

A sustainable construction solution in every bag.

100%
recycled

3X lighter than mineral gravel



50%
lighter than
expanded clay

10X better insulation



Dust-free
clean systems,
easy handling

No water absorption



Eco-friendly
made from 100%
recycled plastic

Dust-free, no deterioration



Safe
tested BPA &
leachate free

Safe for vegetation

Non-soluble (no BPA leaching)

Micromini
Size

Mini
Size

Regular
Size





Arqlite

SMART GRAVEL

	Micromini	Mini	Regular
Size	1/16 to 1/8 inch	1/8 to 1/2 inch	1/2 to 1 inch
Main Applications	Concrete	Concrete / Drainage / Hydroponics	Drainage / Hydroponics
Specific Weight	1038 lb/y ³ 615 kg/m ³	1020 lb/y ³ 605 kg/m ³	884 lb/y ³ 524 kg/m ³
Water Absorption	4.2	2.8	2.6
Specific Gravity	0.8323 (g/cm3)	0.9388 (g/cm3)	0.9180 (g/cm3)
Modulus of Elasticity	64.8 Mpa		
Yield Stress 0.2	2.4 Mpa		
Thermal conductivity	~0.25W/m.K - (vs. Mineral rock: 2 to 7 W/m.K)		

Leachate-free: Using the SW846-1311 method to test for the presence of 64 semi-volatile compounds that could accumulate in rainwater runoff, samples are below the detection limit for all compounds.

Polymer analysis: No significant amount of volatile compounds

*TGA measures the mass loss as a function of temperature and pyrolysis GC-MS (PyGCMS) was used to analyze the pellets at high temperatures. Additionally, a toxicity characteristic leaching procedure (TCLP) was performed. The headspace GC-MS was used to analyze volatile organic compounds while PyGCMS was used to determine the polymer components present in the Arqlite samples.

Arqlite routinely performs waste characterization testing on samples of its smart gravel to determine if the material is considered hazardous based on the RCRA definition in 40 CFR Subpart 261. This is part of our commitment to the environment, our communities, and our clients to ensure our product's safety for vegetation and use in hydroponics.

- Volatiles by SW-846 8260B
- Semi-volatiles by SW-846 8270C/D
- Pesticides by SW-846 8081A/B
- Herbicides by SW-846 8151A
- Metals by SW-846 6010B/7470A

Synthetic Precipitation Leaching Procedure (SPLP) by Method SW-846 1312 is used to determine the pollutant mobility of organic and inorganic contaminants under conditions that simulate rain water percolating through a sample.

Micro Deval and LA Abrasion
Tested by:



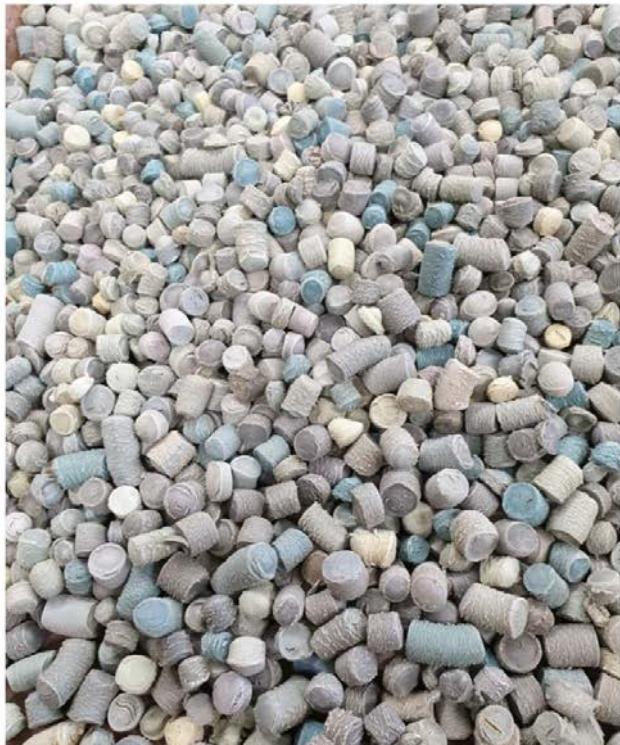
'Mini' Arqlite Artificial Aggregate



Post micro-Deval



Post LA



Reference for use in structural concretes

Test results replacing fine aggregates with *Micromini Size*



National
Research
Laboratory

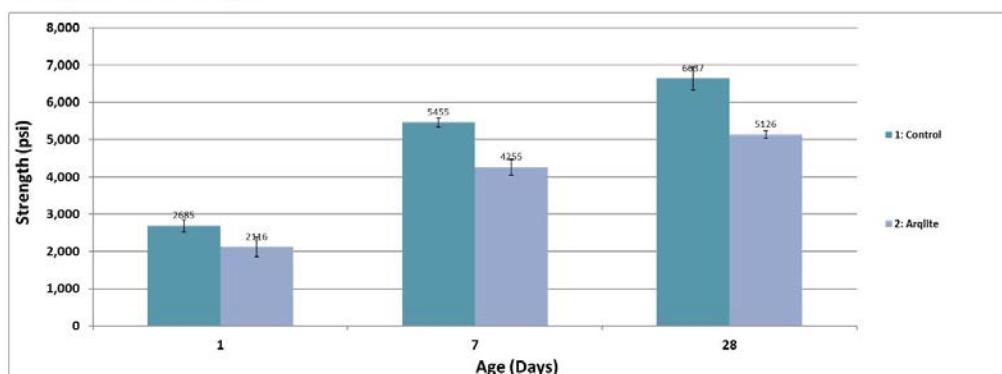
Mix Design

Material (lbs./Y3)	1: Control	2: Arqlite
Cement – Type II/V	488	488
Fly Ash – Class F	162	162
CA – Hanson Orca 1"x#4	1500	1500
FA – Orca Washed Concrete Sand	1285	1285
CA – Vulcan Rod Mill	350	
CA – Arqlite Coarse Fines		104
Water	255	255

Fresh Properties

	Slump (in)	Unit Weight (lbs/cu ft)	Air Content (%)
Mix 1: Control	5.75	155.8	1.9
Mix 2: Arqlite	5.00	149	2

Compressive Strength



Modulus of Elasticity



Reference for use in structural concretes

Test results replacing 3% and 6% of fines with *Micromini Size*



Client: Arqlite
 Project: Evaluation of Recycled Lightweight Aggregate
 Contact: Sebastian Sajoux
 Date: November 15, 2021

