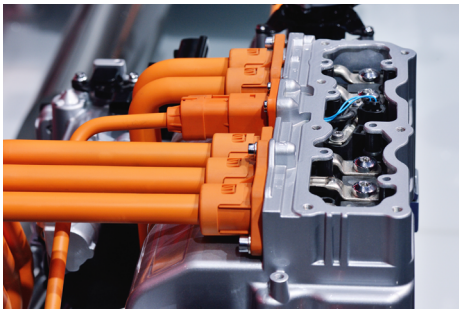
SOLUTION SHOWCASE

Celanese

CELANESE ORANGE MATERIALS DELIVER HIGH RELIABILITY IN HIGH-VOLTAGE EV AND HEV APPLICATIONS



The automotive industry faces a critical innovation challenge as EVs evolve: developing high-voltage components that are reliable and durable. To meet this need, Celanese introduced Celanese Zytel® PA and Celanese Crastin® PBT materials in stable orange that provide high performance and safety.

The safety of EV drivetrains demands plastic solutions that are reliable in high-voltage applications and durable for the long run. Zytel® PA and Crastin® PBT orange materials are ideal for high-voltage terminals and connectors, busbars, and high-voltage switches and relays.

ORANGE PORTFOLIO FEATURES BY GRADE

Grade	Details		Enhanced hydrolysis resistance vs other grades	FR	CTI
CRAFR682NH1 OR162	PBT-GF15 FR(40)	– Similar to Pantone 1505C / RAL2008		V-0 at 0.8 mm	600 V
CRAFR684NH1 OR162	PBT-GF25 FR(40)	– Similar to Pantone 1505C / RAL2008		V-0 at 0.4 mm	600 V
CRAFR684NH1 OR168	PBT-GF25 FR(40)	– Similar to RAL2003		V-0 at 0.4 mm	600 V
CRAFR685NH1 OR162	PBT-GF30 FR(40)	– Similar to Pantone 1505C / RAL2008		V-0 at 0.4 mm	600 V
CRAFRHR5325NH OR162	PBT-GF25 FR(40)	– Similar to Pantone 1505C / RAL2008	✔	V-0 at 0.4 mm	600 V
CRAHR5330HFS OR516	PBT-I-GF30	– Similar to RAL2003	✔	HB	600 V
ZYTFR70G30V0NH1 OR169	PA66-GF30 FR(40)	– Similar to RAL2003	✔	V-0 at 0.8 mm	600 V

Source: Celanese

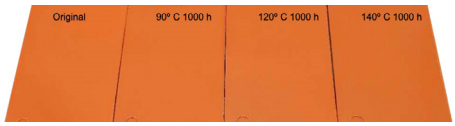
CRASTIN® PBT SOLUTIONS

Orange Crastin® PBT is available in multiple grades, including hydrolysis-resistant and flame-retardant/non-halogenated versions. Crastin® PBT provides excellent color stability above 140°C and electrical properties up to 160°C.

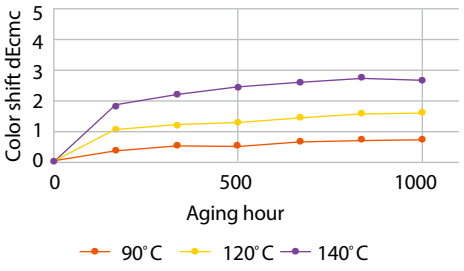
ZYTEL® PA66 SOLUTIONS

Orange Zytel® PA66 is a flame-retardant, non-halogenated material that delivers good color stability up to 130°C. It is the manufacturers' material of choice due to its impact strength and high elongation at break. Zytel® PA66 is ideal for busbars and large terminals subject to high thermal shocks.

CRASTIN® PBT FR684NH1 OR168 – SIMILAR TO RAL 2003

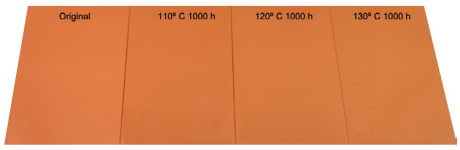


- No obvious color shift after heat aging under 90° / 120° / 140° C
- dEcmc = 0.7 after 90° C 1000 hour heat aging
- dEcmc = 1.5 after 120° C 1000 hour heat aging
- dEcmc = 2.7 after 140° C 1000 hour heat aging

