

# YUNTIANHUA® M90

Acetal (POM) Copolymer



## General

|                   |  |   |   |
|-------------------|--|---|---|
| Material Status   | Standard-flow grade, with minimized mold deposit   |   |   |
| Features          | <ul style="list-style-type: none"> <li>• Acid Resistant</li> <li>• Bacteria Resistant</li> <li>• Base Resistant</li> <li>• Copolymer</li> <li>• Fatigue Resistant</li> </ul> | <ul style="list-style-type: none"> <li>• Good Abrasion Resistance</li> <li>• Good Chemical Resistance</li> <li>• Good Dimensional Stability</li> <li>• Good Electrical Properties</li> <li>• Good Flow</li> </ul> | <ul style="list-style-type: none"> <li>• High Hardness</li> <li>• High Stiffness</li> <li>• Low Friction</li> <li>• Low Warpage</li> <li>• Solvent Resistant</li> </ul> |
| Uses              | <ul style="list-style-type: none"> <li>• Automotive Electronics</li> <li>• Automotive Exterior Parts</li> <li>• Aumomotive Under the Hood</li> </ul>                         | <ul style="list-style-type: none"> <li>• Fittings</li> <li>• Gears</li> <li>• pining</li> </ul>   | <ul style="list-style-type: none"> <li>• Thin-walled Parts</li> <li>• Valves/Valve Parts</li> <li>• Wheels</li> </ul>   |
| Forms             | • Pellets  |   |   |
| Processing Method | • Injection Molding and Extrusion  |   |   |

| Physical properties | Value | Unit | Test Standard |
|---------------------|-------|------|---------------|
|---------------------|-------|------|---------------|

|  |      |                   |          |
|--|------|-------------------|----------|
| Density                                  | 1.41 | g/cm <sup>3</sup> | ISO 1183 |
| Melt Mass-Flow Rate (MFR) (190°C/2.16Kg) | 9    | g/10min           | ISO 1133 |
| Water Absorption (24 hr, 23°C)           | 0.6  | %                 | ISO 62   |

| Mechanical properties | Value | Unit | Test Standard |
|-----------------------|-------|------|---------------|
|-----------------------|-------|------|---------------|

|                                |      |                   |             |
|--------------------------------|------|-------------------|-------------|
| Tensile Stress at yield        | 60   | MPa               | ISO 527-2   |
| Tensile modulus                | 2600 | MPa               | ISO 527-2   |
| Strain at break                | 35   | %                 | ISO 527-2   |
| Flexural strength              | 88   | MPa               | ISO 178     |
| Flexural modulus               | 2500 | MPa               | ISO 178     |
| Charpy notched impact strength | 6    | KJ/m <sup>2</sup> | ISO 179/1eA |

| Thermal properties | Value | Unit | Test Standard |
|--------------------|-------|------|---------------|
|--------------------|-------|------|---------------|

|  |    |    |        |
|--|----|----|--------|
| Heat Deflection Temperature 1.8Mpa, Unannealed | 95 | °C | ISO 75 |
|--|----|----|--------|

| Flammability properties | Value | Unit | Test Standard |
|-------------------------|-------|------|---------------|
|-------------------------|-------|------|---------------|

|                 |    |       |      |
|-----------------|----|-------|------|
| Flame Rating-UL | HB | class | UL94 |
|-----------------|----|-------|------|

### Notes to users

Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data value.

## Recommended Injection Molding Conditions

- Material Drying : 80 – 90°C, 3-4 hours
- Cylinder Temperature:
  - Nozzle : 180 - 210 (°C)
  - Front Section : 190 – 210 (°C)
  - Center Section : 170 – 200 (°C)
  - Rear Section : 160 – 180 (°C)
- Melt Temperature : 180 – 210 (°C)
- Mold Temperature : 60 – 90 (°C)  
(Precision parts are often molede at a mold at a mold temperature as high as 120°C)
- Pressure :
 

|                    |              |
|--------------------|--------------|
| Injection Pressure | 50 – 100 Mpa |
| Holding Pressure   | 30 – 80 Mpa  |
| Back Pressure      | 0 – 0.5 MPa  |
- Screw Rotational Speed : 50 – 120 rpm

## Recommended Extruded Conditions

- Standard extruders with grooved feed zone and short compression screws (minimum 25 D) will fit.  
Melt temperature : 180 - 190°C

## Acquired Certifications of Yuntianhua POM

- RoHS test
- Certification FDA
- Certification W18 test
- PFOS test
- Certification UL
- EN71-3 test

For details, please contact Yuntianhua technicians.

## Contact information

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