CTLGroup Project No: 397010
 Project Manager: B. Birch
 Technician: N/A
 Approved: K. Amini

ASTM C192 Mixture Summary

		CTLGroup Mixture ID:	Control	3% LW	6% LW
Material	Description	SG	lbs/yd ³ (SSD)		
Portland Cement	LabStock TYPE I/II	3.15	378		
Fly Ash	Class F	2.65	127	127	127
Coarse Aggregate	Labstock 3/4", Eau Claire, WI	2.68	1756	1756	1756
Fine Aggregate	Labstock Natural Sand	2.62	1420	1377	1335
Lightweight Aggregate	Arqlite	0.78	--	13	25
Water	City Water, Skokie	1.00	283	283	283
Total Cementitious Content			505	505	505
w/cm			0.56	0.56	0.56
Chemical Admixtures	<i>Product, Manufacturer</i>	SG	fl. oz./cwt		
Air Entrainer	MasterAir AE 90, Master Builders	1.02	0.20	0.25	0.10
Mixture Design			Target Values		
Slump, inch			8.5 ± 1.5	8.5 ± 1.5	8.5 ± 1.5
Air Content, %			5.0 ± 1.5	5.0 ± 1.5	5.0 ± 1.5
Concrete Fresh Properties	Test Method		Measured Fresh Properties		
Slump, in.	ASTM C143		8.00	8.25	8.00
Air Content, %	ASTM C231		2.1	2.8	3.6
Temperature, °F	ASTM C1064		77	76	76
Fresh Density, lb/ft ³	ASTM C138		145.6	147.9	145.2
Concrete Performance	Test Method	Curing Condition	Age	Test Results	
Compressive Strength, psi	ASTM C39	73°F/100% RH	28 days	4,530	4,320
Flexural Strength, psi	ASTM C78	73°F/100% RH	28 days	735	760

Notes:

1. Laboratory mixtures fabricated by CTLGroup using labstock materials.
2. Mixture proportion and lightweight aggregate was provided by the client.
3. This report may not be reproduced except in its entirety.

Caltrans Mix Design											
Reference											
Mix Code: 1617480 Delivery Unit: CY Short: S CALTRANS JCP Description: S CALTRANS JCP SLAG Production Status: At Dispatch Created: 11/20/2020 Plant: F33 OXNARD R/M Approval Status: Approved By: xpTransportBOMCSe Mix Revision #: 3											
Specifications Constituents Grading X-Sieves Production Other											
Material Type	Material Code	Material Description	Supplier Source Description	S.G.	Design Quantity	Design Units	% Cement Mass	+ Batch Quantity	Batch Units	Volume (ft ³)	
Coarse Aggregate	v 1409253	1/4 GRAVEL	CEMEX-Azusa	2.640	1,539.00	lb	v 0.00	+	1,539.00	lb	9.3422
Coarse Aggregate	v 1317231	3/8" GRAVEL	CEMEX-Azusa	2.620	277.00	lb	v 0.00	+	277.00	lb	1.6943
Fine Aggregate	v 1000041	CONCRETE SAND	CEMEX-Moorpark	2.620	1,262.00	lb	v 0.00	+	1,262.00	lb	7.7192
Cement	v 1182791	PORLTAND CEMENT	CEMEX-Victorville,...	3.150	461.00	lb	v 70.06	+	461.00	lb	2.3453
Slag	v 1149067	GGBF SLAG, ASTM C989 G_12...	CEMEX-Azusa	2.900	197.00	lb	v 29.94	+	197.00	lb	1.0896
Admixture	v 1598398	WATER_REDUCER/RETARDE...	GRACE-Grace	1.000	4.50	dose	v 0.00	+	20.75	lq oz	0.0217
Water	v 1001612	WATER	WATER-WATER	1.000	34.00	gal	v 0.00	+	34.00	gal	4.5451

Reference for use in structural concretes

Test results replacing 10% and 20% of fines with *Micromini Size*



Client: Arqlite
 Project: Evaluation of Recycled Lightweight Aggregate
 Contact: Sebastian Sajoux
 Date: December 22, 2021

CTLGroup Project No: 397010
 Project Manager: B. Birch
 Technician: N/A
 Approved: P. Vaddey

ASTM C192 Mixture Summary

		CTLGroup Mixture ID:	Control	10% LW	20% LW
Material	Description	SG	lbs/yd ³ (SSD)		
Portland Cement	LabStock TYPE I/II	3.15	378		
Fly Ash	Class F	2.65	127		
Coarse Aggregate	Labstock 3/4", Eau Claire, WI	2.68	1756		
Fine Aggregate	Labstock Natural Sand	2.62	1420		
Lightweight Aggregate	Arqlite	0.78	--		
Water	City Water, Skokie	1.00	283		
Total Cementitious Content			505		
w/cm			0.56		
Chemical Admixtures	Product, Manufacturer	SG	fl. oz./cwt		
Air Entrainer	MasterAir AE 90, Master Builders	1.02	0.20		
Mixture Design			Target Values		
Slump, inch			8.5 ± 1.5		
Air Content, %			2.0 ± 1.5		
Concrete Fresh Properties	Test Method		Measured Fresh Properties		
Slump, in.	ASTM C143		8.50		
Air Content, %	ASTM C231		1.7		
Temperature, °F	ASTM C1064		77		
Fresh Density, lb/ft ³	ASTM C138		148.8		
Concrete Performance	Test Method	Curing Condition	Age	Test Results	
Compressive Strength, psi	ASTM C39	73°F/100% RH	28 days	4,290	
Flexural Strength, psi	ASTM C78	73°F/100% RH	28 days	547	

