

HIGH EFFICIENCY LUBRICANT FOR MINERAL FILLED POLYOLEFINS

STRUKTOL® TR 451 provides an ideal, cost effective balance of dispersion, metal release characteristics and viscosity reduction in polyolefins that are highly loaded with mineral fillers. In many cases the need for expensive treated fillers can be eliminated by adding only a small amount of TR 451 to compounds containing untreated grades of filler while improving the performance of the compound.

Whether you are using talc or calcium carbonate or are making a mineral masterbatch with very high loading levels of filler, a dosage of 0.5 – 2.0% of **STRUKTOL® TR 451** is all you need to achieve:

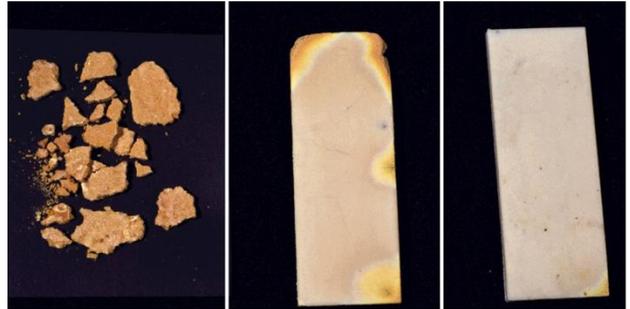
- Lower equipment motor loads, reduced torques and pressures
- Improved filler dispersion
- Better compound color and surface gloss
- Lower viscosities
- Retained physical properties
- Improved aging characteristics

Designed for both molded and extruded applications, **STRUKTOL® TR 451** will improve the overall processing characteristics of your compound leading to more efficient manufacturing, less scrap and better performance.

Performance of STRUKTOL® TR 451

In 40% Calcium Carbonate Loaded Polypropylene:

	Flex Strength, MPa	Flex Modulus, MPa	Notched Impact, J/m	Unnotched Impact, J/m
40% F Grade CaCO ₃	44.1	2190	75	640
40% FT Grade CaCO ₃	48.6	2800	150	No Break
40% F Grade + 1% TR 451	49.0	2640	170	No Break



ProFax 6323 + Untreated CaCO₃ (40%)

ProFax 6323 + Treated CaCO₃ (40%)

ProFax 6323 + Untreated CaCO₃ (40%) + TR 451 (0.4%)

Oven Aged 168 Hours at 150°C

Melt & Onset Degradation Temperature by DSC:

	Tm, °C	Tdeg, °C
Neat Polymer	166	246
40% F Grade CaCO ₃	168	231
40% FT Grade CaCO ₃	166	237
40% F Grade + 1% TR 451	167	248

The base technology in TR 451 can be altered and/or combined with other STRUKTOL® technologies to further enhance a specific desired property. One example of this is **STRUKTOL® TR 055**, a combination product designed to offer more external lubricity for improved flow and metal release. It has proven to be very effective in automotive applications to replace traditional lubricants for improved processing and end product properties, including better fogging characteristics.

STRUKTOL® TR 055 works well in extruded, injection molded, and thermoformed part applications with dosage levels of 0.5 – 2.0% of total compound.

Both TR 451 and TR 055 are sanctioned for use by the Food and Drug Administration (**FDA**) in a number of applications. Please refer to the technical data sheets for details.

Contact Struktol to learn how our Intelligent Additive Solutions can improve your compound!

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