

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
- | Schulblend
- | Diamaloy
- | Diamond

Door Inner

- | Schulamid
- | Hostacom
- | Polyfort
- | Softell

Housing

- | Hostacom
- | Polyfort
- | Softell

Sealing

- | Invision
- | Alcryn
- | Duragrip
- | Softflex

APPLICATION TEARDOWN

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 *Schulblend* 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.

Before using a product sold by a company of the LyondellBasell family of companies ("LyondellBasell"), users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally. LyondellBasell MAKES NO WARRANTY, EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) OTHER THAN AS AGREED TO BY LyondellBasell IN THE PRODUCT SALE CONTRACT.

LyondellBasell prohibits or restricts the use of its products in certain applications. For further information on restrictions or prohibitions of use, please contact a LyondellBasell representative. Users should review the applicable Safety Data Sheet before handling the product. *Schulamid*, *Hostacom*, *Polyfort*, *Softell Hifax*, *Schulblend*, *Diamaloy*, *Invision*, *Alcryn*, *Duragrip*, *Diamond* and *Softflex* are trademarks owned or used by one of the LyondellBasell family of companies and is registered in the U.S. Patent and Trademark Office.