Caltrans Mix Design Reference

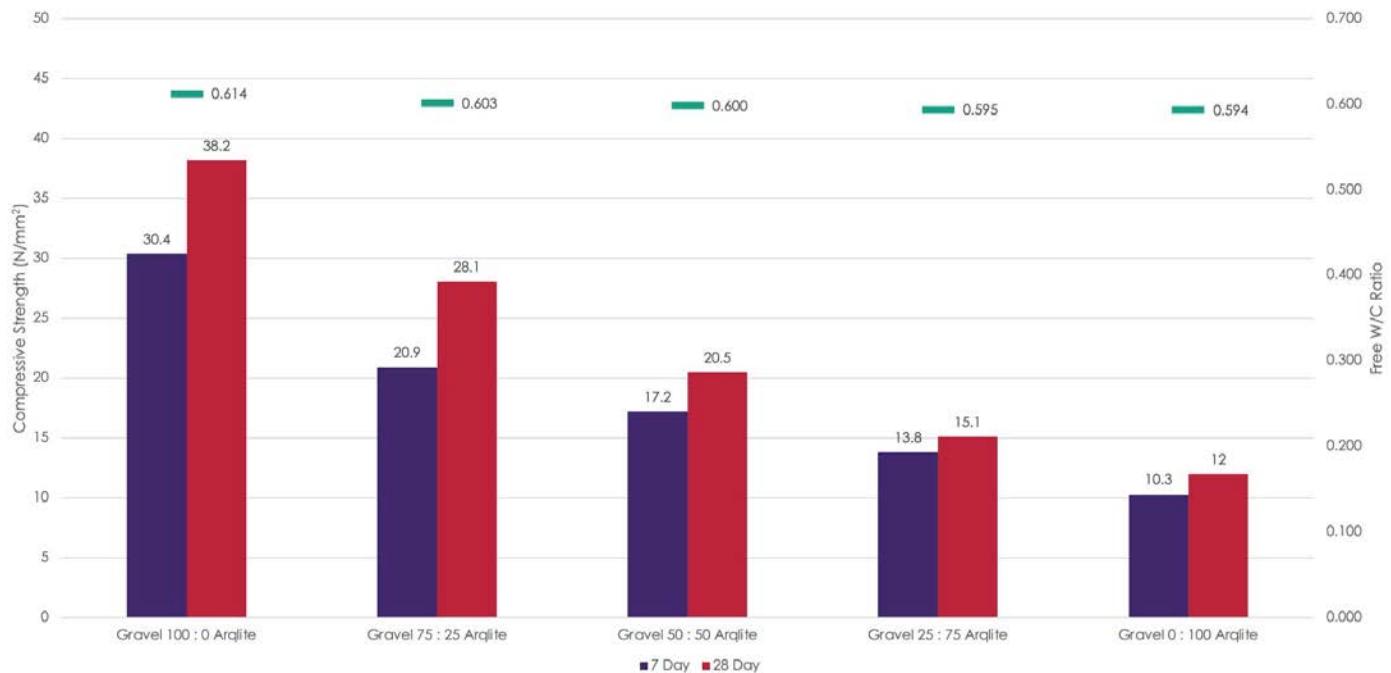
Mix Code: 1617480 Delivery Unit: CY Short: S CALTRANS JCP												Mix Revision #: 3		
Description: S CALTRANS JCP SLAG												Production Status: At Dispatch	Created: 11/20/2020	
Plant: F33 OXNARD R/M												Approval Status: Approved	By: xpTransportBOMCSe	
Specifications Constituents Grading X-Sieves Production Other														
Material Type	Material Code	Material Description	Supplier Source Description	S.G.	Design Quantity	Design Units	% Cement Mass	+ Batch Quantity	Batch Units	Volume (ft ³)				
Coarse Aggregate	v 1409253	1/4 GRAVEL	CEMEX-Azusa	2.640	1,539.00	lb	v 0.00	+	1,539.00	lb	9.3422			
Coarse Aggregate	v 1317231	3/8" GRAVEL	CEMEX-Azusa	2.620	277.00	lb	v 0.00	+	277.00	lb	1.6943			
Fine Aggregate	v 1000041	CONCRETE SAND	CEMEX-Moorpark	2.620	1,262.00	lb	v 0.00	+	1,262.00	lb	7.7192			
Cement	v 1182791	PORLTAND CEMENT	CEMEX-Victorville,...	3.150	461.00	lb	v 70.06	+	461.00	lb	2.3453			
Slag	v 1149067	GGBF SLAG, ASTM C989 G_12...	CEMEX-Victorville,...	2.900	197.00	lb	v 29.94	+	197.00	lb	1.0896			
Admixture	v 1598398	WATER_REDUCER/RETARDE...	GRACE-Grace	1.000	4.50	dose	v 0.00	+	20.75	lq oz	0.0217			
Water	v 1001612	WATER	WATER-WATER	1.000	34.00	gal	v 0.00	+	34.00	gal	4.5451			

Reference for use in non-structural concretes

Test results replacing 0%, 25%, 50%, 75% and 100% of coarse aggregates with *Mini Size*



Free Water/Cement Ratio and Compressive Strength Results



Mix Design Information

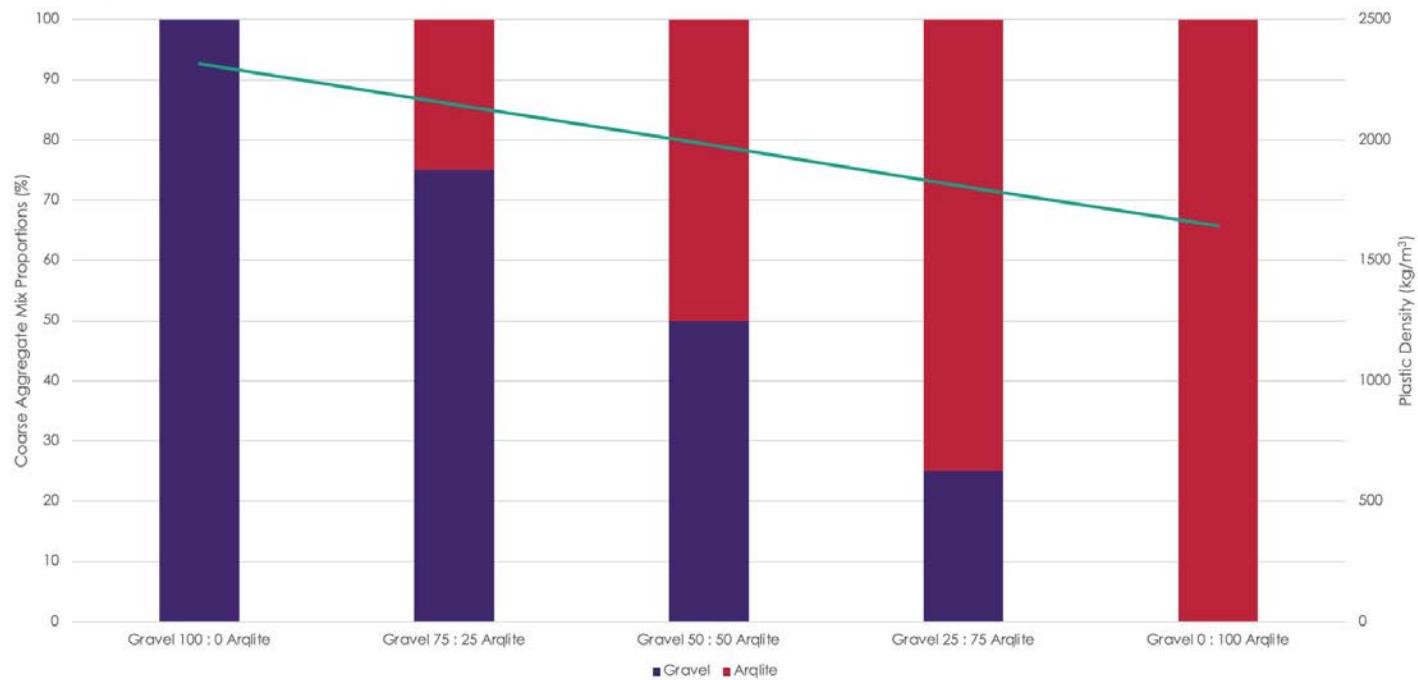
Mix Details	Gravel 100 : 0 Aralite	Gravel 75 : 25 Aralite	Gravel 50 : 50 Aralite	Gravel 25 : 75 Aralite	Gravel 0 : 100 Aralite
CEM I	350 kg/m³				
0/4 Sand	870 kg/m³				
4/10 Gravel	960 kg/m³	720 kg/m³	480 kg/m³	240 kg/m³	-
'Regular' Aralite	-	80 kg/m³	160 kg/m³	240 kg/m³	319 kg/m³
Water (Total)	236 kg/m³	229 kg/m³	226 kg/m³	221 kg/m³	219 kg/m³
Water (Free)	215 kg/m³	211 kg/m³	210 kg/m³	208 kg/m³	208 kg/m³
Free W/C Ratio	0.614	0.603	0.600	0.595	0.594
Slump	130	150	140	130	130
Plastic Density	2318 kg/m³	2148 kg/m³	1983 kg/m³	1808 kg/m³	1644 kg/m³



