

SELECT GRANULAR BACKFILL MATERIAL

All backfill material used shall be reasonably free (maximum of 0.1%) from organic and otherwise deleterious materials, and it shall be approved by the Engineer prior to use. The material shall conform to the following gradation limits:

Gradation as determined by AASHTO T 27.

SIEVE SIZE	PERCENT PASSING
4 inches	100
No. 40	0-60
No. 200	0-15

In addition, the backfill must conform to all of the following requirements:

1. Soundness - The material shall be substantially free from shale or other soft, poor durability particles. The material shall have a magnesium sulfate soundness loss of less than 30 percent after five (5) cycles, measured in accordance with AASHTO T 104, or a sodium sulfate loss of less than 12 percent after five (5) cycles determined in accordance with AASHTO T 104
2. The Plasticity Index (P.I.), as determined by AASHTO T 90, shall not exceed 6.
3. The material shall exhibit an angle of internal friction of not less than 34 degrees as determined by the standard direct shear test AASHTO T 236 on the portion finer than the No. 10 sieve, using a sample of the material compacted to 95 percent of AASHTO T 99, Methods C or D (with oversize correction, as outlined in Note 7 at optimum moisture content). No testing is required for backfills where 80 percent of sizes are greater than 3/4 inch.
4. Shall meet the following electrochemical requirements:

REQUIREMENTS	TEST METHOD
ph= 5-10	AASHTO T 289 - 91
Resistivity > 3000 ohm centimeters ¹	AASHTO T 288 - 91
Chlorides < 100 parts per million	AASHTO T 291 - 91
Sulfates < 200 parts per million	AASHTO T 290 - 91
Organic Content < 1%	AASHTO T 267 - 86

1. If the resistivity is greater or equal to 5000 ohm centimeters the chloride and sulfates requirements may be waived.