

# TECAFORM AD AF natural - Stock Shapes (rods, plates, tubes)

## Chemical Designation

POM-H (Polyacetal (Homopolymer))

## Colour

dark brown opaque

## Density

1.49 g/cm<sup>3</sup>

## Fillers

PTFE

## Main features

- good slide and wear properties
- high strength
- electrically insulating
- high toughness
- good machinability
- good chemical resistance
- difficult to bond
- not hot water resistant over 60°C

## Target Industries

- mechanical engineering
- automotive industry
- aircraft and aerospace technology
- electronics
- food technology

| Mechanical properties                 | parameter                     | value            | unit                             | norm                 | comment   |
|---------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|---|
| Tensile strength                      | 50mm/min                      | 53               | MPa                              | DIN EN ISO 527-2     | (1) For tensile test: specimen type 1b  |
| Modulus of elasticity (tensile test)  | 1mm/min                       | 3000             | MPa                              | DIN EN ISO 527-2     | (2) For flexural test: support span 64mm, norm specimen.  |
| Tensile strength at yield             | 50mm/min                      | 53               | MPa                              | DIN EN ISO 527-2     | (3) Specimen 10x10x10mm   |
| Elongation at yield (tensile test)    | 50mm/min                      | 8                | %                                | DIN EN ISO 527-2     | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.  |
| Elongation at break (tensile test)    | 50mm/min                      | 8                | %                                | DIN EN ISO 527-2     | (5) For Charpy test: support span 64mm, norm specimen.  |
| Flexural strength                     | 2mm/min, 10 N                 | 85               | MPa                              | DIN EN ISO 178       | n.b. = not broken   |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N                 | 3000             | MPa                              | DIN EN ISO 178       |   |
| Compression strength                  | 1% / 2% / 5%<br>5mm/min, 10 N | 19/33/67         | MPa                              | EN ISO 604           | (3)   |
| Compression modulus                   | 5mm/min, 10 N                 | 2400             | MPa                              | EN ISO 604           | (4)   |
| Impact strength (Charpy)              | max. 7,5J                     | n.b.             | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eU   | (5)   |
| Notched impact strength (Charpy)      | max. 7,5J                     | 25               | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eA   |   |
| Shore hardness                        | D                             | 81               |                                  | DIN EN ISO 868       |   |
| Thermal properties                    | parameter                     | value            | unit                             | norm                 | comment   |
| Glass transition temperature          |                               | -60              | °C                               | DIN EN ISO 11357     | (1) Found in public sources.  |
| Melting temperature                   |                               | 179              | °C                               | DIN EN ISO 11357     | (2) Found in public sources.  |
| Heat distortion temperature           | HDT, Method A                 | 141              | °C                               | ISO-R 75 Method A    | Individual testing regarding application conditions is mandatory.   |
| Service temperature                   | short term                    | 150              | °C                               |                      | (2)   |
| Service temperature                   | long term                     | 110              | °C                               |                      |   |
| Thermal expansion (CLTE)              | 23-60°C, long.                | 12               | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |   |
| Thermal expansion (CLTE)              | 23-100°C, long.               | 13               | 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                  |                               | 0.46             | W/(K*m)                          | ISO 22007-4:2008     |   |
| Electrical properties                 | parameter                     | value            | unit                             | norm                 | comment   |
| surface resistivity                   |                               | 10 <sup>14</sup> | Ω                                | -                    |   |
| Other properties                      | parameter                     | value            | unit                             | norm                 | comment   |
| Water absorption                      | 24h / 96h (23°C)              | 0.05 / 0.1       | %                                | DIN EN ISO 62        | (1) Ø ca. 50mm, h=13mm  |
| Resistance to hot water/ bases        |                               | -                | -                                | -                    | (2) - poor resistance   |
| Resistance to weathering              |                               | -                | -                                | -                    | (3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory. |
| Flammability (UL94)                   | corresponding to              | HB               |                                  | DIN IEC 60695-11-10; | (3)   |

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