Reference for use in non-structural concretes

Test results replacing 0%, 25%, 50%, 75% and 100% of coarse aggregates with *Mini Size*

Mix Proportions vs Plastic Density



Mix Design Information

Gravel 100 : 0 Arqlite Gravel 75 : 25 Arqlite Gravel 50 : 50 Arqlite Gravel 25 : 75 Arqlite Gravel 0 : 100 Arqlite



POLYHEDRON LABORATORIES INC.
PLASTICS, POLYMERS AND RUBBER TESTING
10626 KINGHURST ST HOUSTON, TX 77099
281-879-8600 FAX:281-879-8666
email techsales@polyhedron.com

May 10, 2022

Arqlite SPC
2111 S. Anne Street
Santa Ana, CA 92704

Att: Payton Rockwood

Analytical Report

Melt Flow by ASTM D-1238	Density by	% Ash
<u>190°C/2.16kg (g/10min)</u>	<u>ASTM D-1505 (g/cm³)</u>	<u>by ASTM D5630</u>

Sample ID

"MICRO MINI"	0.31	0.9327	1.4473
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Howard Kaye, Ph.D, FAIC
Director

HK/nd



**GAS PYCNOMETRY ANALYSIS
DENSITY MEASUREMENT
ARQLITE SMART GRAVEL**

Sample ID	Sample Mass (gr)	Average Vol (cm3)	Average Density (g/cm3)	Percent Variance
#0012	2.5935	3.114	0.9327	0.0430

Program Operator Information

Program Operator	NSF Certification LLC 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org	 Certified Environmental Product Declaration www.nsf.org
General Program instructions and Version Number	ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.	
Manufacturer Name and Address	Arqlite SPC 2111 S Anne St Santa Ana, CA 92704	
Declaration Number	EPD10651	
Product and Declared Unit	Two declared units are evaluated in this study; 1 kg and 1 m ³ of Smart Gravel™ Synthetic Granulate and Gravel	
Reference PCR and Version Number	ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.	
Product's intended Application and Use	Synthetic aggregate in ready mix concrete, drainage layers and vents.	
Product RSL	Not Applicable	
Markets of Applicability	Global	
Date of Issue	October 26 th , 2021	
Period of Validity	5 years from date of issue	
EPD Type	Product Specific	
EPD Scope	Cradle to Gate	
Year of reported manufacturer primary data	2021	
LCA Software and Version Number	GaBi 9.2.0.58	
LCI Database and Version Number	GaBi Database Version 9.2.0.58, Service Pack 40	
LCIA Methodology and Version Number	TRACI 2.1 CML 2001-Jan 2016	

Results - Declaration of Environmental Indicators Derived from LCA

The results presented in the following tables are for 1 m³ of synthetic granulate.

LCA Results From LCIA

Abbreviation	Parameter	Unit	Raw Material Supply (A1)	Transport (A2)	Manufacturing (A3)	Total (A1-A3)	Module D	Total
CML 2001-Jan 2016								
ADP-elements	Abiotic depletion potential for non-fossil resources	kg Sb eq	2.42E-05	1.17E-06	5.82E-05	8.36E-05	-5.75E-06	7.79E-05
ADP-fossil	Abiotic depletion potential for fossil resources	MJ, net calorific value	1.24E+03	9.86E+01	5.57E+02	1.19E+03	-1.17E+03	2.44E+01
AP	Acidification potential of soil and water	kg SO ₂ eq	6.59E-02	1.51E-02	9.52E-02	1.76E-01	-1.69E-01	7.47E-03
EP	Eutrophication potential	kg Phosphate eq	8.42E-03	4.02E-03	1.90E-02	3.14E-02	-9.76E-02	-6.61E-02
GWP	Global warming potential	kg CO ₂ eq	3.79E+01	6.97E+00	9.31E+01	1.38E+02	-7.67E+01	6.13E+01
ODP	Depletion of stratospheric ozone layer	kg CFC 11 eq	1.87E-14	8.80E-16	4.19E-12	4.21E-12	-1.93E-13	4.02E-12
POCP	Photochemical ozone creation potential	kg Ethane eq	9.99E-03	-5.02E-03	1.02E-02	1.51E-02	-1.77E-02	-2.52E-03
TRACI 2.1								
AP	Acidification potential of soil and water	kg N eq	7.31E-02	2.03E-02	2.17E-01	3.10E-01	-1.94E-01	1.17E-01
EP	Eutrophication potential	kg SO ₂ eq	4.00E-03	2.39E-03	1.37E-02	2.01E-02	-4.51E-02	-2.50E-02
GWP	Global warming potential	kg CO ₂ eq	3.79E+01	6.97E+00	9.30E+01	1.38E+02	-7.66E+01	6.12E+01
ODP	Depletion of stratospheric ozone layer	kg CFC 11 eq	1.87E-14	8.80E-16	4.19E-12	4.21E-12	-1.93E-13	4.02E-12
Resources	Depletion of non-renewable fossil fuels	MJ, surplus energy	1.77E+02	1.32E+01	1.64E+02	3.55E+02	-1.60E+02	1.95E+02
POCP	Photochemical ozone creation potential	kg O ₃ eq	1.53E+00	4.55E-01	2.84E+00	4.82E+00	-4.19E+00	6.34E-01

