

**PARALOID™ EXL-2390 Impact Modifier****Description**

PARALOID™ EXL-2390 Impact Modifier is an acrylic core-shell copolymer, having excellent compatibility in polycarbonate (PC) and PC alloys. The unique acrylic composition of PARALOID™ EXL-2390, with a glass transition temperature lower than - 50°C, leads to better impact performance at low temperatures than standard acrylic impact modifiers.

**Application**

PARALOID™ EXL-2390 Impact Modifier can be used in polycarbonate and its alloys.

**Regional Product availability**

- Global

**Typical properties**

PARALOID™ EXL-2390 Impact Modifier is supplied as a free-flowing powder

| PARALOID™ EXL-2390                        |               |
|---|---------------|
| Physical appearance                       | White powder  |
| Bulk density aerated (g/cm <sup>3</sup> ) | 0.350 — 0.550 |
| Volatiles (% max)                         | ≤ 1%          |
| Fines level, through 45 micron (%)        | ≤ 10%         |

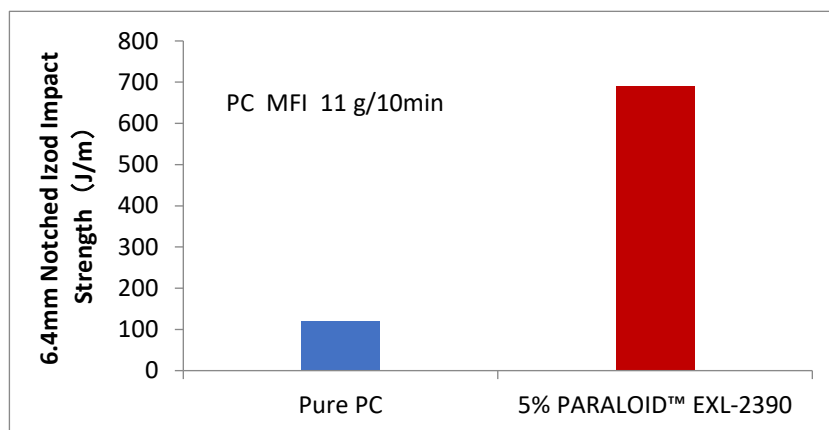
**Key attributes**

- Excellent impact performance at low temperature
- Good weatherability and aging stability
- Few influence to other performance of plastics matrix, such as modulus, HDT

**Product Performance****Performance in Polycarbonate**

PARALOID™ EXL-2390 Impact Modifier has excellent performance in polycarbonate. It improves the impact strength of low viscosity polycarbonate (PC) at room temperature, and also mitigates the thickness sensitivity of PC: a 5% addition level of PARALOID™ EXL-2390 improves the impact strength of pure PC from 120 J/m to 700 J/m on 6.4mm thick molded bars (Figure 1).

Figure 1. Impact performance improvement of PARALOID™ EXL-2390 Impact Modifier at room temperature in Polycarbonate

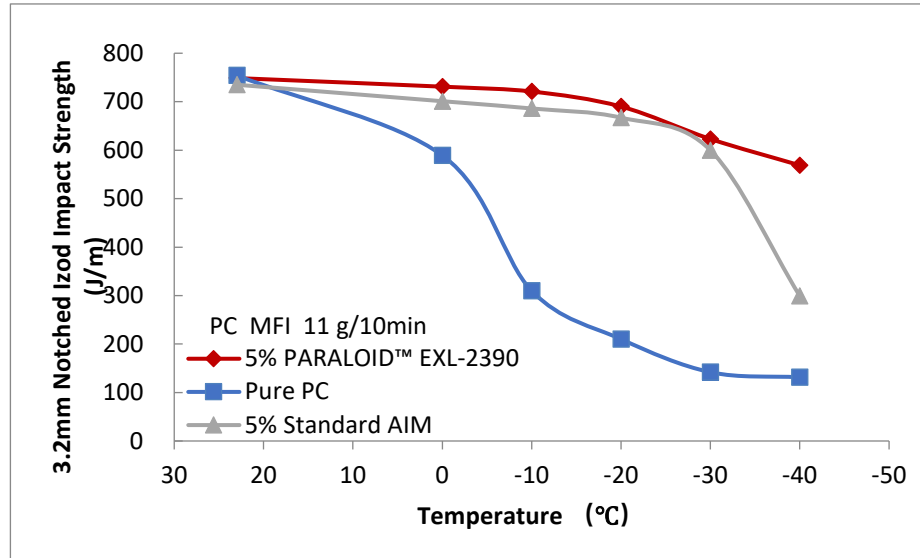




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PARALOID™ EXL-2390 Impact Modifier also improves the impact strength of PC at very low temperatures: a 5% addition level in PC yields an impact strength of 500 J/m at -40°C. In contrast, at the same temperature, the impact strength of a standard acrylate impact modifier drops by 40% to 300 J/m (Figure 2).

