

ConduCrete Technical Specifications

Physical Properties

Property	Typical Value		Unit	Test Method
Dry Density (Powder)	1307 1.307 81.40		kg/m ³ g/cm ³ lbs/ft ³	SAE Inc. Standard 106 (dependent on compaction)
Wet Density (Hardened State)	1730 1.73 108		kg/m ³ g/cm ³ lbs/ft ³	SAE Inc. Standard 106
Slurry Density	kg/m ³	g/cm ³	lbs/ft ³	
2.5 US gallons per 55 lb bag	1692	1.692	105.7	SAE Inc. Standard 106
2 US gallons per 55 lb bag	2010	2.010	125.3	
1.6 US gallons per 55 lb bag	2125	2.125	132.4	
100 US gallons per 2200 lb supersack	1692	1.692	105.7	
80 US gallons per 2200 lb supersack	2010	2.010	125.3	
64 US gallons per 2200 lb supersack	2125	2.125	132.4	
5.8 oz per 1 lb bag	1692	1.692	105.7	
4.6 oz per 1 lb bag	2010	2.010	125.3	
3.7 oz per 1 lb bag	2125	2.125	132.4	
Dry Volume (Powder)	m ³		ft ³	
55 lb bag	0.023		0.802	SAE Inc. Standard 106
2200 lb supersack	0.764		27.027	
1 lb bag	3.5 x 10 ⁻⁴		0.012	
Slurry Volume	m ³		ft ³	
2.5 US gallons per 55 lb bag	0.021		0.728	SAE Inc. Standard 106
2 US gallons per 55 lb bag	0.016		0.58	
1.6 US gallons per 55 lb bag	0.015		0.524	
100 US gallons per 2200 lb supersack	0.813		28.720	
80 US gallons per 2200 lb supersack	0.647		22.886	
64 US gallons per 2200 lb supersack	0.584		20.650	
5.8 oz per 1 lb bag	3.6 x 10 ⁻⁴		0.013	
4.6 oz per 1 lb bag	2.91 x 10 ⁻⁴		0.010	
3.7 oz per 1 lb bag	2.63 x 10 ⁻⁴		0.009	

Property	Typical Value	Unit	Test Method
Hygroscopic Property (Water Absorption)	25.4	%	SAE Inc. Standard 110
Water Permeability	2.0 x 10 ⁻⁸	cm/sec	ASTM D5084 (2.6 psi)
Electrical Corrosion Resistance Copper Steel Galvanized Steel	95-100 95-100 95-100	%	SAE Inc. Standard 100
Compatibility Copper Steel Galvanized Steel	Yes Yes Yes		SAE Inc. Standard 100
Environmental Impact	Neutral		Ontario Regulation 558/00 (Leachate Testing) and NSF / ANSI / CAN 60
Carbon Consumption Rate	0.5	kg/amp-year	SAE Inc. Standard 111
Physical State (Uncured)	Grey Powder		
Physical State (Cured)	Grey Solid		
Odor	None		
Working Time	Approx 30-60	minutes	
Setting Time	24	hours	
Cure Time	28	days	

Compressive Strength Properties

Property	Cure Time			Test Method
	1 day	8 days	28 days	
Compressive Strength (psi)				
2.5 US gallons per 55 lb bag	1421	2886	3575	CAN / CSA.A23.2-19
2 US gallons per 55 lb bag	2922	4598	5192	
1.6 US gallons per 55 lb bag	3713	5526	5961	
100 US gallons per 2200 lb supersack	1421	2886	3575	
80 US gallons per 2200 lb supersack	2922	4598	5192	
64 US gallons per 2200 lb supersack	3713	5526	5961	
5.8 oz per 1 lb bag	1421	2886	3575	
4.6 oz per 1 lb bag	2922	4598	5192	
3.7 oz per 1 lb bag	3713	5526	5961	

