

Glass Gravel (3/4" minus)



- Made from 100% recycled mixed glass/porcelain
- Less expensive than natural aggregates
- Approx 2000 - 2350 pounds per cubic yard

Our Glass Gravel meets the Model Specifications developed by the Clean Washington Center (CWC) and other agencies for the use of Recycled Glass Aggregates in Construction Applications.

| SIEVE SIZE | 3/4" | 1/4" | No. 10 | No. 40 | No. 200 |
|---|------|--------|--------|--------|---------|
| Recommended Percent Passing Per CWC Model Specification (by weight) | 100 | 10-100 | 0-100 | 0-50 | 0-5 |
| Our Glass Gravel (by weight) | 100 | 36.3 | 1.4 | 1.1 | 0.4 |

See complete Model Specifications for the use of Glass Aggregates in Construction below

Available for projects throughout Eastern Massachusetts. Great for LEED projects seeking recycled-content products.

**SAVE MONEY
AND
GO GREEN.**



701 Waverly Street, Framingham, MA 01702

508-872-9668

sales@conigliaro.com



Best Practices in Glass Recycling

Model Specifications for Glass Aggregate

Material: Recycled Glass

Issue: *Glass aggregate can include 100% glass cullet, or a mixture of cullet and natural aggregate. In general, glass aggregate is durable, strong, and easy to place and compact. The material can be used in various construction applications including general backfill, roadways, utility backfill, drainage media, and miscellaneous uses such as landfill cover and underground storage tank backfill. For each application, specifications based on material performance are required. These specifications should be developed based on laboratory tests and refined based on long-term field performance data.*

Best Practice: This best practice presents model specifications that were developed based on material behaviors tested in the laboratory. These specifications are conservative in terms of the amount of cullet and debris allowed, and compaction levels required. The gradation specifications below have been found to be acceptable in all of the applications described here.

| | | | | | |
|-----------------------------|-------|--------|--------|--------|---------|
| Sieve Size | 3/4 " | 1/4 " | No. 10 | No. 40 | No. 200 |
| Percent Passing (by weight) | 100 | 10-100 | 0-100 | 0-50 | 0-5 |

General Backfill: General backfill applications include fills that support heavy stationary loads such as beneath footings and slabs, fluctuating loads such as beneath reciprocating pumps and compressors, and non-loaded conditions such as landscaping fill or fill placed beneath pedestrian sidewalks. Model specifications for general backfill are presented below.

| Loading Conditions | Maximum Cullet Content (%) | Maximum Debris Content (%) | Minimum Compaction Level (%) |
|--------------------------|----------------------------|----------------------------|------------------------------|
| Stationary Loads | 30 | 5 | 95 |
| Fluctuating Loads | 15 | 5 | 95 |
| Non-Loading General Fill | 100 | 10 | 85 |

Roadways: Roadway applications include the use of cullet aggregate in base course, subbase, subgrade, and embankments. Model specifications for these applications are presented below.

| Applications | Maximum Cullet Content (%) | Maximum Debris Content (%) | Minimum Compaction Level (%) |
|--------------|----------------------------|----------------------------|------------------------------|
| Base Course | 15 | 5 | 95 |
| Subbase | 30 | 5 | 95 |
| Embankments | 30 | 5 | 90 |

Utilities: Utility applications involve the use of cullet aggregate for trench bedding and backfill. The specifications listed below apply to backfill, which is not subjected to surcharge loading such as from a roadway or slab. If the trench backfill lies within five feet of a loading area, then the specifications provided in *General Backfill* above would apply.

| Applications | Maximum Cullet Content (%) | Maximum Debris Content (%) | Minimum Compaction Level (%) |
|---------------------|----------------------------|----------------------------|------------------------------|
| Water & Sewer Pipes | 100 | 5 | 90 |
| Electrical Conduit | 100 | 5 | 90 |
| Fiber Optic Lines | 100 | 5 | 90 |

Drainage: Drainage applications include retaining wall backfill, footing drains, drainage blankets, and french drains. Recommended specifications on cullet content, debris content and compaction level are listed below.

| Applications | Maximum Cullet Content (%) | Maximum Debris Content (%) | Minimum Compaction Level (%) |
|------------------|----------------------------|----------------------------|------------------------------|
| Retaining Wall | 100 | 5 | 95 |
| Footing Drain | 100 | 5 | 95 |
| Drainage Blanket | 100 | 5 | 90 |
| French Drain | 100 | 5 | 90 |

Miscellaneous: Miscellaneous uses of cullet aggregate include landfill cover and underground storage tank (UST) backfill. Model specifications for these applications are presented below.

| Applications | Maximum Cullet Content (%) | Maximum Debris Content (%) | Minimum Compaction Level (%) |
|----------------|----------------------------|----------------------------|------------------------------|
| Landfill Cover | 100 | 5 | 90 |
| UST Backfill | 100 | 5 | 90 |

Implementation: The use of these specifications should be confirmed by a qualified geotechnical engineer, who should also inspect and approve the material at its storage location prior to import to the project site. Also, placement and compaction should be monitored and tested by engineering personnel.

Benefits: Model specifications provide guidelines to the specification of glass aggregate. These guidelines help owners, engineers, and contractors to evaluate glass aggregate as an alternative to natural aggregate.

Contact: For more information about this Best Practice, originally developed by the Clean Washington Center, contact Conigliaro Industries, Inc. 508-872-9668

References:

Glass Feedstock Evaluation Project: Engineering *Suitability Evaluation*. Rpt GL-93-5;

Evaluation of Cullet As A Construction Aggregate, Report GL-93-6, Clean Washington Center, 1994.

Shin, C. J., S&EE, Inc., Bellevue, WA

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