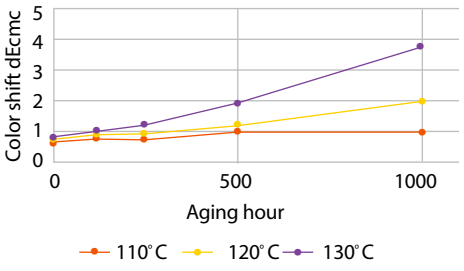


Source: Celanese

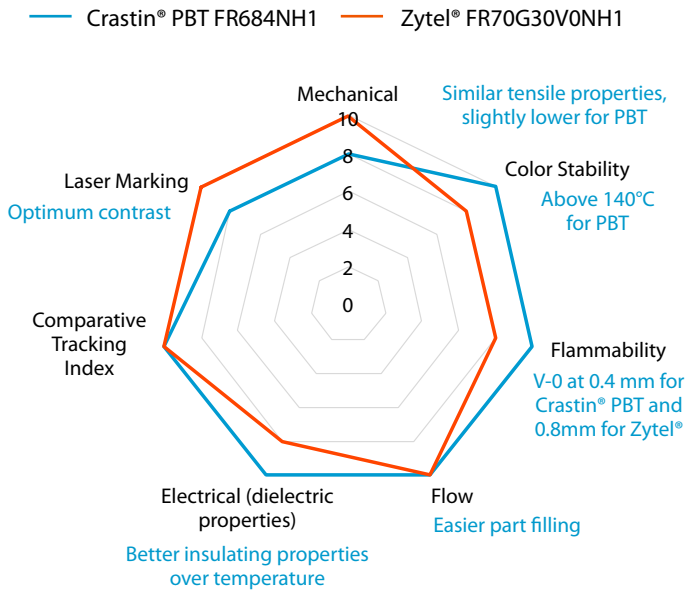
ZYTEL® FR70G30V0NH1 OR169 – SIMILAR TO RAL 2003



- No obvious color shift after heat aging under 110° / 120° / 130° C
- dEcmc = 1.08 after 110° C 1000 hour heat aging
- dEcmc = 1.97 after 120° C 1000 hour heat aging
- dEcmc = 3.62 after 130° C 1000 hour heat aging



Source: Celanese



Source: Celanese

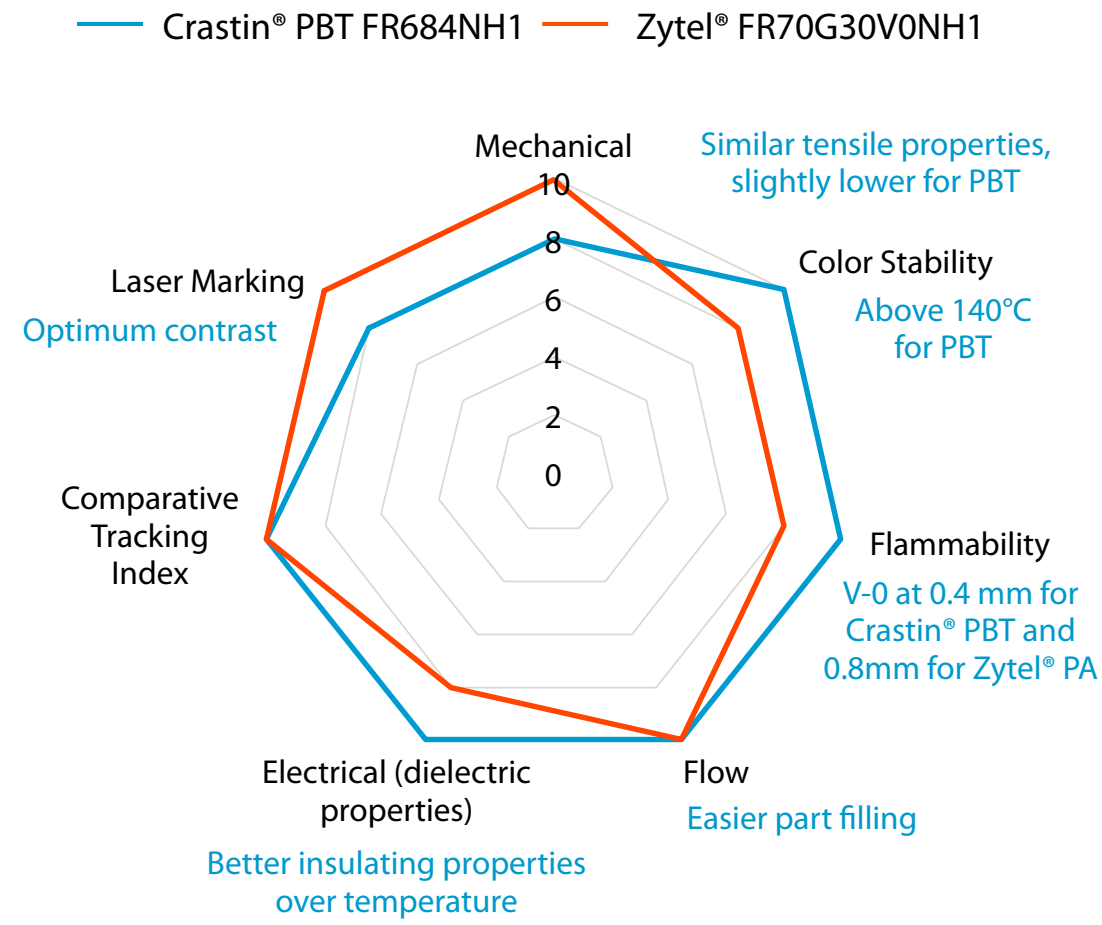
COST-EFFECTIVE, HIGH PERFORMANCE MATERIALS

Orange Crastin® PBT and Zytel® PA products comply with OEM specifications. Designers and engineers rely on this family of innovative plastics for:

- stable orange color at elevated temperatures
- hydrolysis-resistance, high mechanical properties, and resistance to thermal shock for extended component life
- a maximum tracking index (600V) and high flow for miniaturization and design flexibility
- high dielectric strength over temperature for increased safety
- fully-compounded orange materials with minimum outgassing and corrosion as well as a wide processing window
- laser marking capability for easy part traceability

For more information, contact your Celanese representative.

Form No. 001-20427-HMC0123



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