

Elastizell EF Provides Self Supporting Backfill Material

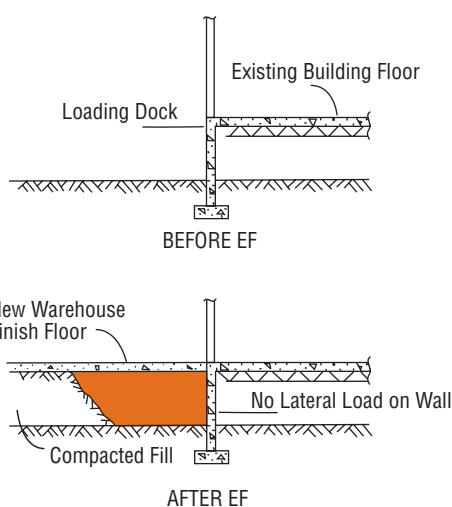


Problem

It is necessary to raise the grade at a loading dock to expand an existing building, as shown in the diagram. How can the building addition be constructed without reinforcing the existing wall?

Discussion

The existing building wall would be damaged by the heavy lateral load of standard fill material. If lightweight granular fill were used, any additional load on the surface would also exert lateral forces on the wall. Structurally reinforcing the existing wall would require additional time and expense.



Solution

Elastizell EF was cast at a depth of 4 feet to fill the loading dock area. Low density Elastizell EF can be placed on the poor soil conditions while exerting minimal lateral forces on the existing building wall. It also provides a solid base for the warehouse floor which may experience large active loads.

Advantages

- *Elastizell EF does not require compaction and is superior to granular fill material, which oftentimes is not properly compacted.*
- *Once set, Elastizell EF does not induce lateral forces at any depth.*
- *Easily excavated for possible future construction.*
- *Minimal temporary formwork needed for most backfill applications.*
- *This is a permanent solution for this situation.*
- *Elastizell EF is a low permeability solution for construction below groundwater tables.*
- *As a cementitious material Elastizell EF is self-supporting.*

BASIC PHYSICAL PROPERTIES

Elastizell EF

*Greater values may be obtained if required per Elastizell Corporation design.

CLASS	MAXIMUM CAST DENSITY pcf (kg/m ³)	MINIMUM COMPRESSIVE STRENGTH* psi (Mpa)	ULTIMATE BEARING CAPACITY Tons/sf (kN/m ²)
I	24 (384)	10 (0.07)	0.7 (69)
II	30 (480)	40 (0.28)	2.9 (276)
III	36 (576)	80 (0.55)	5.8 (552)
IV	42 (672)	120 (0.83)	8.6 (827)
V	50 (800)	160 (1.10)	11.5 (1103)
VI	80 (1280)	300 (2.07)	21.6 (2068)

Comparison of Maximum Fill Material Densities

ELASTIZELL EF

Class I	24 pcf (384 kg/m ³)	Water	62.4 pcf (1000 kg/m ³)
Class II	30 pcf (480 kg/m ³)	Lightweight Aggregates	60-90 pcf (961-1442 kg/m ³)
Class III	36 pcf (576 kg/m ³)	Flowable Fills	90+ pcf (1442+ kg/m ³)
Class IV	42 pcf (672 kg/m ³)	Soils	120 pcf (1922 kg/m ³)
Class V	50 pcf (800 kg/m ³)	Aggregates, Asphalts	125 pcf (2002 kg/m ³)
Class VI	80 pcf (1280 kg/m ³)	Lean Concrete	145 pcf (2323 kg/m ³)

For specific design values and more detailed specifications, as well as design assistance, please contact the ELASTIZELL CORPORATION OF AMERICA or our local applicator below.



ENGINEERED FILL

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