Table 7: Life Cycle Impact Assessment Environmental Indicators for 1 m³ of Synthetic Granulate

IMAGE NOT AVAILABLE

Arqlite Smart Gravel™ Synthetic Granulate and Gravel / smart-gravel-synthetic-granulate-and-gravel

Category Construction Materials, Construction Materials
Subcategory Cement and Concrete, Cement and Concrete, Synthetic Granulate, Synthetic Granulate

Arqlite plastic gravel is 100% made from plastic waste that would otherwise have ended up in a landfill, an incineration plant, or a watercourse, contaminating the environment for hundreds of years. This recycled plastic gravel replaces traditional gravel or crushed rock in landscaping and civil engineering projects, providing greater efficiency and reducing costs. As this product is made from 100% post-consumer materials, the ingredients shown are based on lab testing and research into common additives and colorants.

Is this your product? [Contact us](#) to enrich product information or add product listings.

 Certifications and Standards

Environmental Product Declaration (EPD)

[Product Specific \(EPD10419\)](#)

Certified by NSF Certification, LLC

valid 2020-08-11 to 2025-08-11

Living Building Challenge Declare®

[LBC Red List Free \(ARQ-0001, version 2\)](#)

Certified by WAP Sustainability Consulting

3rd Party Verified

valid until 2021-07-01

 General

MasterFormat® Number

03 00 00, 03 00 00, 03 30 00, 03 30 00, 03 40 00

Quantity (EA)

1

Unit Price (\$)

\$0.00

Extended Price

\$0.00

LEED®v4 BD+C: NC

Materials and Resources: Building product disclosure and optimization - environmental product declarations (MR c2)

Contributes as 1 product

Materials and Resources: Building product disclosure and optimization - material ingredients Opt-1 (MR c4 Option 1)

Contributes as 1 product

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The World is Shifting Toward Sustainable Construction

Around the world, public and private stakeholders are adopting green construction processes to improve energy performance and drive resource efficiency. Sustainable construction is evolving every day with more and more opportunities opening up for builders and landscapers to embrace green practices.

Moreover, builders and landscapers are facing increasingly demanding requirements for certification, largely based on minimizing their GHG emissions, reducing waste, using recyclable and reusable materials, and adopting sustainable practices.

Let's take a look at two certification requirements that Arqlite satisfies.



Sustainable landscape design and maintenance is how landscape architects and engineers can combat climate change. Originally modeled after LEED, SITES was developed to fill the gap in addressing site sustainability. In line with the criteria for SITES certification, our smart gravel in landscaping minimizes water demand and waste, reduces energy consumption, and filters and reduces stormwater runoff.



For **LEED certification**, builders earn points for choosing materials that reduce WASTE sent to landfills and reducing the environmental impact of a building's materials. This is where Arqlite Smart Gravel is a real point earner. See below for more on our checklist!

Arqlite LEED/SITES

Checklist:

Our smart gravel is a great addition to any inventive, sustainable and green building strategy. It checks off a surprising number of sustainability certification criteria:

- ✓ Minimizes water demand and waste
- ✓ Reduces HVAC costs by providing better insulation
- ✓ Made from 100% recycled plastic waste that would have gone to a landfill
- ✓ Lightweight so less material is need for support
- ✓ Low transport costs, meaning fewer GHG emissions
- ✓ Safe for vegetation with no BPA leaching

Contact us for more information about how we can help your projects with credit achievement.

The Environmental Impacts of Aggregate Extraction

While a bag of stones or gravel may look like a "natural" product, the process of getting it to a worksite entails significant environmental costs. Mined from the earth, either dug out of pits or blasted out of quarries, this process can disrupt existing movement of surface water and groundwater, **affecting the quantity and quality of drinking water** for nearby residents and wildlife.

Creating the pits or quarries requires the removal of virtually all natural vegetation, topsoil and subsoil to reach the aggregate underneath. This can lead to a huge loss of biodiversity as plants and aquatic habitats are destroyed. Moreover, adjacent ecosystems are affected by noise, dust, pollution and contaminated water.

**Particle Size
Analysis
(CT 202)**

Client:	Arqlite	Date	04/02/21
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	04/06/2
No.:	S040221-110	Date Tested:	1
Sample	Regular	Tested By:	C.
ID:	Arqlite - Santa	Date	Fuentes
Material	Ana	Reviewed:	04/06/21
Description:		Reviewed By:	R.
Sample Location:			Jimenez

