

Metal replacement/Automotive

Bright prospects: Hostaform® POM MetaLX™ with metallic look



-7
 manufacturing
 operations

Hostaform® POM MetaLX™ makes a dazzling impression in the Honda Accord with classy metallic-look door handles.

In automotive engineering, innovations to reduce costs and processing time are a key success factor. Celanese is continually developing optimized POM grades that permit cost-efficient mass production. Companies interested in marketing ecofriendly products can eliminate painting and/or plating. For example, Honda is using door handles made from Hostaform® POM MetaLX™ on the Honda Accord. This special grade of the copolymer achieves the required high-quality metallic finish without the need for additional painting or other operations.

Hostaform® POM MetaLX™ replaces painted parts

- Cost-efficient production of components with integrated metallic look for vehicle interiors
- Door handles made from Hostaform® POM MetaLX™ on the Honda Accord

Hostaform® POM MetaLX™ meets the requirements for use in vehicle interiors

- Resistance to chemicals and automotive fluids
- No restrictions on custom color development
- Excellent color fastness
- Good scratch and impact resistance
- No tendency to environmental stress cracking

Advantages of Hostaform® POM MetaLX™ in production

- No pretreatment or post-molding operations necessary
- Seven manufacturing savings: painting, coating, vacuum metalizing, quality checks, special packaging, chemical disposal and reduction in rejections rates – productivity improvements
- Reduction in associated handling, transport and quality control costs



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Hostaform® POM MetaLX™ – components with integrated metallic look in one shot

Hostaform® POM	Properties	Unit	Test method	Hostaform C9021	Hostaform® POM MetaLX™
<p>This acetal copolymer with a linear structure and high crystallinity comprises trioxane and small amounts of comonomers, which give it higher stability to thermooxidative degradation.</p> <p>Properties</p> <ul style="list-style-type: none"> • Continuous service temperature up to +100 °C • High toughness (down to –40 °C), hardness and stiffness • Excellent spring properties (resilience) • Good chemical resistance to fuels, solvents, strong alkalis (4–14 ph) • Inherent lubricity • Excellent dimensional stability <p>Advantages</p> <ul style="list-style-type: none"> • FDA and NSF listed grades available • Eliminates environmental challenges associated with painting and plating <p>Applications (selection)</p> <ul style="list-style-type: none"> • Automotive industry: sunroofs, fuel caps, ventilation louvers • Electrical industry/electrical appliances: parts for electric toothbrushes and shavers • Medical technology: mechanical parts in drug delivery systems such as insulin pens <p>Processes</p> <p>Injection molding, extrusion, rotational molding, physical foaming, GIT/WIT</p>	Density	g/cm ³	ISO 1183	1,41	1,41
	Melt Volume Rate MVR 190/2.16	ml/10 min	ISO 1133	8	9
	Tensile Modulus	MPa	ISO 527	2850	2700
	Tensile Strength	MPa	ISO 527	64	54
	Elongation at Yield	%	ISO 527	9	10
	Nominal Elongation at Break	%	ISO 527	30	–
	Notched Impact Strength (Charpy, 23 °C)	kJ/m ²	ISO 179-1/1eA	6,5	5,1
	Notched Impact Strength (Charpy, –30 °C)	kJ/m ²	ISO 179-1/1eA	6	–
	HDT/A (1.8 N/mm ²)	°C	ISO 75 Teil 1 und 2	104	88

Advantage: no pretreatment or post-molding operations required

In modern vehicle interiors today, functional elements are expected not only to provide intuitive handling but also to be esthetically designed. But until now, costly pretreatment and post-molding operations were required to provide plastic components with an attractive metallic look. That is why Honda is using a new material for the interior door handles of the Accord: Hostaform® POM MetaLX™. This innovative special grade of the Celanese polymer achieves parts that have the required high-quality metallic finish immediately on removal from the injection mold. The integrated metallic look makes post-molding operations such as painting, coating and vacuum metalizing unnecessary, so ensuring cost- and time-optimized production.

Hostaform® POM MetaLX™ has better stiffness than standard PC/ABS blends, while providing good tensile strength and impact resistance. The polymer shows no tendency to crazing and withstands chemicals used in cockpit cleaners without any problem. Components produced from Hostaform® POM MetaLX™ are unaffected by temperature variations, colorfast, scratchproof and highly resistant to abrasive wear. They also have good sliding friction properties in contact with other polymers. **Conclusion:** the special grade Hostaform® POM MetaLX™, which is available in many different metallic shades, combines attractive design with functionality, a long service life and cost efficiency.

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