Property	Cure Time			Test Method
	1 day	8 days	28 days	
Compressive Strength (MPa)				CAN / CSA.A23.2-19
2.5 US gallons per 55 lb bag	9.8	19.9	24.6	
2 US gallons per 55 lb bag	20.2	31.7	35.8	
1.6 US gallons per 55 lb bag	25.6	38.1	41.1	
100 US gallons per 2200 lb supersack	9.8	19.9	24.6	
80 US gallons per 2200 lb supersack	20.2	31.7	35.8	
64 US gallons per 2200 lb supersack	25.6	38.1	41.1	
5.8 oz per 1 lb bag	9.8	19.9	24.6	
4.6 oz per 1 lb bag	20.2	31.7	35.8	
3.7 oz per 1 lb bag	25.6	38.1	41.1	

Electrical Properties

Property	Typical Value	Unit	Test Method
Resistivity	2.8-5.0	$\Omega \cdot \text{cm}$	Modified ASTM G187-05
Conductivity	0.2-0.4	S/cm	Modified ASTM G187-05

NSF / ANSI / CAN 60

ConduCrete meets NSF / ANSI / CAN 60: Drinking Water Treatment Chemicals - Health Effects.
<http://info.nsf.org/Certified/PwsChemicals/Listings.asp?Company=C0169859&>

Leachate (TCLP) and NSF / ANSI / CAN 60 Results

Leachate Data (TCLP Procedure) based on Ontario Regulation 558/00. ConduCrete was tested to NSF / ANSI / CAN 60, section 8 for backfill applications.

Constituent	ConduCrete TCLP Concentration (mg/L)	USEPA Maximum Contaminant Level (mg/L)	ConduCrete NSF 60 Concentration (mg/L)	NSF 60 Acceptance Criteria (mg/L)
Arsenic	BDL	0.010	BDL	0.001
Barium	0.384	2.000	0.000089	0.200
Boron	0.158	2.000*		
Cadmium	BDL	0.005	BDL	0.0005
Lead	BDL	0.015	BDL	0.0005
Mercury	BDL	0.002	BDL	0.0002
Selenium	BDL	0.50	BDL	0.005

Constituent	ConduCrete TCLP Concentration (mg/L)	USEPA Maximum Contaminant Level (mg/L)	ConduCrete NSF 60 Concentration (mg/L)	NSF 60 Acceptance Criteria (mg/L)
Silver	BDL	0.100**	BDL	
Uranium	BDL	0.030	BDL	
Fluoride	BDL	2.000**		
Nitrate (as Nitrogen)	BDL	10.000		
Nitrite (as Nitrogen)	BDL	1.000		
Free Cyanide	BDL	0.200		

BDL means the result is "Below the Detection Level" of the analytical procedure
 * No MCL established; value shown is USEPA's Lifetime Drinking Water Health Advisory
 ** No MCL established; value shown is USEPA's Secondary Drinking Water Standard

Soil Analysis Results

Determination of Anions in Soil Procedure was based on SW846-9056A and Determination of Free Cyanide in Soil was based on EPA OIA-1677.

Constituent	ConduCrete Pro Concentration (µg/g)
Fluoride	BDL
Nitrate (as Nitrogen)	BDL
Nitrite (as Nitrogen)	BDL
Free Cyanide	BDL

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Electrical Corrosion Resistance		%	SAE Inc. Standard 100
Copper	95-100		
Steel	95-100		
Galvanized Steel	95-100		
Compatibility			SAE Inc. Standard 100
Copper	Yes		
Steel	Yes		
Galvanized Steel	Yes		
Environmental Impact	Neutral		Ontario Regulation 558/00 (Leachate Testing) and NSF / ANSI / CAN 60
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Constituent	ConduCrete CP TCLP Concentration (mg/L)	USEPA Maximum Contaminant Level (mg/L)	ConduCrete CP NSF 60 Concentration (mg/L)	NSF 60 Acceptance Criteria (mg/L)
Arsenic	BDL	0.010	BDL	0.001
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Nitrate (as Nitrogen)	BDL
Nitrite (as Nitrogen)	BDL
Free Cyanide	BDL

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