# NYCOA Polyamide 2038

#### Polyamide 6

Nycoa (Nylon Corporation of America)

#### Message:

NYCOA 2038 is a 6% glass-fiber reinforced Nylon 6 resin that offers increased stiffness and dimensional stability. It is formulated to offer outstanding processability, chemical resistance, and an excellent overall balance of mechanical properties.

NYCOA 2038 is available in UV stable, custom colors, and impact modified grades. In addition, this material has excellent chemical resistance to greases, oils and other hydrocarbons.

NYCOA 2038 is suitable for general-purpose injection molding, and can be found in applications that include gears, hardware items, and weed-trimmer parts.

| General Information                     |  |       |             |  |  |
|---|--|-------|-------------|--|--|
| Filler / Reinforcement                  | Glass fiber reinforced material, 6.0% filler by weight |       |             |  |  |
| Features                                | Good dimensional stability                             |       |             |  |  |
|   | Rigid, good  |       |             |  |  |
|   | Workability, good                                      |       |             |  |  |
|   | Good chemical resistance                               |       |             |  |  |
|   | Hydrocarbon resistance                                 |       |             |  |  |
|   | Oil resistance   |       |             |  |  |
|   | Grease resistance                                      |       |             |  |  |
|   | General  |       |             |  |  |
|   |  |       |             |  |  |
| Uses                                    | Lawn and Garden Equipment                              |       |             |  |  |
|   | Gear   |       |             |  |  |
|   |  |       |             |  |  |
| Forms                                   | Particle   |       |             |  |  |
| Processing Method                       | Injection molding                                      |       |             |  |  |
| Physical                                | Nominal Value  | Unit  | Test Method |  |  |
| Specific Gravity                        | 1.16   | g/cm³ | ASTM D792   |  |  |
| Molding Shrinkage                       |  |       | ASTM D955   |  |  |
| Flow                                    | 0.80   | %     | ASTM D955   |  |  |
| Transverse flow                         | 1.0  | %     | ASTM D955   |  |  |
| Water Absorption (24 hr)                | 1.4  | %     | ASTM D570   |  |  |
| Hardness                                | Nominal Value  | Unit  | Test Method |  |  |
| Rockwell Hardness (R-Scale)             | 120  |       | ASTM D785   |  |  |
| Mechanical                              | Nominal Value  | Unit  | Test Method |  |  |
| Tensile Strength <sup>1</sup>           | 103  | MPa   | ASTM D638   |  |  |
| Tensile Elongation <sup>2</sup> (Break) | 10   | %     | ASTM D638   |  |  |
| Flexural Modulus <sup>3</sup>           | 3800   | MPa   | ASTM D790   |  |  |
| Flexural Strength <sup>4</sup>          | 140  | MPa   | ASTM D790   |  |  |
| Impact                                  | Nominal Value  | Unit  | Test Method |  |  |
| Notched Izod Impact (6.35 mm)           | 43   | J/m   | ASTM D256   |  |  |

| Thermal   | Nominal Value | Unit | Test Method |  |  |
|---|---------------|------|-------------|--|--|
| Deflection Temperature Under Load   |               |      | ASTM D648   |  |  |
| 0.45 MPa, not annealed  | 200           | °C   | ASTM D648   |  |  |
| 1.8 MPa, not annealed   | 175           | °C   | ASTM D648   |  |  |
| Melting Temperature   | 221           | °C   | DSC         |  |  |
| Additional Information  |               |      |             |  |  |
| The value listed as Melting Point DSC, was tested in accordance with ASTM D789. |               |      |             |  |  |
| Injection   | Nominal Value | Unit |             |  |  |
| Drying Temperature  | 71.1 - 82.2   | °C   |             |  |  |
| Drying Time   | 4.0 - 6.0     | hr   |             |  |  |
| Rear Temperature  | 232 - 271     | °C   |             |  |  |
| Middle Temperature  | 243 - 282     | °C   |             |  |  |
| Front Temperature   | 254 - 291     | °C   |             |  |  |
| Nozzle Temperature  | 252 - 291     | °C   |             |  |  |
| Processing (Melt) Temp  | 254 - 291     | °C   |             |  |  |
| Mold Temperature  | 76.7 - 87.8   | °C   |             |  |  |
| Injection Rate  | Fast          |      |             |  |  |
| Back Pressure   | 0.138 - 0.517 | MPa  |             |  |  |
| Cushion   | 1.59 - 6.35   | mm   |             |  |  |
| Screw L/D Ratio   | 16.0:1.0      |      |             |  |  |
| Screw Compression Ratio   | 3.0:1.0       |      |             |  |  |
| NOTE  |               |      |             |  |  |
| 1.  | 51 mm/min     |      |             |  |  |
| 2.  | 51 mm/min     |      |             |  |  |
|   |               |      |             |  |  |

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### Recommended distributors for this material

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51 mm/min

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