

TEPHRALITE™

Lightweight Aggregate for Geotechnical Applications

PROJECTS

CN RAILWAY

Rail bridge crossing (geotechnical fill for bridge)
Winnipeg MB (2001)

PCL

Chilliwack Mall Project (sub base)
Chilliwack BC (2005)

BILFINGER

Golden Ear's Bridge Crossing (geotechnical fill for bridge)
Port Kells BC (2007)

GRAHAM CONSTRUCTION

Peach Arch Border crossing (lightweight fill)
White Rock BC (2008)

KIEWIT/FLATIRON

PMH1 project (geotechnical fill for bridge)
Coquitlam BC (2011)

MOTH BC

Highway 17 Perimeter Hwy
Surrey BC (2012–2013)

CITY OF NEW WESTMINSTER BC

Queensborough roads (improvement/developments)
New Westminster BC (2016–2018)

MOTH BC

Speed corridor pull outs, multiple locations
Between Hope and Surrey BC (2019)

MCDONALDS

Restaurant foundation improvements
Coquitlam BC (2019)

STARBUCKS

Foundation backfill
Coquitlam BC (2019)

WEST COAST CHIP PLANT

Filter rock for lumber yard settlement ponds
Vancouver BC (2019)

TEPHRALITE™

Lightweight Aggregate for Geotechnical Applications



CAN
LAVA
MINING CORP

A SUPPLIER OF
LIGHTWEIGHT
VOLCANIC
AGGREGATE
MATERIALS

B140 5525 272nd Street
Langley, BC V4W 1P1

T 1-888-617-1797

F 1-888-312-3639

E sales@canlava.com

WWW.CANLAVA.COM

Tephralite™ is the ideal “lightweight aggregate” suitable for virtually all construction applications that require a high quality material with proven and reliable characteristics.

This product quarried and produced near Quesnel, British Columbia, Canada, consists of red to grey vesicular basalt. The advantages of Tephralite™ over traditional lightweight materials are well established. Its ease of transportation and installation reduces construction time and costs. Tephralite™ versatility and superior performance, acknowledged by construction industry experts, is demonstrated in a broad range of applications and uses.

ADVANTAGES AND BENEFITS

- Cost effective solutions for geotechnical applications
- Recognized product of BC Ministry of Transportation (1140)
- Weight reduction of fill
- High internal friction angle
- Reduction of backfill lateral forces
- Durability under severe conditions better than pumice
- Higher structural integrity than pumice
- Lower water absorption than pumice
- Free drainage
- High soil resistivity
- Thermal insulation of fills (pipes, lines, etc.)
- Chemically inert, insoluble and natural
- Easy to use and place in all types of weathers with common site equipment



CAN
LAVA
MINING CORP

USES

- Retaining wall backfill
- Building foundation backfill
- Structural foundation base
- Bridge approaches
- Road base lightweight fill
- Gas and oil pipeline fill
- Water and sewer pipeline lightweight fill
- Telecommunications and hydro conduit line fill
- Underground storage tank backfill
- Landfill drainage system
- Lightweight precast concrete elements and blocks
- Specialty and conventional ready mix applications

SIEVE ANALYSIS (ASTM C136)

The most commonly specified size for Tephralite™ construction fill is 25mm X 75mm. The following chart represents a recent sieve analysis.

SIEVE SIZE		PERCENT PASSING
mm	inches	%
75.0	3	100
50.0	2	100
37.5	1.75	49.8
25.0	1	6.4
19.0	0.75	2.6
12.5	0.5	2.3
9.5	0.375	2.2
4.75	#4	2.2
2.36	#8	0.0
1.18	#16	0.0
0.600	#30	0.0
0.300	#50	0.0
0.150	#100	0.0
0.075	#200	0.0



PROPERTIES

BULK DENSITY (ASTM C29)

Loose Bulk Density: 730 kg/m³

Compacted Bulk Density: 855 kg/m³

Test Method: Jigged

RELATIVE DENSITY AND ABSORPTION (ASTM C127)

Relative Density: 1.80 SSD

Water Absorption: 10.6%

DURABILITY INDEX (ASTM D3744)

Result: 96 (Dc)

DURABILITY

Testing, as well as in-situ experience and performance, indicates that Tephralite™ is highly resistant to breakdown related to freeze thaw conditions. It has a structural integrity significantly higher than pumice and doesn't crush or soften when exposed to water. Extensive laboratory tests for aggregate types ranging from minus 75 mm to 2 mm, indicates a loss of mass at much less than 2%. (AASHTO Method T103).

UV DETERIORATION

In-situ results indicate that Tephralite™ deterioration to UV exposure is comparable to that of normal sand and gravel.

ABRASION RESISTANCE

The Burbank Paddle Test shows that the Abrasion Index Number (AIN) of 0.0584 is a very low abrasion rating for basalt and offers long lasting abrasive characteristics.

ENVIRONMENT

Tephralite™ is an environmentally neutral material. It is insoluble, 100% inert, totally natural, resists chemical attack, not harmful to animals or aquatic life and agriculturally beneficial.

DISTRIBUTION AND DELIVERY

Tephralite™ can be shipped throughout North America in Super B-Train Trucks (minimum 40-44 MT). It is available by volume or weight. We offer 24 hour delivery to job sites or pick up in the Lower Mainland BC.

PRICING INFORMATION

Please call or send an email to inquire about material pricing, delivery lead times and additional technical information. Customer testimonials and product test results are available upon request.



PH (AASHTO T289)

Result: 8.8

SOIL RESISTIVITY (AASHTO T288)

Result: 16,864 ohm-cm

Requirement: 3,000 ohm-cm minimum

CHLORIDE CONTENT (AASHTO T291)

Result: Less than 100 PPM

Requirement: 100 PPM maximum

SULPHATE CONTENT (AASHTO T290)

Result: Less than 200 PPM

Requirement: 200 PPM maximum

CANLAVA MINING CORP.

B140 5525 272nd Street Langley, BC V4W 1P1

T 1-888-617-1797 **F** 1-888-312-3639

E sales@canlava.com

Source: Nazko Cone, British Columbia

