



# Lightweight ceramics were created to compete with sand in low closure stress ranges<sup>1</sup>.

## Are you losing millions of dollars of potential production, and spending a million dollars on damaging fines<sup>2</sup>?

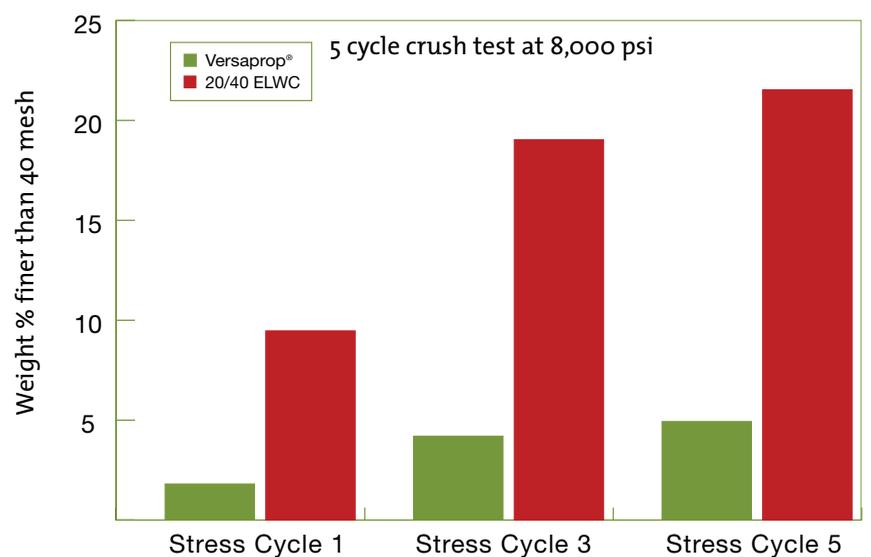
Not all ceramics are created equal. Economy lightweight ceramics (ELWC) with specific gravities ranging from 2.55–2.7 utilize nearly the same clay compositions as the pottery decorating your home, rather than high strength sintered bauxite.

Bauxite-based proppants, on the other hand, are engineered specifically for the harsh conditions of the fracture zone. Saint-Gobain Proppants (Norton) was the first company to produce sintered bauxite proppants. And today we continue to be the only domestic proppant company to employ bauxite in our entire product line.

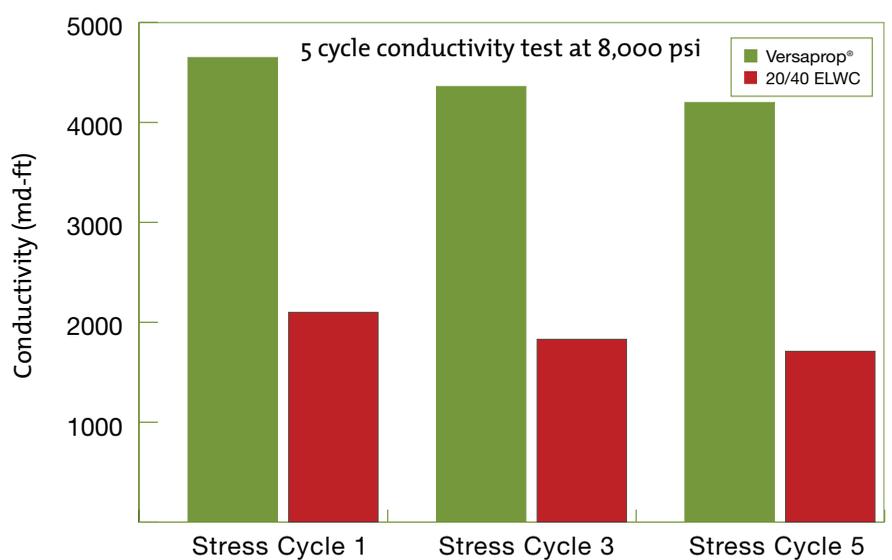
So the next time you are going to spend a few million bucks on ceramic proppants, make sure you select one engineered for the extreme environment of your fractures. Not the gentle environment of your patio.

Call your Saint-Gobain engineer to get the latest information regarding our entire line of bauxite-based Custom Density Proppants™ with engineered specific gravities from 2.8–3.5.

**1-800-643-2149.**



This test demonstrates the significant damage caused by cyclic stress loading. All proppant packs are subject to cyclic stress throughout the life of a well. Multiple studies have consistently shown that proppant fines can significantly decrease the production of a proppant pack.



Example of the detrimental effect of multiple stress cycles on conductivity.

1 Carbo Ceramics annual report: CCI 2011 Form 10-K

2 SPE references: SPE 102645, SPE 106365, SPE 128612