

# DuPont™ Crastin® Hydrolysis-resistant Portfolio Advances Sensors and Electronic Components for E-mobility



The advancement of electric, autonomous, and automated vehicles relies in large part on more sensors than ever that monitor and control everything from powertrain to chassis components. DuPont's AHEAD™ (Accelerating Hybrid-Electric Autonomous Driving) initiative offers the DuPont™ Crastin® HR portfolio that is designed to meet the needs of manufacturers making vehicles with sophisticated sensor systems and electronic components like switches, connectors, and ECU (Electronic Control Units). It delivers hydrolysis-stabilized PBT with stable electrical properties under high-temperature and humidity conditions.

Crastin® HR products adapt to a broad range of requirements for safety, efficiency, and connectivity.

## Crastin® HR portfolio – Main Features

| Grade              | GF Content | Impact Modified | Flame Retardant | Laser Marking | Laser Transparent |
|--------------------|------------|-----------------|-----------------|---------------|-------------------|
| HR5315HFS NC010    | 15         | ✓               |                 |               | ✓                 |
| HR5315HFS BK591    | 15         | ✓               |                 | ✓             |                   |
| HR5330HFS NC010    | 30         | ✓               |                 |               | ✓                 |
| HR5330HFS BK591    | 30         | ✓               |                 | ✓             |                   |
| HR5330HFS OR516    | 30         | ✓               |                 | ✓             |                   |
| HR5430HFS NC010LT  | 30         | ✓               |                 |               | ✓ (improved)      |
| HR5430HFS BK238LT  | 30         | ✓               |                 |               | ✓ (improved)      |
| FRHR5315NH NC010   | 15         |                 | ✓               |               | ✓                 |
| FRHR5315NH BK591   | 15         |                 | ✓               | ✓             |                   |
| FRHR5315NH BK219LT | 15         |                 | ✓               |               | ✓                 |
| FRHR5325NH BK219LT | 25         |                 | ✓               |               | ✓                 |
| FRHR5325NH BK591LM | 25         |                 | ✓               | ✓             |                   |
| FRHR5325NH OR162   | 25         |                 | ✓               | ✓             |                   |
| FRHR5325NH NC010   | 25         |                 | ✓               |               | ✓                 |

Source: DuPont

## Robust materials for demanding sensor conditions

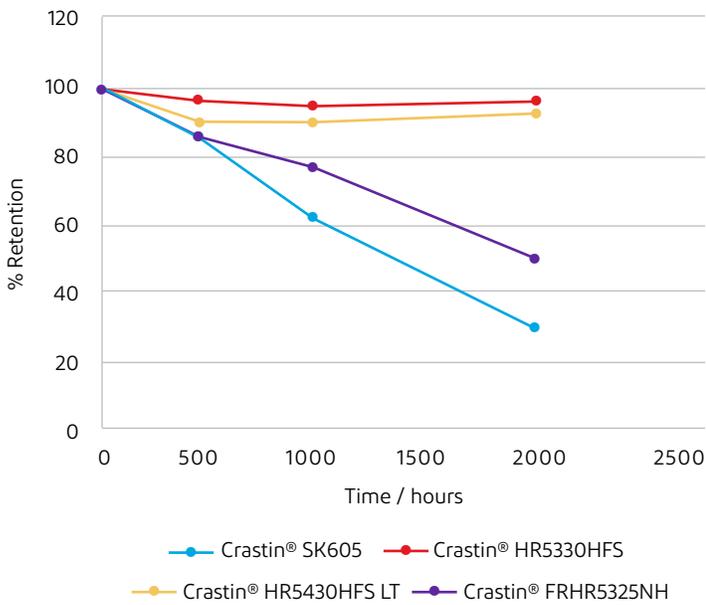
Sensors must be robust enough to perform under demanding conditions. Sensor housings made with Crastin® HR materials are reliable when exposed to oils, high temperatures, and high humidity. They also can be laser welded without compromising electronic components contained within the housing.

The Crastin® HR family includes multiple grades with different glass fiber levels that all provide hydrolysis resistance that extends component life and enhances vehicle reliability.

Car manufacturers and suppliers turn to Crastin® HR products for:

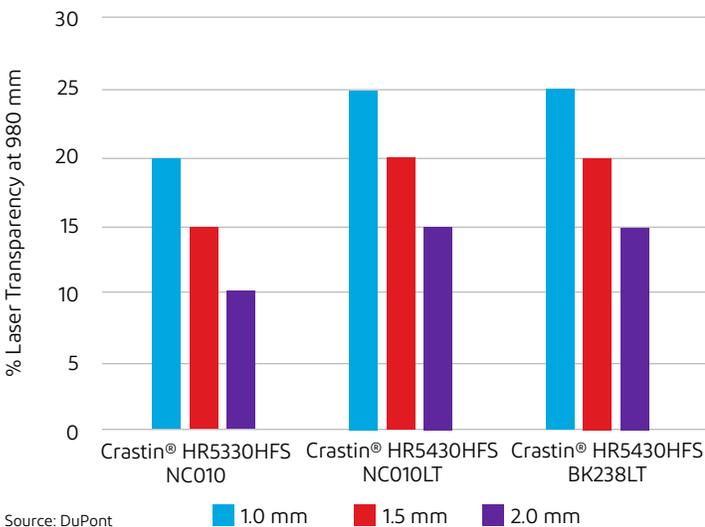
- Grades meeting OEMs hydrolysis-resistance requirements (e.g. USCAR2 and 85°C/85% relative humidity tests)
- Laser-markable grades for part identification through QR or DMC codes
- Good flowability and improved laser transparency for high productivity and ease of assembly
- Best-in-market CTI and dielectric properties under high-temperature conditions allowing design flexibility, miniaturization, and high-voltage applications
- Non-halogenated, flame-retardant materials
- Easy processing due to excellent melt viscosity stability

## Retention of stress at break after 85°C, 85% RH exposure



Source: DuPont

## Laser transparency study at different thicknesses



Source: DuPont

## Crastin® Delivers Cost-effective High Performance

With more than 100 grades, Crastin® PBT is the resin of choice for cost-effective high performance across a wide range of industrial applications.

Designers, engineers, and manufacturers rely on Crastin® PBT for stiffness and toughness, superior electrical insulation properties, and exceptional surface finishes.

Crastin® is also preferred for its excellent dimensional properties and stability versus moisture as well as its heat resistance. It enables DuPont to offer the industry's largest portfolio of EIS pre-approved by Underwriters Laboratories (UL) grades and recognized to IEC standards.

DuPont™ Crastin® PBT offers manufacturers the advantage of superior flow qualities. It's easy to process on conventional injection molding machines. Plus, it's available in a wide range of grades designed for low-warpage, hydrolysis resistance, and for blow-molding and extrusion.

With Crastin®, DuPont materials science experts help customers gain cost efficiency without compromising on performance.

For more information, contact your DuPont representative.

dupont.com



Mobility & Materials

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Form No. 001-20425-HMC0822