

# TEPHRALITE™

TM



Lightweight Aggregate for Concrete Applications



**CAN  
LAVA  
MINING CORP**

**A SUPPLIER OF  
LIGHTWEIGHT  
VOLCANIC  
AGGREGATE  
MATERIALS**

B140 5525 272<sup>nd</sup> Street  
Langley, BC V4W 1P1

**T** 1-888-617-1797

**F** 1-888-312-3639

**E** sales@canlava.com

**WWW.CANLAVA.COM**

Tephralite™ lightweight aggregates are suitable for virtually all structural lightweight concrete applications that require a high quality material with proven and reliable characteristics.

The sustainable aggregates quarried and produced near Quesnel, British Columbia, Canada, consist of red vesicular basalt and black scoria. The benefits of Tephralite™ lightweight aggregates for structural lightweight concrete are well established. Its low water absorption and high durability compared to common lightweight aggregates combined with its superior performance and ease of use make Tephralite™ your best choice for structural lightweight concrete applications.

## **ADVANTAGES AND BENEFITS**

- Weight reduction
- Less dead loads
- Longer spans and thicker slabs
- Less material needed (steel, concrete, etc.)
- Less foundation costs
- Less transportation, handling and lifting costs
- Construction time savings
- Increase fire resistance and thermal insulation (R Value)
- Increase sound absorption
- Energy savings over time
- “Greener” and more sustainable solution
- Increase masons productivity and reduce injuries
- Less shrinkage and Internal curing of concrete

## USES

- Concrete floors in steel frame buildings
- Concrete frame buildings (walls, slabs, etc.)
- Parking structures
- Bridge decks
- Marine structures
- Precast and prestressed concrete elements:
  - » Beams
  - » Panels and partition walls
  - » Tilt-up walls
  - » Hollow core slabs
  - » Utility vaults
- Sound barriers
- Concrete masonry blocks for buildings and houses



## SIEVE ANALYSIS (ASTM C136)

A common masonry block specified size for Tephralite™ is the grade 3/8"–minus (9.5mm to 0). The chart below represents a typical sieve analysis that meets the requirement of the ASTM C330/331.

SIEVE SIZE		PERCENT PASSING
mm	inches	%
19.0	0.75	100
12.5	0.5	100
9.5	0.375	100
4.75	#4	86.3
2.36	#8	49.3
1.18	#16	31.4
0.600	#30	21.8
0.300	#50	15.4
0.150	#100	10.1
0.075	#200	6.0
0.075	#200	0.0

## PROPERTIES

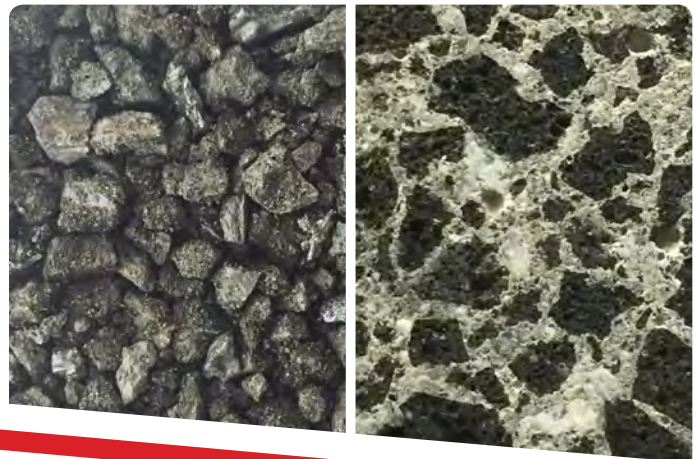
### BULK DENSITY (ASTM C29)

Loose Bulk Density: 790–990 kg/m<sup>3</sup>

### RELATIVE DENSITY & ABSORPTION (ASTM C127)

Relative Density (SSD): 1.80–2.09

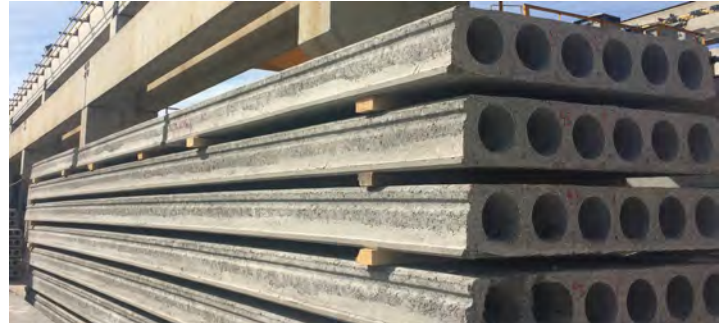
Water Absorption: 4.4%–8.5%



# TEPHRALITE™

# TEPHRALITE™

Lightweight Aggregate for  
Concrete Applications



# ASTM C330/331: SPECIFICATIONS FOR LIGHTWEIGHT AGGREGATE STRUCTURAL CONCRETE

STANDARD TEST	DESCRIPTION	TEPHRALITE™ 3/8" RESULTS	ASTM C330/331 LIMITS
ASTM C40	Organic impurities	1	< 3
ASTM C641	Staining	0	OK
ASTM C114	Loss on ignition %	0.88%	< 5%
ASTM C142	Clay lumps, friable particles %	0.20%	< 2%
ASTM C29	Bulk density (kg/m³)	872	< 1040 kg/m³
ASTM C136	Sieve analysis	OK	9.5mm to 0
ASTM C128	Specific gravity (kg/m³)	1947 (avg.)	N/A
ASTM C128	Water absorption %	7.2% (avg.)	N/A
ASTM C567	Oven-dry density (kg/m³)	1673	N/A
ASTM C567	Equilibrium density calculated (kg/m³)	1723	< 1760 kg/m³
ASTM C39	Compressive strength, 28d (MPa)	31.3	> 21 MPa
ASTM C496	Splitting tensile strength, 28d (MPa)	3.16	> 2.1 MPa
ASTM C157	Drying shrinkage, 28d %	0.03%	< 0.070%
ASTM C151	Pop-out (autoclave) %	none	none

## DURABILITY INDEX (ASTM D3744)

**Result:** 92–96 (Dc)

## SOUNDNESS MAGNESIUM SULFATE (ASTM C88)

**Result:** 9% | **Requirement:** < 12–25%\*

## ABRASION RESISTANCE (ASTM C131)

**Result:** 30% | **Requirement:** < 35–50%\*

## POTENTIAL ALKALI REACTIVITY (ASTM C1260)

**Result:** 0.010% | **Requirement:** < 0.1%

## 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.

## CANLAVA MINING CORP.

B140 5525 272<sup>nd</sup> Street Langley, BC V4W 1P1

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

**E** sales@canlava.com

Source: Nazko Cone, British Columbia



NAZKO ECONOMIC  
DEVELOPMENT CORPORATION

Canadian product sourced at the  
Nazko Cone on the traditional lands  
of the Nazko First Nation