

## TECAMID 6 GF30 black - Stock Shapes

### Chemical Designation

PA 6 (Polyamide 6)

### Colour

black opaque

### Density

1.36 g/cm<sup>3</sup>

### Fillers

glass fibres

### Main features

- very high strength
- resistant to many oils, greases and fuels
- good wear properties
- good weldable and bondable
- high dimensional stability
- good heat deflection temperature
- good machinability
- not electrically insulating

### Target Industries

- conveyor technology
- mechanical engineering
- clutch and engine manufacturing
- home appliances
- automotive industry
- electrical engineering
- precision engineering
- packaging and paper machinery

Data generated directly after machining  
(standard climate Germany).

| Mechanical properties                 | parameter                | value     | unit                              | norm                 | comment |
|---------------------------------------|--------------------------|-----------|-----------------------------------|----------------------|---------|
| Modulus of elasticity (tensile test)  | 1mm/min                  | 5700      | MPa                               | DIN EN ISO 527-2     | 1)      |
| Tensile strength                      | 50mm/min                 | 98        | MPa                               | DIN EN ISO 527-2     |         |
| Tensile strength at yield             | 50mm/min                 | 98        | MPa                               | DIN EN ISO 527-2     |         |
| Elongation at yield                   | 50mm/min                 | 4         | %                                 | DIN EN ISO 527-2     |         |
| Elongation at break                   | 50mm/min                 | 5         | %                                 | DIN EN ISO 527-2     |         |
| Flexural strength                     | 2mm/min, 10 N            | 140       | MPa                               | DIN EN ISO 178       | 2)      |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N            | 5200      | MPa                               | DIN EN ISO 178       |         |
| Compression strength                  | 1% / 2%<br>5mm/min, 10 N | 21 / 42   | MPa                               | EN ISO 604           | 3)      |
| Compression modulus                   | 5mm/min, 10 N            | 4200      | MPa                               | EN ISO 604           | 4)      |
| Impact strength (Charpy)              | max. 7,5J                | 60        | kJ/m <sup>2</sup>                 | DIN EN ISO 179-1eU   | 5)      |
| Ball indentation hardness             |                          | 232       | MPa                               | ISO 2039-1           | 6)      |
| Thermal properties                    | parameter                | value     | unit                              | norm                 | comment |
| Glass transition temperature          |                          | 49        | °C                                | DIN 53765            | 1)      |
| Melting temperature                   |                          | 218       | °C                                | DIN 53765            |         |
| Service temperature                   | short term               | 180       | °C                                |                      | 2)      |
| Service temperature                   | long term                | 100       | °C                                |                      |         |
| Thermal expansion (CLTE)              | 23-60°C, long.           | 6         | 10 <sup>-5</sup> *K <sup>-1</sup> | DIN EN ISO 11359-1;2 |         |
| Thermal expansion (CLTE)              | 23-100°C, long.          | 6         | 10 <sup>-5</sup> *K <sup>-1</sup> | DIN EN ISO 11359-1;2 |         |
| Specific heat                         |                          | 1.3       | J/(g*K)                           | ISO 22007-4:2008     |         |
| Thermal conductivity                  |                          | 0.41      | W/(K*m)                           | ISO 22007-4:2008     |         |
| Electrical properties                 | parameter                | value     | unit                              | norm                 | comment |
| Other properties                      | parameter                | value     | unit                              | norm                 | comment |
| Water absorption                      | 24h / 96h (23°C)         | 0.2 / 0.3 | %                                 | DIN EN ISO 62        | 1)      |
| Resistance to hot water/ bases        |                          | (+)       |                                   |                      |         |
| Resistance to weathering              |                          | (+)       |                                   |                      |         |
| Flammability (UL94)                   | corresponding to         | HB        |                                   | DIN IEC 60695-11-10; | 2)      |

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