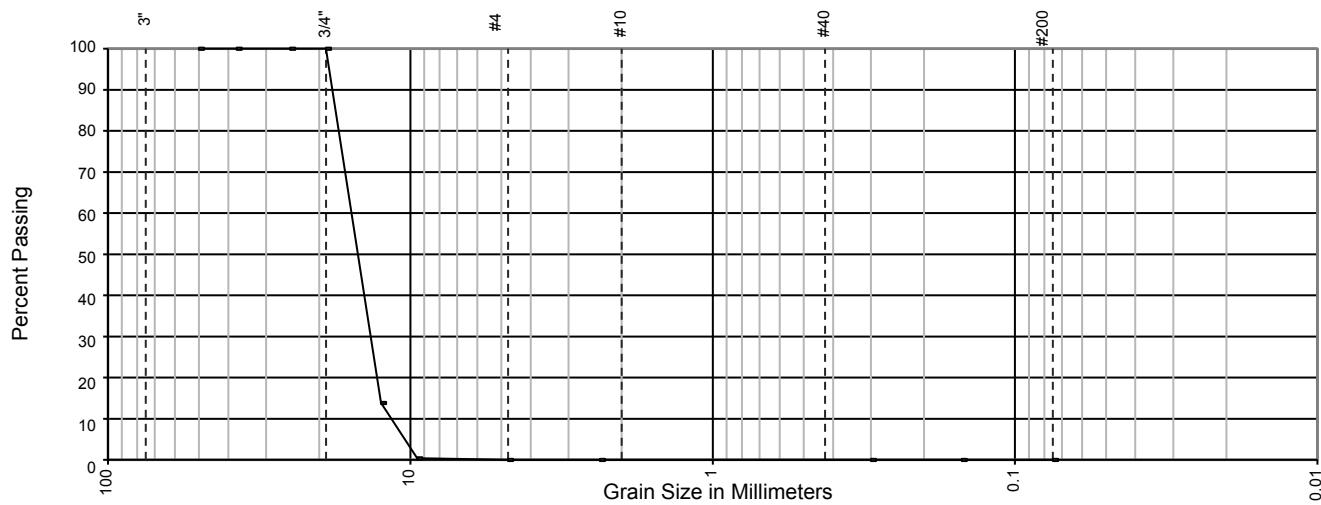
Dry Weight, g 2,570

Sieve Size	Weight Retained Grams	Percent Retained %	Percent Passing %	Specification
3" (75mm)	0	0	100	-
2" (50mm)	0	0	100	-
1 1/2" (37.5mm)	0	0	100	-
1" (25mm)	0	0	100	-
3/4" (19mm)	0	0	100	-
1/2" (12.5mm)	2,214	86	14	-
3/8" (9.5mm)	2,560	100	0	-
#4 (4.75mm)	2,570	100	0	-

Dry Weight,

#8 (2.36mm)				-
#16 (1.18mm)				-
#30 (600um)				-
#50 (300um)				-
#100 (150um)				-
#200 (75um)				-

D ₁₀	0.30
D ₃₀	0.55
D ₆₀	1.50
C _u	#DIV/0!
C _c	#DIV/0!
Fineness Modulus	#DIV/0!



Soil Classification:	-
----------------------	---

Remark
S:

**Specific Gravity - Coarse
Aggregate
(ASSHTO T85)**

Client:	Arqlite	Date	4/2/2021
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	04/07/2
No.:	S040221-110	Date Tested:	1
Sample	Arqlite Santa	Tested By:	C.
ID:	Ana Regular	Date	Fuentes
Sample Location:		Reviewed:	04/07/21
Material		Reviewed By:	R.
Description:			Jimenez

Sample No.		Specification
Dry Weight in Air (A)	2263.6	
SSD Wiegth in Air (B)	2322.6	
Weight in Water (C)	-624.5	
Bulk Specifc Gravity (A/(B-C))	0.768	
Bulk Specific Gravity - SSD (B/(B-C))	0.788	
Specific Gravity - Apparent (A/(A-C))	0.784	
Absorption ((B-A)/A*100)	2.6	

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**Durability
Index
(CT 229)**

Client:	Arqlite	Date	04/02/21
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	5/3/202
No.:	S040221-110	Date Tested:	1
Sample	Regular	Tested By:	C.
ID:	Arqlite - Santa	Date	Fuentes
Material	Ana	Reviewed:	5/4/2021
Description:		Reviewed By:	R.
Sample Location:	<u>Jimenez</u>		

	Sand Reading	Clay Reading	Durability Index	Specifications
Durability Index - Fines			N/A	
	Sediment Height		Durability Index	
Durability Index - Coarse	0.0		100	
	Durability Index		100	

Remarks: - Material tested was retained on 1/2" sieve.

**Soundness of Coarse
Aggregates
(ASTM C88)**

Client: Arqlite Date Sampled: 4/2/2021
Project: Lab Testing Services Sampled By: Client
Project Number: 12315 Date Tested: Various
Sample ID: S040221-110 Tested By: J. Uranga
Sample Location: Arqlite - Santa Ana Date Reviewed: 6/4/2021
Material Description: Regular Reviewed By: R. Jimenez

Aggregate Test Sizes	Weighted Average Loss, %	Specifications
3/4" - 3/8", (Sodium Sulfate)	0.0	
3/4" - 3/8", (Magnesium Sulfate)	0.0	

Remarks:

**Particle Size
Analysis
(CT 202)**

Client:	Arqlite	Date	04/02/21
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	04/06/2
No.:	S040221-111	Date Tested:	1
Sample	Mini	Tested By:	C.
ID:	Arqlite - Santa	Date	Fuentes
Material	Ana	Reviewed:	04/06/21
Description:		Reviewed By:	R.
Sample Location:			Jimenez

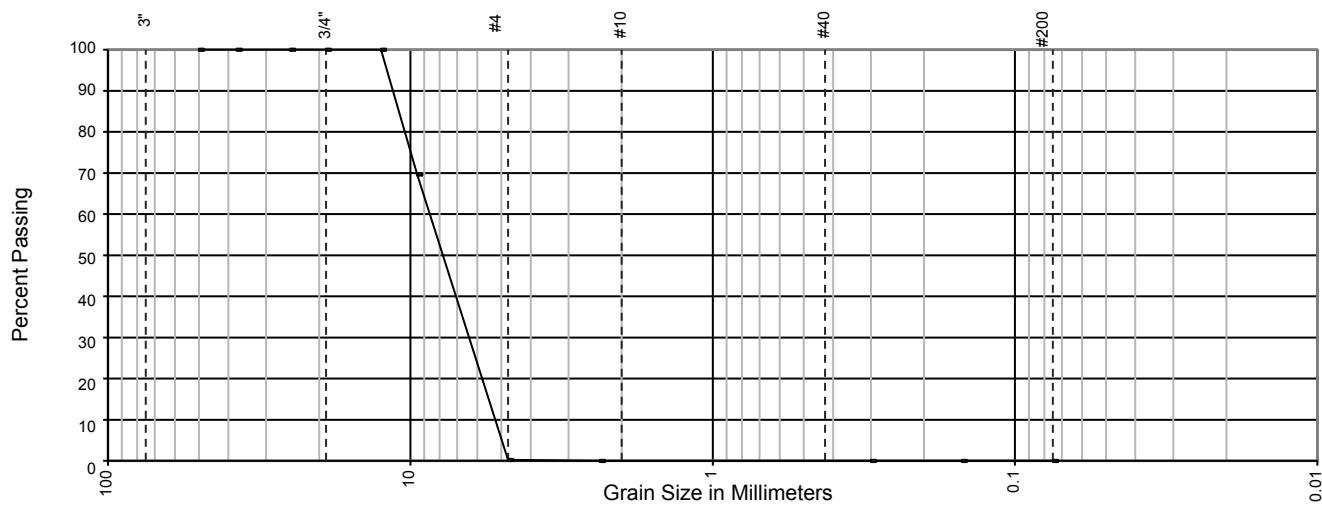
Dry Weight, g 1,107

Sieve Size	Weight Retained Grams	Percent Retained %	Percent Passing %	Specification
3" (75mm)	0	0	100	-
2" (50mm)	0	0	100	-
1 1/2" (37.5mm)	0	0	100	-
1" (25mm)	0	0	100	-
3/4" (19mm)	0	0	100	-
1/2" (12.5mm)	0	0	100	-
3/8" (9.5mm)	336	30	70	-
#4 (4.75mm)	1,104	100	0	-

