# API PS 425

### Medium Impact Polystyrene

## American Polymers, Inc.

#### Message:

API 425 is a medium impact grade of polystyrene for injection molding. API 425 has good gloss, easy flow, and fast cycling properties, Application: API 425 is widely used in cosmetic packaging, food packaging, cassettes, caps, and closures.

| General Information                                      |                          |          |             |
|--|--------------------------|----------|-------------|
| Features   | Fast Molding Cycle       |          |             |
|  | Good Flow                |          |             |
|  | Medium Gloss             |          |             |
|  | Medium Impact Resistance |          |             |
|  |                          |          |             |
| Uses   | Audio Tapes              |          |             |
|  | Caps                     |          |             |
|  | Closures                 |          |             |
|  | Cosmetic Packaging       |          |             |
|  | Food Packaging           |          |             |
|  |                          |          |             |
| Forms  | Pellets                  |          |             |
| Processing Method  | Injection Molding        |          |             |
| Physical   | Nominal Value            | Unit     | Test Method |
| Specific Gravity   | 1.04                     | g/cm³    | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)                 | 8.0                      | g/10 min | ASTM D1238  |
| Hardness   | Nominal Value            | Unit     | Test Method |
| Rockwell Hardness (L-Scale)                              | 48                       |          | ASTM D785   |
| Mechanical   | Nominal Value            | Unit     | Test Method |
| Tensile Modulus  | 1930                     | MPa      | ASTM D638   |
| Tensile Strength (Break)                                 | 33.1                     | MPa      | ASTM D638   |
| Tensile Elongation (Break)                               | 24                       | %        | ASTM D638   |
| Flexural Modulus   | 2100                     | MPa      | ASTM D790   |
| Impact   | Nominal Value            | Unit     | Test Method |
| Notched Izod Impact (3.18 mm, Injection<br>Molded)       | 53                       | J/m      | ASTM D256   |
| Thermal  | Nominal Value            | Unit     | Test Method |
| Deflection Temperature Under Load (1.8<br>MPa, Annealed) | 87.2                     | °C       | ASTM D648   |
| Vicat Softening Temperature                              | 94.4                     | °C       | ASTM D1525  |
| Injection  | Nominal Value            | Unit     |             |
| Drying Temperature                                       | 71.1 to 82.2             | °C       |             |
| Drying Time  | 2.0                      | hr       |             |

| Suggested Max Regrind | 30             | %   |
|-----------------------|----------------|-----|
| Rear Temperature      | 177 to 232     | ്റ  |
| Front Temperature     | 191 to 274     | ్   |
| Mold Temperature      | -6.67 to 71.1  | °C  |
| Injection Pressure    | 34.5 to 276    | MPa |
| Back Pressure         | 0.0689 to 3.45 | MPa |

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