TRUEGRID®
True to your project. True to the environment.

MADE IN U.S.A.

Load Bearing Strength of #57 Stone Base and Similar Open-Graded Stone Sizes

Open-graded stones and specifically #57 Stone are excellent load bearing sub-bases for TRUEGRID permeable paving systems. Open-graded sub-bases with TRUEGRID permeable paving systems have been successfully installed in heavy commercial applications requiring H-20/HS-20 & H-25/HS-25 loading, Fire Lane, and larger vehicles applications. In situ examples include 260,000 lbs Cranes and Loaders on TRUEGRID with an open-graded sub-base.

California Bearing Ratio and Resilience Testing show open-graded stone matching or exceeding the values of commonly used DOT base materials such as *Sand-Gravel* and *Colorado Base (Class 6*).

TABLE 7 COMPARISON OF SOAKED CBR, AND R-VALUES FOR AGGREGATE BASE MATERIALS TESTED*

Material	Soaked CBR	R-Value
Dolomite (Class 5)	162	85
Sand ~ Gravel (Class 5)	85	79
Recycled Concrete (Class 5)		
Source I	170	84
Source II	270	85
Recycled Concrete with Dolomite Fines	95	84
2 in. Dolomite (Modified Class 5)	350	84
Dolomite (Open-Graded Base)	137	79
Granite (Colorado Base)	126	71

260,000 lbs. Crane on TRUEGRID with open-graded sub-base

AASHTO #57 (coarse aggregate stone has 100% passing 1-1/2" screen, 95-100% passing 1" screen) is an open-graded, self-compacting aggregate blend of size 5, 6, & 7 stone. This material cannot be 'compacted' in a true sense, but can be properly oriented with compaction equipment. This is particularly important when using #57 stone under TRUEGRID surfaces. #57 stone can vary in depth from two inches 12 feet or more. Before the stone is placed, a geotextile fabric is often used as a soil separator between the stone and subgrade to reduce the potential for future stone loss into subgrade.

Compaction testing of #57 stone with a nuclear gauge or other device is not possible, even though many specifications state that it should be compacted to 95% of Modified Proctor Density values. So rather than compaction tests, #57 stone should have its individual stone facets properly oriented using a rolling compactor, plate compactor, jumping jack, or other vibratory compaction devices. Using compaction equipment, #57 stone will typically compact about one inch in vertical height, which is equivalent to about 8% settlement. This can be visually observed and verified.

*Chart excerpt condensed and truncated from *TRANSPORTATION RESEARCH RECORD 1345,* Evaluation of Recycled Concrete, Open-Graded Aggregate, and Large Top-Size Aggregate Bases; RICHARD D. BARKSDALE, SAMIR Y. ITANI, AND TERRYE. SWOR