Dry Weight, 0.0

#8 (2.36mm)	1,107.0	100	0	-
#16 (1.18mm)				-
#30 (600um)				-
#50 (300um)				-
#100 (150um)				-
#200 (75um)				-

D ₁₀	0.30
D ₃₀	0.55
D ₆₀	1.50
C _u	5.00
C _c	0.67
Fineness Modulus	6.30



Soil Classification:	-
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Remark
s:

**Specific Gravity - Coarse
Aggregate
(ASSHTO T85)**

Client:	Arqlite	Date	4/2/2021
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	04/07/2
No.:	S040221-111	Date Tested:	1
Sample	Arqlite Santa	Tested By:	C.
ID:	Ana Mini	Date	Fuentes
Sample Location:		Reviewed:	04/07/21
Material		Reviewed By:	R. Jimenez
Description:			

Sample No.		Specification
Dry Weight in Air (A)	1071.2	
SSD Wiegth in Air (B)	1130.0	
Weight in Water (C)	-530.4	
Bulk Specifc Gravity (A/(B-C))	0.645	
Bulk Specific Gravity - SSD (B/(B-C))	0.681	
Specific Gravity - Apparent (A/(A-C))	0.669	
Absorption ((B-A)/A*100)	5.5	

Remark
s:

**Durability
Index
(CT 229)**

Client:	Arqlite	Date	04/02/21
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	5/3/202
No.:	S040221-111	Date Tested:	1
Sample	Mini	Tested By:	C.
ID:	Arqlite - Santa	Date	Fuentes
Material	Ana	Reviewed:	5/4/2021
Description:		Reviewed By:	R.
Sample Location:			Jimenez

	Sand Reading	Clay Reading	Durability Index	Specifications
Durability Index - Fines			N/A	
Durability Index - Coarse		Sediment Height	Durability Index	
		0.0	100	
		Durability Index	100	

Remarks: - Material tested was retained on 3/8" and #4 sieve.

**Soundness of Coarse
Aggregates
(ASTM C88)**

Client: Arqlite Date Sampled: 4/2/2021
Project: Lab Testing Services Sampled By: Client
Project Number: 12315 Date Tested: Various
Sample ID: S040221-111 Tested By: J. Uranga
Sample Location: Arqlite - Santa Ana Date Reviewed: 6/4/2021
Material Description: Mini Reviewed By: R. Jimenez

Aggregate Test Sizes	Weighted Average Loss, %	Specifications
3/4" - 3/8", 3/8" - #4 (Sodium Sulfate)	0.0	
3/4" - 3/8", 3/8" - #4 (Magnesium Sulfate)	1.0	

Remarks:

**Particle Size
Analysis
(CT 202)**

Client:	Arqlite	Date	04/02/21
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	04/06/2
No.:	S040221-112	Date Tested:	1
Sample	Micro-Mini	Tested By:	C.
ID:	Arqlite - Santa	Date	Fuentes
Material	Ana	Reviewed:	04/06/21
Description:		Reviewed By:	R.
Sample Location:			Jimenez

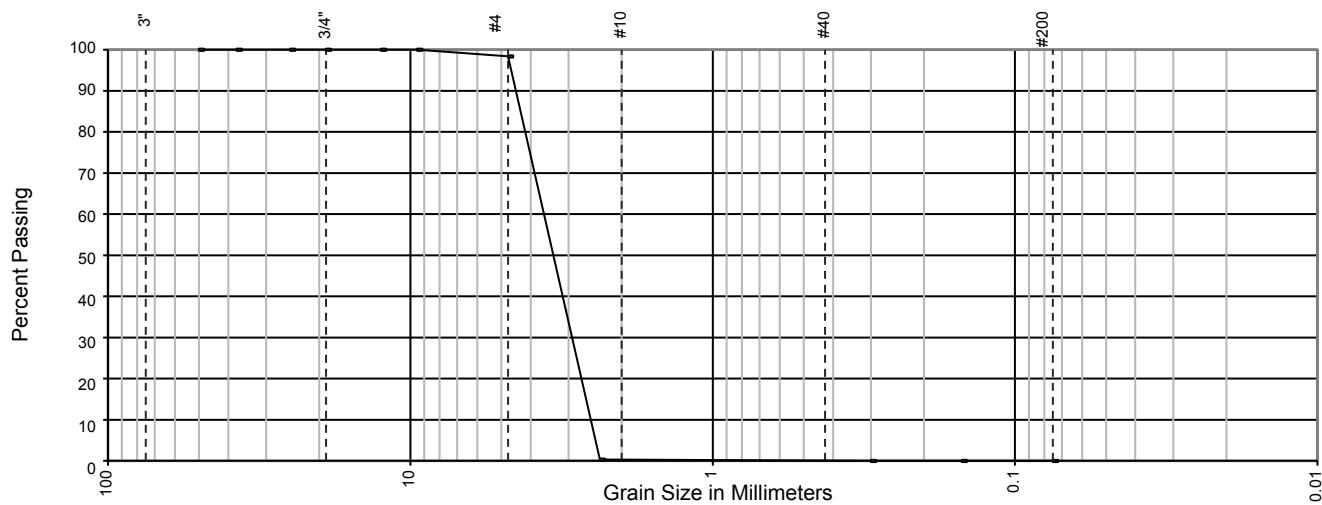
Dry Weight, g 1,103

Sieve Size	Weight Retained Grams	Percent Retained %	Percent Passing %	Specification
3" (75mm)	0	0	100	-
2" (50mm)	0	0	100	-
1 1/2" (37.5mm)	0	0	100	-
1" (25mm)	0	0	100	-
3/4" (19mm)	0	0	100	-
1/2" (12.5mm)	0	0	100	-
3/8" (9.5mm)	0	0	100	-
#4 (4.75mm)	18	2	98	-

