



## ***Green Glue Noiseproofing Compound vs. QuietGlue Pro***

Below is the Green Glue summary of initial findings of QuietGlue Pro when compared to the Green Glue Noiseproofing Compound. Data provided is based on test reports from the companies, Green Glue lab analysis, and public website information.

### **1. Viscosity**

Initial analysis shows the QuietGlue Pro material is nearly double the viscosity of the Green Glue Noiseproofing Compound. This should be a concern not only from a dispensing application, but will cause issues when field applied. Because of QuietGlue Pro's high viscosity, it will not spread out properly and form a proper film for sound isolation. See below for data.

#### **Viscosity Test Standard and Method:**

- **Standard:** ASTM D2196-10 Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type) Viscometer
- **Method:** ASTM D2196 Method B – Viscosity Under Changing Speed Conditions, Degree of Shear Thinning and Thixotropy
- Test completed by Russell S. Cook, SGPPL R&D.

#### **Viscosity Test Materials:**

- Brookfield DV-II+ Pro Viscometer with Rheocalc V3.2 Build 47-1 software
- (1) 28 oz tube of Green Glue Noiseproofing Compound
- (1) 28 oz tube of Serious Materials Quiet Glue Pro
- (2) 13 oz plastic cups
- RV7 Spindle

#### **Viscosity Measurements:**

Test 1: Spindle RV7 at 5.0 RPM for 2 minutes. Compound temperature = 71°F for both

- QuietGlue Pro = **310,400 cps**
- Noiseproofing Compound = **116,000 cps**

Test 2: Spindle RV7 at 0.5 RPM for 20 minutes. Compound temperature = 71°F for both

- QuietGlue Pro = **1,112,000 cps**
- Noiseproofing Compound = **632,000 cps**

The results above show that QuietGlue Pro is indeed more viscous than the Green Glue Noiseproofing Compound. This supports the notion that the Green Glue Noiseproofing Compound will be noticeably easier to dispense, which will provide a significant advantage in large installations.

The results also show another interesting point. Both of these materials are non-Newtonian, which means that when subjected to shear forces (i.e. flowing through a nozzle) the fluid will behave as if it were of a different viscosity. As we can see from the results, spindle speed has a very significant impact on the viscosity measurement. A common method for characterizing flow for non-Newtonian fluids is to check viscosity at two different speeds that differ by a factor of 10 (in the case 0.5 RPM and 5.0 RPM). From there, you divide the reading at the lower speed by the reading at the higher speed to determine a ratio.

#### **Calculating the Ratios:**

a) Green Glue Noiseproofing Compound:

$$632,000 \text{ cps} / 116,000 \text{ cps} = \underline{5.45}$$

b) Quiet Glue Pro:

$$1,112,000 \text{ cps} / 310,400 \text{ cps} = \underline{3.58}$$

A ratio greater than 1 means the material will act thinner when subjected to shearing (flowing through a nozzle). This analysis illustrates that not only is the Green Glue Noiseproofing Compound much less viscous, but it is also much more pseudoplastic, or shear thinning. Both pieces of information prove that the Green Glue Noiseproofing Compound will be significantly easier to dispense.

## **2. STC Rating of 55**

As you know, Green Glue has been tested hundreds of times acoustically and the fact remains the Green Glue Noiseproofing Compound scored a higher STC rating of 55. A full test report comparison is available for review and is part of our design book.

The ASTM specification states 14 days should be allowed before testing. The fact is the Noiseproofing Compound's acoustical performance continues to improve over time and typically reaches its final level in 30 to 40 days after application. This is stated on our website. We know of no long term lab testing of QuietGlue Pro.

## **3. Drying and Compression of Glues**

Green Glue used normal temperatures in a room for drying without compression except for required fasteners when tested. QuietGlue states their QuietGlue Pro panels are methodically walked on during testing to compress their glue prior to affixing the panels to the wall. With Green Glue you simply apply the Noiseproofing Compound and affix the second layer to the first, *no methodical walking necessary.*

## **4. Test Report Comparisons**

Quiet Glue test reports referenced in their Quiet Glue Pro white paper do not compare and contrast accurately. Drying times, screws used, and board thicknesses are not the same in the reports referenced.

