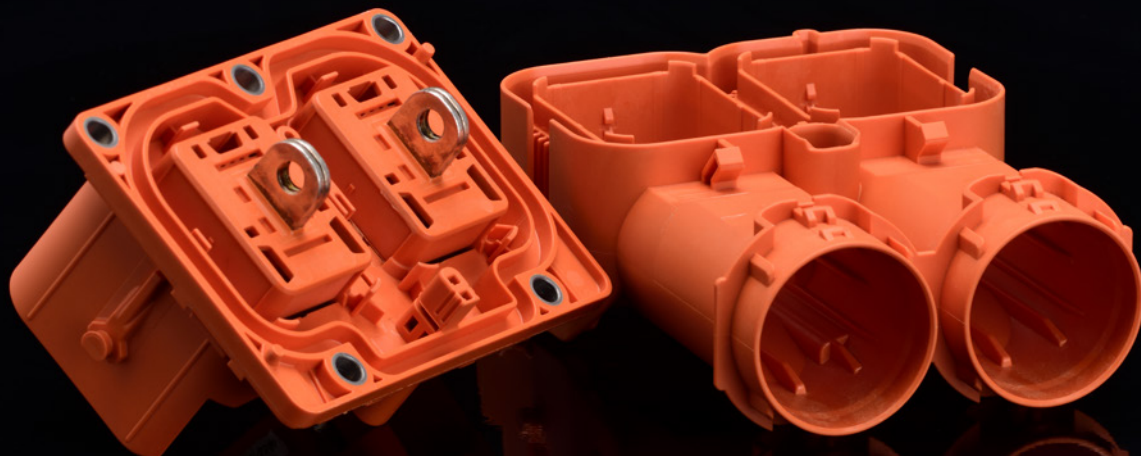


# QUALITY PROTECTS.



**QUALITY WORKS.**

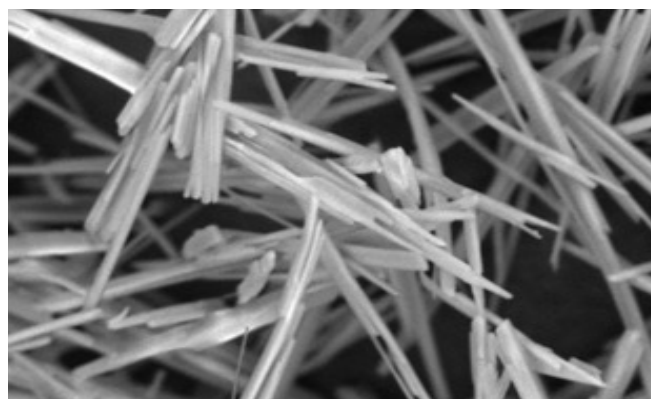
**LANXESS**  
Energizing Chemistry

## LANXESS launches phosphorus-based flame retardant **Emerald Innovation® NH 500** to meet growing demand for non-halogen flame retardants

The target markets are UL-94-V0 and high GWIT and GWFI for E&E applications with a focus on glass fiber reinforced polyamides.

In combination with synergists, **Emerald Innovation® NH 500** shows good flame retardant performance in comparison with typical non-halogen reference flame retardants. Additionally, it has the potential to deliver superior mechanical properties, has a unique morphology and excellent thermal stability.

- White powder with a unique morphology
- Medium-high aspect ratio
- Inorganic coordination polymer
- 32.0 wt.% phosphorus
- PSD (D50) = 20-40  $\mu\text{m}$
- Excellent thermal stability
- A new unique technology platform with broad patent protection



### Fire Performance

Several synergist options were developed specifically for glass-filled PA66. For all these non-halogen combinations both UL-94 V0 and GWIT > 775°C requirements are met.

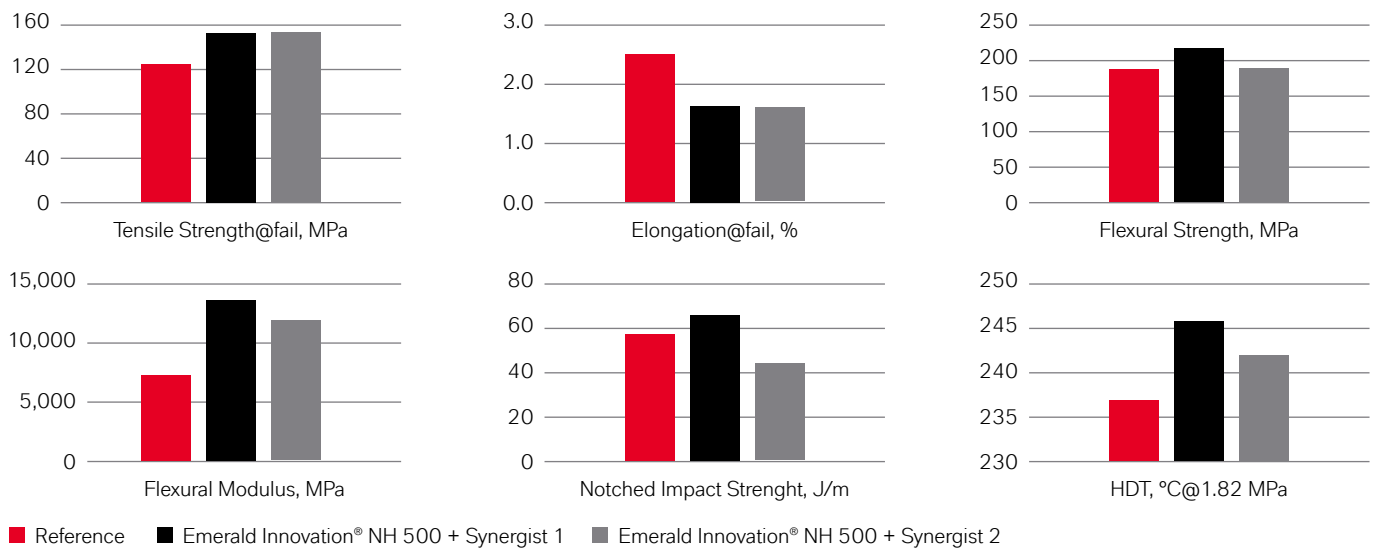
**X** **Emerald Innovation®**

Glass filled PA66 formulas	Reference	Emerald Innovation® NH500 + Synergist 1	Emerald Innovation® NH500 + Synergist 2
<b>Total FR Dosing Level</b>	20 – 22%	~24%	~25.5%
<b>UL-94 @ 0.8mm</b>	V-0	V-0	V-0
<b>Glow Wire</b>			
Glow Wire Flammability Index, 3 mm	960°C	960°C	960°C
Glow Wire Ignition Temperature, 3 mm	775°C	875°C	875°C

**Properties**

The different synergist options in glass fiber reinforced PA66 offer the right mix of mechanical, thermal and flow properties in the finished compound.

**Performance of Emerald Innovation® NH 500 vs. reference**



**Emerald Innovation® NH 500 shows excellent mechanical properties**



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