



JJAZZ®
FLAME RETARDANT

PROCESSING GUIDELINES

Compounding Guidelines for JJAZZ® Non-Halogenated Flame Retardant

Temperature Sensitivity

As with most halogen free flame retardants, JJAZZ is temperature sensitive. It is important to control melt temperature via external heat (barrel temps) as well as internal heat (shear heat). We recommend the use of an in-stream melt probe to ensure melt temperature is maintained below 202°C. Elevated temperatures will result in reduced flame retardant efficiency and the lowering of physical properties.

Compounding

Experience has shown that twin-screw and co-kneading compounding works well, however any method of ensuring good dispersion with controlled melt temperature should be sufficient.

Process Guidelines (twin-screw)

Equipment – 40-48 L/D is recommended.

Screw design – low shear screw designs are recommended on 25-58 mm lines. Screw designs should allow low process RPM's to minimize shear heat.

Die/Adapter – recommend minimal material volume and dead space to control degradation caused by time/temperature.

Material feeding – gravimetric feeding is recommended to ensure proper loading levels. Split feed is recommended at 1/3 JJAZZ in the feed section and 2/3 downstream in barrel seven (approximately 31% of JJAZZ by itself is needed to achieve UL94 V0 in olefins). To eliminate fluidizing the powder (JJAZZ) and causing problems in feed, a short distance between feeder discharge and feed throat/side feeder is recommended.

Drying

In order to achieve very smooth extruded products, it is highly recommended to dry compounds containing JJAZZ in a desiccant drier ($\geq 40^{\circ}\text{C}$ dew point) or equivalent prior to use. The recommended moisture content is 0.04% or lower. Under normal conditions this moisture level is achieved by drying 3-4 hrs @ 85°C (base resin dependent).

In order to achieve optimum molded parts, it is highly recommended to dry compounds containing JJAZZ in a desiccant drier ($\geq 40^{\circ}\text{C}$ dew point) or equivalent prior to use. The recommended moisture content is 0.08% or lower. Under normal conditions this moisture level is achieved by drying 2-4 hrs @ 85°C (base resin dependent).