing conditions

|                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| Drying temperature/time       | 75-85°C / 2-4h (with dew point of dried air < -30 °C) |
| Recommended melt temperature  | 230 - 260 °C                                          |
| Recommended mould temperature | 40 - 80 °C                                            |

These parameters are typical of the product but should be related to the type of machinery used and to the type of moulded part. These TECHNYL grades are not recommended for injection moulding hot runner systems with a diameter below 1mm.

Disclaimer

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