

PYROGEL[®] extended range high and low temperature ultrasonic couplant

Pyrogel provides high coupling over a wide temperature range for thickness gaging, flow metering, acoustic emission testing, and flaw inspection.

Temperature Operating Range

Thickness Gaging: -50° to 800°F (-45.6° to 427°C)

Flaw Inspection: 0° to 600°F (-17° to 315°C)

Benefits

- Broadest operating range Sonotech couplant
- Resists drying, allowing long-term coupling without reapplication
- Good choice for long-term flow metering

Safety

- Non-toxic, non-irritating, biodegradable
- Contains NO perfluorocarbons or fluorinated material, which can cause adverse health effects at high temperatures

Properties

¹ At ambient temperature.

Viscosity¹

Grade 25(fluid/high visc).....~125,000 to 225,000 cps
(Brookfield LV #5 @ 1.5 rpm)

Grade 60 (stable gel).....~380,000 to 680,000 cps
(Brookfield LV, #5 @ 1.5 rpm)

Grade 100 (paste).....>4,000,000 cps
(Brookfield LV, #5 @ 0.3 rpm)

Velocity¹..... 1.20±.05 mm/μsec

Acoustic Impedance¹.....1.35±.05 MRayls

Auto Ignition Temperature...960°F (515°C)

Chemical Analysis and Certification

Independent laboratory analysis of Chlorine and Sulfur reference ASTM procedures is furnished with each shipment at no additional charge.

Chemistry

Total Halogens..... <100ppm

Sulfur..... <50ppm

Packaging

2-oz (50 g) tube 4-oz (100 g) tube

quart (liter) gallon (4-liter)

Acoustic Impedance

Pyrogel is manufactured under vacuum at elevated temperature, then processed through a high speed colloid mill to eliminate entrapped air and assure uniformity.

Small air bubbles are detrimental to the performance of high temperature couplants, as bubbles expand rapidly when the couplant temperature rises during use.

High Temperature Guidelines

- A couplant's upper temperature range for short duration thickness gaging is higher than when used for flaw detection.
- When testing on vertical or overhead surfaces, a thicker grade of couplant is likely to stay in place, while a thinner grade generally performs better on flat surfaces.
- No Sonotech couplant contains perfluorocarbons; thus "polymer plume fever" is not an operator hazard.

Flash Point and Auto-Ignition

Sonotech provides the flash point and auto-ignition temperature for each high temperature product.

- The **Flash Point** of a product is the lowest temperature at which vapors arising from the product will ignite momentarily when exposed to a flame.
- **Auto Ignition** is the temperature at which a substance ignites without other sources of energy.

Two general methods of flash point testing are called closed-cup and open cup. The closed cup method (Pensky-Martens) prevents vapors from escaping and therefore usually results in a flash point that is lower than in an open cup (Cleveland) test. Determination for high temperature products (>680°F/360°C) utilizes the Cleveland Open Cup test. Because the two methods yield different results, the test method that is used is listed when reporting the flash point.

- For the flash point of Pyrogel please reference the MSDS on opposing side.



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