# PC+ABS – Polycarbonate + Acrylonitrile Butadiene Styrene

## Facts:

PC+ABS, Polycarbonate + Acrylonitrile Butadiene Styrene is available in a range pf engineering-grade blends that provide better mechanical performance than ABS and greater processing ease than PC. They have good aesthetics, being available in many colours and finishes and are reasonably easy to paint.

PC+ABS offers combined properties of PC and ABS. The blend exhibits excellent flow characteristics and ease of processing common to ABS with excellent mechanical properties and impact and heat resistance of polycarbonate. The ratio of the two components affects the heat resistance and flow.

## Applications:

Widely used in automobile instrument panels, wheel covers. Computer and business machine housings, electrical applications, cellular phones, lawn and garden equipment.

## Limitations:

- Poor weathering resistance
- Requires painting for outdoor applications
- Moderate chemical resistance

# PULSE™ A35-105

## Styron LLC - PC/ABS Engineering Resin

Wednesday, January 15, 2014

## General Information

**Product Description**

PULSE A35-105 engineering resins give exceptional impact strength even at low temperatures and have a high heat distortion temperature.

Applications:
PULSE A35-105 is used in a wide range of applications where a balance of low temperature toughness, high heat distortion, and easy processing are required. Some examples are automotive instrument panels, automotive interior/exterior trim, small appliance and electrical applications.

| General | | |
|---|---|---|
| Material Status | • Commercial: Active | |
| Availability | • Asia Pacific | • Europe |
| Automotive Specifications | • FORD WSK-M4D684-A2<br>• OPEL QK 002412 | • OPEL QK 002422<br>• PSA Peugeot-Citroën SPA X62 2107 |
| Forms | • Pellets | |
| Processing Method | • Extrusion | • Injection Molding |

## ASTM & ISO Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density | 1.12 | g/cm³ | ISO 1183/A |
| Melt Mass-Flow Rate (MFR) | | | ASTM D1238 |
| 230°C/3.8 kg | 3.0 | g/10 min | |
| 250°C/5.0 kg | 12 | g/10 min | |
| 260°C/5.0 kg | 17 | g/10 min | |
| Molding Shrinkage - Flow | 0.30 to 0.70 | % | ASTM D955 |
| Water Absorption (Equilibrium, 23°C, 50% RH) | 0.20 to 0.60 | % | ISO 62 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus | 2200 | MPa | ISO 527-2 |
| Tensile Stress (Yield) | 52.0 | MPa | ISO 527-2/5 |
| Tensile Stress (Break) | 50.0 | MPa | ISO 527-2/5 |
| Tensile Strain (Break) | > 80 | % | ISO 527-2/5 |
| Flexural Modulus | 2100 | MPa | ISO 178 |
| Flexural Strength | 82.0 | MPa | ISO 178 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Charpy Notched Impact Strength | | | ISO 179/1eA |
| -30°C | 45 | kJ/m² | |
| 23°C | 50 | kJ/m² | |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Ball Indentation Hardness | 105 | MPa | DIN 53459 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Heat Deflection Temperature (0.45 MPa, Unannealed) | 126 | °C | ISO 75-2/B |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 105 | °C | ISO 75-2/A |
| Vicat Softening Temperature | | | |
| -- | 142 | °C | ISO 306/A120 |
| -- | 122 | °C | ISO 306/B50 |
| CLTE - Flow (0 to 80°C) | 0.000075 to 0.000080 | cm/cm/°C | ASTM D696 |
| Thermal Conductivity | 0.20 | W/m/K | ASTM C177 |
| **Flammability** | **Nominal Value** | **Unit** | **Test Method** |
| Flame Rating [2] (1.60 mm) | HB | | Internal Method |

# PULSE™ A35-105

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| Flammability | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Oxygen Index [2] | 20 | % | ASTM D2863 |

### Processing Information

| Injection | Nominal Value | Unit |
|---|---|---|
| Processing (Melt) Temp | 260 to 290 | °C |
| Mold Temperature | 70.0 to 90.0 | °C |

### Notes

[1] Typical properties: these are not to be construed as specifications.

[2] This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.