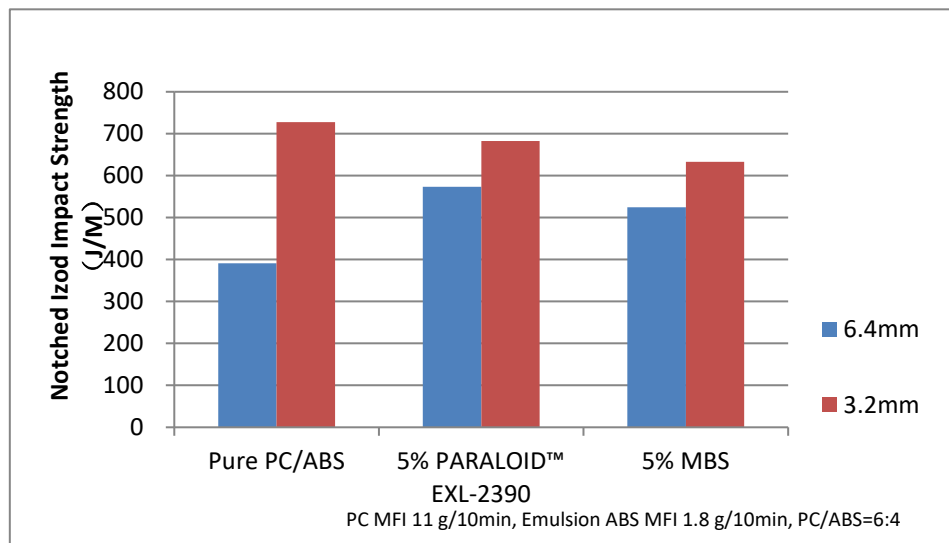
Figure 2. Low temperature impact performance of modified Polycarbonate with Acrylic Impact Modifiers



### Performance in PC/ABS Alloy

PARALOID™ EXL-2390 Impact Modifier also has good efficiency in PC/ABS alloy, improving impact strength, tensile strength and elongation at break compared to MBS modified PC/ABS alloy (Figures 3 and 4).

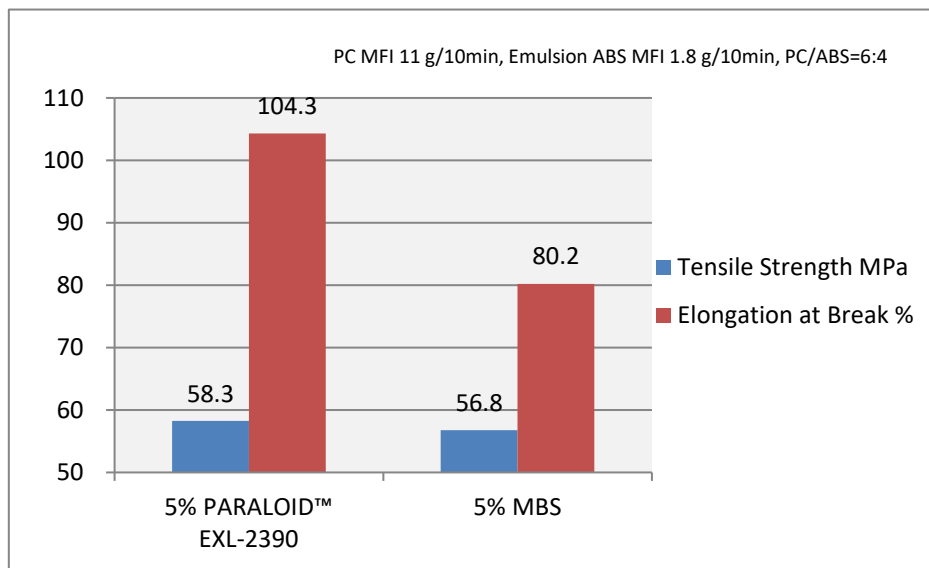
Figure 3. Comparison of impact performance of PC/ABS Alloy with an acrylic and a MBS impact modifier





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Figure 4. Comparison of mechanical properties of PC/ABS Alloy with an acrylic and a MBS impact modifier



### Processing Information

PARALOID™ EXL-2390 Impact Modifier is a readily flowing powder, which can be handled easily. A standard co-rotating twin screw extruder allows dispersing of core-shell impact modifier particles into a thermoplastic matrix without the need for adjusting processing parameters.

### Product Packaging

The standard package is a unitized pallet of 20 kg bags.

Please consult a Dow representative for specific package availability for this product.

### Quality management system

The Dow Chemical Company (Dow) and its subsidiaries have implemented a comprehensive quality management system pursuant to Good Manufacturing Practices (GMP) and various quality management standards including ISO 9001. An overview of **The Dow Quality Management System Manual** can be obtained at the following Internet web site – <http://www.dow.com/en-us/about-dow/our-company/beliefs-and-culture/quality-culture>. As part of that system, the Dow Plastics Additives business maintain ISO 9001 registration for most of our manufacturing plants. A copy of these certificates available upon request.

### Storage and handling precautions

Store unopened in original packaging at ambient temperature. If material is opened, it should not be left exposed and should be used within one month. When stored correctly in the original packaging, the shelf life is 3 years from date of manufacture.

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage. Contact Dow for copies of the SDS and for more information on this product. Information contained in a TDS document cannot substitute a SDS.

### Disposal considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

### Medical Applications Restrictions

Dow prohibits sale into certain medical applications. Please check with Dow if you believe your application could be in violation of this policy.



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### **Customer Notice**

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### **Regulatory Information**

If your application includes a sensitive application such as food contact or drinking water requirements or if you need other regulatory information, please contact your local Dow representative.

#### **Contact information:**

If you should have any questions regarding this notice, please contact your local Dow Representative or [www.dow.com/contact](http://www.dow.com/contact)

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