

SPECIFICATION

PRODUCT- LIMESTONE

Limestone is a sedimentary rock composed of calcium carbonate, plus calcium and/or magnesium. It is formed when layers of minerals (particularly calcite), fine sediment, and the skeletons and shells of marine organisms undergo lithification.

| CATEGORY | DETAILS |
|---------------------------------|---|
| BUDGET COST | Material itself would not cost anything as Waterlands mining industry would be extracting the material and using its raw form as the building material. |
| ACOUSTICS PERFORMANCE CRITERIA | Through random incidences of absorption coefficients, limestones acoustic performance ranges from 0.02Hz at an octave band frequency of 125Hz, to 0.05Hz at an octave band frequency of 8000Hz. |
| APPEARANCE | Material must be of light sandy/grey appearance with no finish. |
| PROCUREMENT | Although limestone is classed as a non-renewable resource, relative to the project, availability would be unlimited. Maximum order time may take several days depending on number of miners working and how much limestone is found and extracted. Once an appropriate amount is obtained, it is delivered to Waterlands mining industry by small trucks. |
| STRUCTURAL PERFORMANCE CRITERIA | Limestones density can range from a minimum of 1760 Kg/m ³ to 2560 Kg/m ³ . Its maximum absorption by weight ranges from 3% to 12%, and its minimum compressive strength ranges from 12MPa to 55MPa. Limestones durability is over a lifetime. |
| TECHNICAL PERFORMANCE CRITERIA | Limestone has an abrasion resistance value of 10 for hardness with regards to the foot traffic on one stone. Acids and sulfure dioxide both have a corrosive effect on limestone. Limestone is mostly scratch resistant providing it is sealed. It is also resistant to decay and mould. |
| THERMAL PERFORMANCE CRITERIA | The thermal conductivity (K or U value) of limestone is 1.33W/mK, and the thermal resistance equivalent (R value) of limestone is 0.61 W/m ² K. See building regulations L, M and E. |

