

## TECHNICAL DATA SHEET

# TECHNYL 4EARTH C2E 236 BK

## ECONAMID PLUS 6I2 BK



Polyamide 6, impact modified, for injection moulding, black

**General**

|                       |                                        |                      |  |
|-----------------------|----------------------------------------|----------------------|--|
| Polymer type          | PA6                                    |                      |  |
| Certifications        | RoHS                                   | EC 1907/2006 (REACH) |  |
| Feature               | impact modified<br>not heat stabilized | recycled             |  |
| Colors available      | black                                  |                      |  |
| Forms                 | pellets                                |                      |  |
| Processing technology | injection moulding                     |                      |  |

**Product identification**

|                       |                       |
|-----------------------|-----------------------|
| ISO 1043 abbreviation | PA6-I(REC)            |
| ISO 16396 designation | PA6,(R>50),MP,S14-020 |

| Condition | Standard | Unit | Value |
|-----------|----------|------|-------|
|-----------|----------|------|-------|

**Physical properties**

|                              |                |                 |                    |           |
|------------------------------|----------------|-----------------|--------------------|-----------|
| Density                      |                | ISO 1183        | g/cm <sup>3</sup>  | 1.08      |
| Humidity absorption          | T=23°C, 50% RH | ISO 62          | %                  | 3.1 - 3.2 |
| Water absorption             | 24 hr, 23°C    | ISO 62          | %                  | 1.8 - 1.9 |
| Water absorption, saturation |                |                 | %                  | 8.8       |
| Molding shrinkage, parallel  |                | ISO 294-4, 2577 | %                  | 1.4 - 1.6 |
| Molding shrinkage, normal    |                | ISO 294-4, 2577 | %                  | 1.1 - 1.4 |
| Viscosity number             | 96% H2SO4      | ISO 307         | cm <sup>3</sup> /g | 135.0     |

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|                                       | Condition | Standard     | Unit              | Value               |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| <b>Mechanical properties</b>          |           |              |                   | <b>dam / cond.*</b> |
| Tensile modulus                       | 1 mm/min  | ISO 527-1/-2 | MPa               | 2400 / 750          |
| Stress at break                       |           | ISO 527-1/-2 | MPa               | 50 / 50             |
| Strain at break                       | 50 mm/min | ISO 527-1/-2 | %                 | 11 / 200            |
| Yield stress                          | 50 mm/min | ISO 527-1/-2 | MPa               | 60 / -              |
| Yield strain                          |           | ISO 527-1/-2 | %                 | 3.8 / -             |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa               | 85 / 30             |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | NB                  |
| Charpy impact strength, -30°C         | -30°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | NB                  |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 13 / 65             |
| Izod impact strength, +23°C           | +23°C     | ISO 180/1U   | kJ/m <sup>2</sup> | NB                  |
| Izod notched impact strength, +23°C   | +23°C     | ISO 180/1A   | kJ/m <sup>2</sup> | 15 / -              |
| Rockwell hardness                     |           | ISO 2039/2   | ScaleR            | 105 / -             |

\*: **conditioned according to ISO 1110**

|                                          | Condition    | Standard    | Unit | Value |
|------------------------------------------|--------------|-------------|------|-------|
| <b>Thermal properties</b>                |              |             |      |       |
| Melting temperature, 10°C/min            |              | ISO 11357-1 | °C   | 221   |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa     | ISO 75      | °C   | 145   |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa     | ISO 75      | °C   | 50    |
| Vicat softening temperature              | 50°C/h - 50N | ISO 306     | °C   | 175   |

|                                     | Condition | Standard  | Unit | Value        |
|-------------------------------------|-----------|-----------|------|--------------|
| <b>Burning behaviour</b>            |           |           |      |              |
| Flammability, 0.75 mm               | 0.75 mm   | UL 94     |      | HB           |
| Burning rate, FMVSS, Thickness 1 mm |           | FMVSS 302 |      | < 100 mm/min |

| Condition | Standard | Unit | Value |
|-----------|----------|------|-------|
|-----------|----------|------|-------|

### Electrical properties

|                     |  |               |       |        |
|---------------------|--|---------------|-------|--------|
| Volume resistivity  |  | IEC 62631-3-1 | ohm.m | 1.0E13 |
| Surface resistivity |  | IEC 62631-3-1 | ohm   | 1.0E13 |

### Processing conditions

|                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| Drying temperature/time       | 75-85°C / 2-4h (with dew point of dried air < -30 °C) |
| Recommended melt temperature  | 240 - 260 °C                                          |
| Recommended mould temperature | 60 - 90 °C                                            |

### Injection notes

The material is supplied in airtight bags, ready for use.,In case that the virgin material has absorbed moisture, it must be dried with a dehumidified air drying equipment, dew point minimum -20°C.,Recommended time 2-4h.

### Injection advice

For unfilled polyamides, Domo recommends the use of high alloy steel with a low chromium content. For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (DIN Norm). In the case of high requirements on surface quality a mould temperature of up to 120°C can be considered.,The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design.