## **5. Safety Certifications: Fire Ratings and Environmental**

Green Glue Noiseproofing Compound has been thoroughly tested to UL 723 and certified to UL 263. Visit [www.ul.com](http://www.ul.com) and look up Saint-Gobain PPL's UL file for Green Glue (File R26312) to see the numerous recognitions Green Glue has listed for its Noiseproofing Compound and Noiseproofing Sealant). UL Environment has validated the following: *Green Glue Noiseproofing Compound*











*when tested in accordance with ASTM D3273 is mold resistant. In addition, Green Glue Noiseproofing Compound meets the requirements of CA 01350 and when tested to that method there was no formaldehyde detected. We are not aware of QuietGlue presenting independent test data regarding fire safety and environmental performance.*

**6. Field Performance**

The Green Glue Noiseproofing Compound has been used in thousands of installations that have been isolating sound for 7 years and counting. No one has ever called Green Glue to say the product stopped working. Having a field tested product for 7 years and counting reduces risk for contractors, builders, architects and end users.

# GREEN GLUE

noiseproof your life

Product Comparison Data	Green Glue®	QuietGlue Pro
<b><u>Ease of Application</u></b> <sup>1</sup> Ability to apply Compound from a 28 oz. tube easily and with minimal effort using a standard caulk gun		Not as easy to apply based on lab viscosity calculations and field applications
<b><u>Flow Characteristics</u></b> Compound's ability to spread easily to form a film layer for sound damping		Does not flow as easily based on viscosity calculations and field applications
<b><u>Meets CA 01350</u></b> <sup>2</sup>		No claim or data presented
<b><u>Mold Resistant (ASTM D3273)</u></b>	 <sup>2</sup>	✓
<b><u>No Formaldehyde Detected</u></b> When independently tested to CA 01350 <sup>2</sup>		No claim or data presented
<b><u>UL 723 and UL 263 Fire Safety Certifications</u></b> <sup>3</sup> Smoke Develop/Flame Spread/Full Burn		No claim or data presented
<b><u>Recommended for Use by DIYer's</u></b>		✓
<b><u>Cost Effective for Commercial Construction</u></b> <sup>4</sup>		No <sup>5</sup>
<b><u>Recommended for Use in Walls</u></b>	 STC 55 <sup>6</sup>	✓ STC 54 <sup>6</sup>
<b><u>Recommended for Use in Floor/Ceiling Applications</u></b>	 STC 57, IIC 48	✓
<b><u>Field Installations</u></b>	7 Years and Counting	Initial launch January 2011
<b><u>Compression Used for Acoustic Test Performance</u></b> <sup>7</sup>	No enhanced compression used. Apply Green Glue and screw board into wall and air dry	QG Lab test report states QuietGlue Pro was "thoroughly compressed by methodically walking over the entire face of the panel!"



## Notes

- <sup>1</sup> Ease of application based on measuring viscosity of both Green Glue and QuietGlue Pro as per ASTM D2196-10 Method B. Spindle RV7 at 0.5 RPM for 20 minutes, compound Temperature 71° F for both products. Green Glue = 632,000 cps, QuietGlue Pro= 1,112,000 cps, meaning QuietGlue Pro is almost double the viscosity of Green Glue Noiseproofing Compound. Shear force calculation based on measuring both GG and QG under identical test methods
- <sup>2</sup> All tests performed by UL Environment, part of Underwriters Laboratories, specific letters of certification available. CA 01350 is a specification used. *(Validated using the CDPH Standard Method for the Testing and Evaluation of Volatile Organic Chemical emissions from Indoor Sources Using Environmental Chambers Version 1.1)*
- <sup>3</sup> All UL test report data available at [www.ul.com](http://www.ul.com) - Search on UL Certifications and UL File # R26312 for Saint-Gobain PPL and Green Glue
- <sup>4</sup> Green Glue New Construction and large job applications available per Design booklet and additional public information
- <sup>5</sup> QuietGlue Pro is designed for small DIY construction – per QuietGlue FAQ's on Quiet Glue website and QuietGlue white paper states not cost effective for commercial construction
- <sup>6</sup> Green Glue STC 55 based on test report OL05-1049, QuietGlue Pro STC 54 based on test report OL 08-1102. See detailed report
- <sup>7</sup> Methodical walking to compress glue per QuietGlue test reports and no methodical walking per Green Glue test report OL 05-1049 and published QuietGlue reports

Additional QuietGlue comparative data based on QuietGlue website information