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APPLICATION TEARDOWN

Charge Port Assembly

The electric vehicle (EV) market continues to grow as consumers demand more efficient, high-performance and low emission transportation options. As a result, automotive manufacturers around the world are committed to increasing their EV lineup, in addition to a rise of new EV OEMs.

An important component to an EV design is the charge port assembly, which enables the vehicle's battery charging. Because of its environment and how it's used, charge port components need to meet a variety of stringent requirements. Strength and stiffness, weatherability and aesthetics are just a few material characteristics that are necessary for its design.

With a diverse portfolio of engineered polymers, LyondellBasell can offer a variety of material solutions for your unique charge port assembly design.

Material Solutions for Charge Port Assembly Design

Exterior Door Outer
- *Hifax*
- *Schulablend*
- *Diamaloy*
- *Diamond*

Door Inner
- *Schulamid*
- *Hostacom*
- *Polyfort*
- *Softell*

Housing
- *Hostacom*
- *Polyfort*
- *Softell*

Sealing
- *Invision*
- *Alcryn*
- *Duragrip*
- *Softflex*

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DESIGN SELECTION EXAMPLE

Exterior Door Outer

Hifax

High stiffness, low thermal growth TPOs designed for body panels that provide excellent processability, and impact resistance along with heat stability and Class A surface paint performance. LyondellBasell can also address these requirements with styrenic based engineering grades such as PCABS under the *Schulablend* portfolio and *Diamaloy* for molded-in-color.

Door Inner

Schulamid

For components like a door inner support with an integrated hinge, structural integrity and durability are important. *Schulamid* glass-reinforced nylon solutions (PA6, PA66) deliver high dynamic strength while maintaining other requirements such as high stiffness under load, temperature and chemical resistance, and hydrolytic stability. This material can be offered in a specific color match with UV for weatherability.

Housing

Hostacom

Glass-filled Polypropylene compounds offering a balance of high performance and aesthetics, formulated for dimensional and heat stability, impact resistance, and superior weatherability. Also provides excellent color match capability.

Sealing

Invision

A comprehensive portfolio of Thermoplastic Elastomer (TPE) compounds designed for flexibility in various durometers. These soft TPE materials offer dynamic seal and close-out performance, allowing them to stand up against chemical and weathering elements. These solutions are also easily colorable to meet your cosmetic needs.

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