# ASTAMID™

POLYAMIDE
ENGINEERING THERMOPLASTIC

ASTAMID™ IS A TRADEMARK OF MARPLEX AUSTRALIA PTY. LTD.

## ASTAMID™ KB3EG5

ASTAMID™ KB3EG5 is a flame retardant, low smoke, 25% glass fibre filled Polyamide 6 (PA6) designed for use in applications where a UL94 V-0 flammability rating and high modulus are required.

| | CONDITIONS | UNITS | TYPICAL VALUES | TESTING METHODS |
|---|---|---|---|---|
| ***1. Mechanical Properties*** | | | | |
| Notched Izod Impact Strength | 12.7 mm x 3.2 mm [Cond] | J/m | 120 | ASTM D256 |
| | 12.7 mm x 3.2 mm [DryM] | J/m | 80 | ASTM D256 |
| Tensile Strength | 12.7x3.2mm @5.0mm/min [Cond] | MPa | 65 | ASTM D638 |
| | 12.7x3.2mm @5.0mm/min [DryM] | MPa | 115 | ASTM D638 |
| Tensile Modulus | 12.7x3.2mm @5.0mm/min [Cond] | MPa | 5,250 | ASTM D638 |
| | 12.7x3.2mm @5.0mm/min [DryM] | MPa | 8,250 | ASTM D638 |
| Elongation to Fail | 12.7x3.2mm @5.0mm/min [Cond] | % | 4.0 | ASTM D638 |
| | 12.7x3.2mm @5.0mm/min [DryM] | % | 2.5 | ASTM D638 |
| Flexural Strength | 12.7x3.2mm @2.8mm/min [Cond] | MPa | 90 | ASTM D790 |
| | 12.7x3.2mm @2.8mm/min [DryM] | MPa | 170 | ASTM D790 |
| Flexural Modulus | 12.7x3.2mm @2.8mm/min [DryM] | MPa | 7,750 | ASTM D790 |
| | 12.7x3.2mm @2.8mm/min [Cond] | MPa | 3,750 | ASTM D790 |
| ***2. Thermal Properties*** | | | | |
| Heat Deflection Temperature | 12.7x3.2mm @1.82 Mpa [Cond] | °C | 140 | ASTM D648 |
| | 12.7x3.2mm @1.82 Mpa [DryM] | °C | 190 | ASTM D648 |
| Coefficient of Linear Thermal Expansion | | cm/cm/°C | 6.00E-05 | ASTM D696 |
| ***3. Physical Properties*** | | | | |
| Specific Gravity | | - | 1.52 | ASTM D792 |
| Rockwell Hardness | | M | 119 | ASTM D785 |
| UL Flammability | 3.0 mm [DryM] | Rating | V-0 | UL 94 |
| | 3.0 mm [Cond] | Rating | V-0 | UL 94 |
| Water Absorbtion | 24 hours | % | 0.40 | ASTM D570 |
| Moisture Regain | 65% RH | % | - | ASTM D570 |
| Reinforcement Level | By mass | % | - | n/a |
| Taber Abrasion | 1000 cycles | mg | - | ASTM D1044 |
| Mould Shrinkage | | % | 0.50 | ASTM D955 |

*[DryM] indicates "Dry-As-Moulded" and [Cond] indicates "Conditioned at 23°C and 50% RH"*

*All test results were obtained using uncoloured material.*
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MARPLEX PLASTICABILITY

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# TYPICAL PROCESSING CONDITIONS

## ASTAMID™ KB3EG5

The following typical guidelines are offered as initial processing conditions for ASTAMID™ KB3EG5
In practice, processing parameters may need to be varied to give commercially acceptable performance in conjunction with optimum physical properties. For specific technical advice on part design or processing conditions, contact the Marplex Technical Service Department.

| | | |
|---|---|---|
| Temperature of pellet bed in dehumidifying drier | | 75 - 85°C |
| Minimum drying time at desired pellet bed temp | | 2 hours for dry material and >12 hours if already opened bag |
| Mould temperature | | 80 - 100°C |
| Nozzle temperature | | Do not exceed stock temperature |
| Melt temperature | | 240 - 260°C |
| Cylinder temperatures | Rear | 210 - 230°C |
| | Middle | 220 - 240°C |
| | Front | 230 - 250°C |
| Fill speed | | Medium - Fast |
| Screw speed | | 40 - 60 rpm |
| Screw back pressure | | 0.1 - 0.5 MPa |
| Injection pressure | | 60 - 130 MPa |
| Clamp pressure | | 3 - 5 kN/cm² |

## Comments:

01. ASTAMID™ PA 6 absorbs moisture readily once the original packaging is opened. Ensure adequate drying of stored material and regrind to avoid moulding splay, nozzle drooling and embrittlement.

02. ASTAMID™ PA 6 is not compatible with other polymers.

03. It is strongly suggested that the actual drying, moulding die and material temperatures are manually confirmed using a hand held temperature measuring device.

## Conversions:

1 MPa = 145psi
1 MPa = 10.2kg/cm²
1 MPa = 10 bar
ºC = 5(ºF-32)/9
1 kN/cm² = 0.85 ton/in²

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