Dry Weight, 0.0

#8 (2.36mm)	1,099.8	100	0	-
#16 (1.18mm)	1,103.0	100	0	-
#30 (600um)				-
#50 (300um)				-
#100 (150um)				-
#200 (75um)				-

D ₁₀	0.30
D ₃₀	0.55
D ₆₀	1.50
C _u	5.00
C _c	0.67
Fineness Modulus	5.01



Soil Classification:	-
----------------------	---

Remark
s:

**Specific Gravity - Coarse
Aggregate
(ASSHTO T85)**

Client:	Arqlite	Date	4/2/2021
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	09/17/2
No.:	S040221-112	Date Tested:	1
Sample	Arqlite Santa	Tested By:	C.
ID:	Ana Micro-Mini	Date	Fuentes
Sample Location:		Reviewed:	09/17/21
Material		Reviewed By:	R.
Description:			Jimenez

Sample No.		Specification
Dry Weight in Air (A)	1000.6	
SSD Wiegth in Air (B)	1043.0	
Weight in Water (C)	-289.7	
Bulk Specifc Gravity (A/(B-C))	0.751	
Bulk Specific Gravity - SSD (B/(B-C))	0.783	
Specific Gravity - Apparent (A/(A-C))	0.775	
Absorption ((B-A)/A*100)	4.2	

Remark
s:

**Durability
Index
(CT 229)**

Client:	Arqlite	Date	04/02/21
Project:	Lab Testing	Sampled:	Client
Project	Services 12315	Sampled By:	5/3/202
No.:	S040221-112	Date Tested:	1
Sample	Micro-Mini	Tested By:	C.
ID:	Arqlite - Santa	Date	Fuentes
Material	Ana	Reviewed:	5/4/2021
Description:		Reviewed By:	R.
Sample Location:			Jimenez

	Sand Reading	Clay Reading	Durability Index	Specifications
Durability Index - Fines			N/A	
Durability Index - Coarse		0.0	100	
Durability Index		100		

Remarks: - Material tested was retained on #4 sieve.

**Soundness of Coarse
Aggregates
(ASTM C88)**

Client: Arqlite Date Sampled: 4/2/2021
Project: Lab Testing Services Sampled By: Client
Project Number: 12315 Date Tested:
Sample ID: S040221-112 Tested By: J. Uranga
Sample Location: Arqlite - Santa Ana Date Reviewed:
Material Description: Micro-Mini Reviewed By:

Aggregate Test Sizes	Weighted Average Loss, %	Specifications
#4 - #8 (Sodium Sulfate)	0.0	
#4 - #8 (Magnesium Sulfate)	0.0	

Remarks:

Use cases

Chateau Portal

<https://www.eoarg.com/single-post/2019/10/30/avances-construcion-10-2019>

Architects: Eduardo Orsini Architects - <https://www.eoarg.com/>

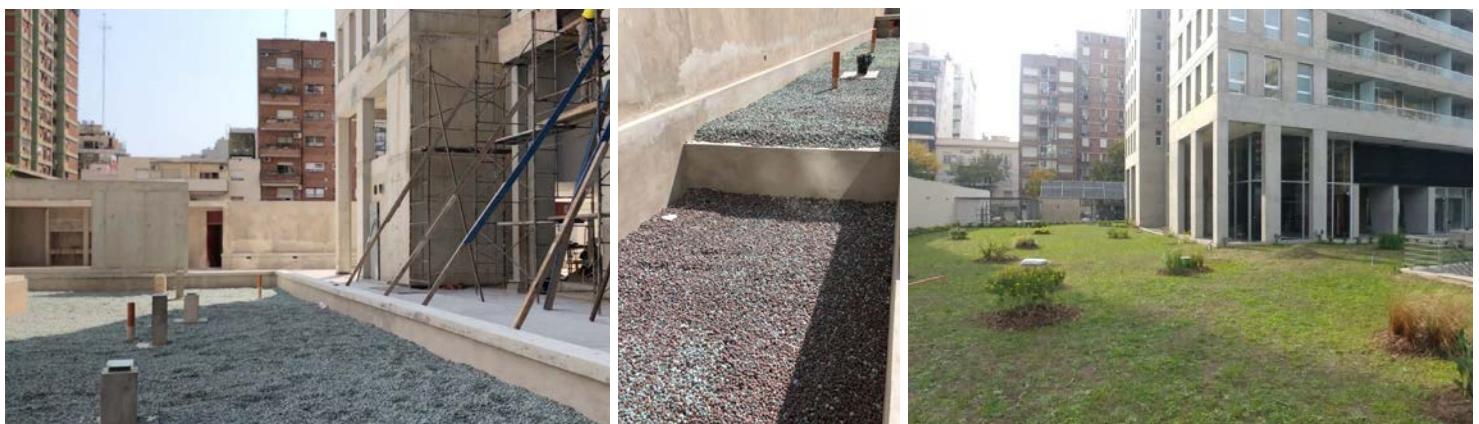
36m3



ICON ACOYTE Building

<http://www.davconstrucciones.com.ar/>

Architects: Studio Pavlotzky - <http://pavlotzky.com.ar/>



Remodeling Azioli S.A.

Architects: Pier Paolo -"Azioli S.A." <azioli.sa@gmail.com>

Av. de Mayo 651 - CABA



Use cases

Precast Arquimodules

<http://www.arquimodulos.com.ar/>

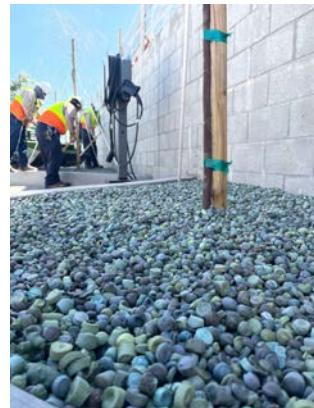
Buenos Aires



Los Angeles Department of Water and Power (LADWP)

<https://www.ladwp.com/>

Sun Valley



Instant Jungle

<https://www.instantjungle.com/>

Santa Ana





Arqlite

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Soil 2,200 lbs/Y³(avg)

Arqlite 800 lbs/Y³(avg)

a

Max weight
60.000
lbs
Mac volume
40Y³

b

Max weight
60.000
lbs
Mac volume
40Y³

A+B= Max 80.000 lbs

20Y³

6Y³

Gravel



27Y³

9Y³

Soil



40Y³

40Y³



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