

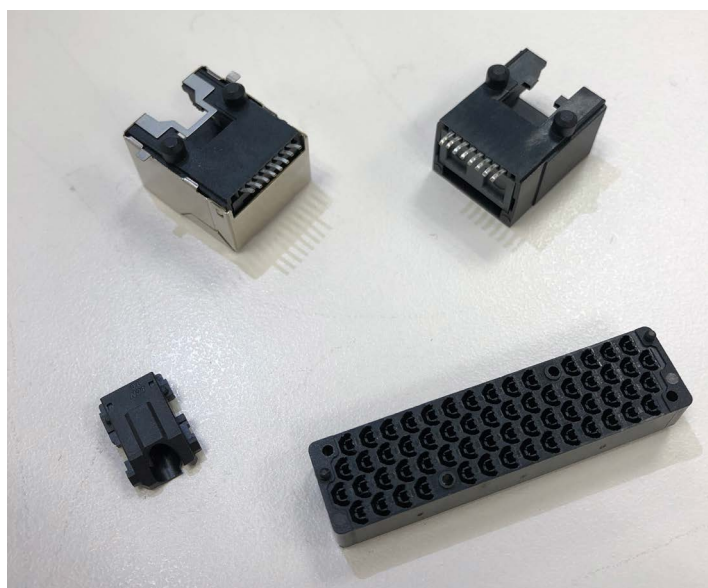
New Halogen-free Offering for Surface Mount Devices

The surged surface mount connector industry is demanding stringent standards and criteria for high-performance materials



DuPont's new non-halogenated, bio-based nylon resin, Zytel® HTNFR42G30NH, is flame-retardant and meets evolving trends for surface mount connectors.

Zytel® HTNFR42G30NH is ideally suited for Surface Mount Technology (SMT) connectors used in the electronics industry. Furthermore, this new material was made to coincide with industry requests for environmentally friendly materials.

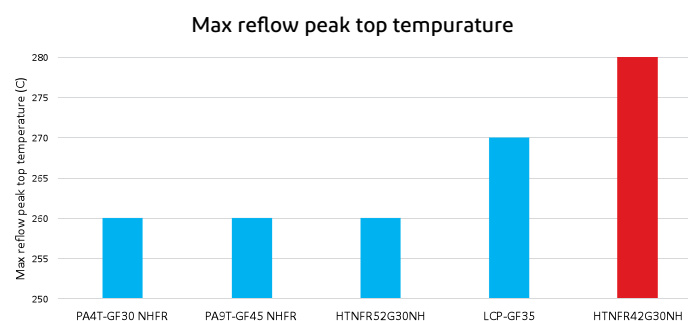


Benefits

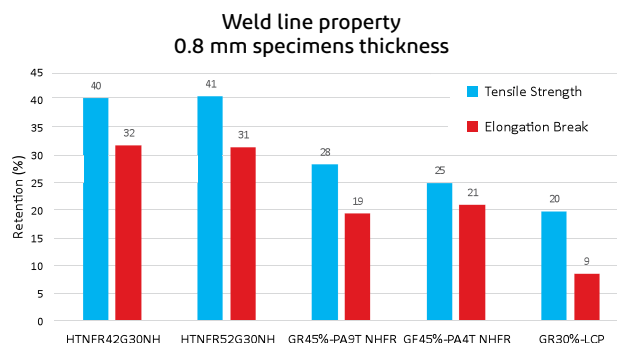
DuPont's bio-based, non-halogen Zytel® HTNFR42G30NH offers a unique combination of reliability, performance, and productivity.

- **Improved safety** – meets UL-94 V0 flammability rating at 0.4mm, fulfills IEC standards by passing most severe glow wire ignition temperature ratings, and high CTI (Comparative Tracking Index) of 600V
- **Increased productivity** – superior flow allows design flexibility for miniaturization in electrical components and connectors, such as multi-pins, fine pitch, and low-height connectors
- **Cost effectiveness** – provides higher weld-line strength that helps reduce breakage and rejects; lead-free reflow soldering that shows no blistering at temperatures of 280°C or less; less injection molding machine corrosion; and low mold deposits that reduce tool maintenance
- **Long term reliability** – due to relative thermal index at 130°C
- **Stable performance in extreme conditions** – due to high-melt temperature and low-moisture pickup

Key Benefits for HTNFR42G30NH



Higher Reflow Performance for SMT



Better Strain at Weld Line

Leading Market Trends

DuPont helps electronics manufacturers stay on the leading edge in addressing market trends. Electrical connectors made with Zytel® HTNFR42G30NH allow for fast data transmission with low loss and lower Dk/Df for 5G and IoT communications.

Zytel® HTNFR42G30NH makes it possible to miniaturize parts to save space and increase functionality. In addition, it's environmentally sustainable, a point of distinction as more consumers prefer products that are earth-friendly.

Properties of Zytel® HTNFR42G30NH

- 30% glass-reinforced PPA grade
- High flow for thinner wall connector
- Non-halogenated flame-retardant, UL-94 V0 at 0.4mm
- Higher reflow performance
- Excellent electrical properties (CTI 600V; IEC60112 & UL-746B)
- Lower dielectric constant than LCP
- Good balance of mechanical properties
- Low mold deposit
- Colors: black and natural

Applications

Zytel® HTNFR42G30NH meets SMD soldering requirements for safety restraint systems, sealing, and high-speed data transmission and is ideal for:

- FACRA connectors
- Board-to-board connectors
- HDMI 2.1 receptacles
- Memory card connectors
- USB 3.1 Type-C connectors
- FPC connectors

Plus, Zytel® HTNFR42G30NH is well-suited for appliance connectors and smart applications for automotive SMT connectors also are being explored.

Bridging the gap between traditional/engineering plastics and higher-priced specialty polymers, Zytel® HTN high-performance polyamide resins are an attractive alternative to metals and thermosets in a wide range of applications.

New Zytel® Grade Broadens Options for SMT Connectors

Grade Platform	Reflow Performance	Non-halogen	Bio-based	CTI (V) IEC60112	High Flow
HTNFR52GxxBL ¹	✓			≤ 525	✓
HTNFR52GxxNH1	✓	✓		600	✓
HTNFR42G30NH	✓ ✓	✓	✓	600	✓ ✓

(1) HTNFR52GxxBL and HTNFR52GxxNH grades available in different glass loadings and colors; HTNFR42G30NH BK337 is the first available product of the HTNFR42GxxNH platform.
Source: DuPont Lab

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