



**INTRODUCING AXION
INNOVATIVE PRODUCTS
FOR ROAD AND BUILDING
CONSTRUCTION**

ABOUT US

Axion Africa, a subsidiary of Axion Canada is the leader in the development, distribution and application of organic liquid monomer formulations for the global road and building construction industries.

Axion Technologies' products, initially developed by the U.S. military for swiftly deploying airstrips during the Gulf War, have transitioned to commercial use, maintaining their military-grade standards



25yrs

We have been in operation for 25 years, and over 20 years in Africa.



We have presence in over 75 countries in the world.

99%

In Nigeria, our products have been tested and approved by local and federal authorities, and we have all the required certifications for building and road construction.

Our Vision & Mission

Our vision is to be a Leading, Cutting-edge and Innovative Engineering Company, supplying the building/Civil Engineering industry (governments, real estate developers, oil & gas sector) with efficient and cost-effective construction materials for buildings and roads.

Our Mission is to continuously provide our customers with high quality, cost-effective, efficient and environmental-friendly products to solve problems facing the global building and construction industry.



Our Products



- AXION STONE BASE STABILIZER (*liquid cement*)
- AXION BITUMEN BOOSTER (PMB)
- AXION BASE STABILIZER (*SBS*)
- AXION TUFFCRETE POLYMER
- AXION TOTALCRETE POLYMER (*high-range super plasticizer*)
- AXION TOTALCRETE POLYMER (*liquid cement*)
- AXION TUFFCRETE CEMENT
- AXION TOTAL-CRETE CEMENT
- AXION HYDROSHIELD POLY BOND
- AXION HYDROSHIELD DIRECT SCREED BOND/PUTTY
- AXTRA QUICK FIX ASPHALTIC CONCRETE LIQUID BINDER (*cold asphalt*)
- AXION POLYCOAT MARBLUXE PAINT (*for decorative coating, screeding and painting*)



WE PROVIDE ENVIRONMENTALLY FRIENDLY CONSTRUCTION TECHNOLOGIES

- Road Base Stabilizer and Polymer Modified Bitumen.
- 100% Waterproof Concrete Technology.
- Engineered Precast and Specialized Concrete Products.
- Our products are made of high quality innovative road and building construction materials which ensure durable and cost effective construction.



Axion Stone Base Stabilizer (*liquid cement*)

Axion Stone Base Stabilizer (liquid cement) is a revolutionary technology designed for stabilizing stone bases (e.g., Stone and sand). This innovative product serves as a superior binder for stabilizing the sub-base of superhighways, providing 100% waterproofing and high CBR for optimal strength and durability.

PRODUCT FEATURES/ADVANTAGES:

- Strengthens and improves the natural soil enabling it to achieve higher load bearing capacity
- Eliminates the cost of removing and replacing the topsoil .
- Eliminates the use of expensive aggregate plus the cost of compacting it.
- Simply stabilizes the natural soil to achieve CBR levels of up to 200%



Axion Bitumen Booster Refiner (PMB)

Bitumen is the preferred glue that holds aggregate together in road construction, the higher the quality of the glue, the greater adhesiveness. Axion Bitumen Booster (PMB) increases the bitumen by 30% and the asphalt by 20% while stabilizing and improving the elasticity from 6% to 79% over a wide range of temperature that allows the asphalt to withstand temperatures ranging between -22°C to $+82^{\circ}\text{C}$. The benefit of this is that the thickness of Asphaltic binder course can be reduced from the standard 6cm to 3cm, producing the same strength and yielding cost savings in the construction.

PRODUCT FEATURES/ ADVANTAGES:

- Eliminates Hair Line Cracks
- Increases Bitumen Volume by over 30%
- 350% Increase in The Asphalt Layers' Life Expectancy
- Solution to Rutting problem as it reduces it by up to 84.8%
- Water Resistant
- Reduces Execution Time
- 100°C Effective Range



Axion Solid Base Stabilizer (SBS)

This is a powerful molecular binding agent used in soil stabilization and earth-work installation. It does not require coarse aggregate as it merely strengthens and improves the natural soil enabling it to achieve load bearing capacities that meet and exceeds international compaction requirements. The Axion Solid Base Stabilizer results in approximately 60% cost savings in construction and maintenance costs.

PRODUCT FEATURES/ ADVANTAGES:

- Strengthens and improves the natural soil enabling it to achieve higher load bearing capacity
- Eliminates the cost of removing and replacing the topsoil .
- Eliminates the use of expensive aggregate plus the cost of compacting it.
- Simply stabilizes the natural soil to achieve CBR levels of up to 200%



Axion Tuffcrete Polymer

Axion Tuffcrete polymer (Plastercizer co-polymer) is a chemical specifically developed for polymer modification of Portland cement and other hydraulic cement compositions. Cementitious products modified with Axion Tuffcrete polymer show improved bonding strength to a variety of substrates, including all concrete works. In addition, this product improves the flexural and tensile strengths of hydraulic cement concretes. This multi- component polymer resists saponification and demonstrates good exterior durability with resistance to UV light and moisture. Thereby, protecting steel reinforcement from oxidation and corrosion.

The Totalcrete Polymer is designed to neutralize the salinity in seawater. It has also been proven to be one of the best products for lightweight concrete design.

PRODUCT FEATURES/ ADVANTAGES:

- Concrete Strength Enhancement
- 100% waterproof and damp-resistant
- Improved flexural and tensile strength
- Chemical resistant
- Fire-resistant properties
- Corrosion protection for steel reinforcement
- Neutralizes Salinity in Sea Water (Salt Resistant)



Axion Totalcrete Polymer *(high-range super plasticizer)*

This is a 4-in-one chemical and water-resistant formulation that offers high tensile strength, with great adhesion to essential construction materials (Steel, Traditional Concrete etc.) yielding roads with a load-bearing capacity of 4,000 tons per square meter. Axion Totalcrete polymer provides cost saving of about 30% compared to conventional concrete and is 100% waterproof, fireproof, anti-fungal, damp-proof and prevents capillary actions. It can also be used for the enhancement of concrete in construction of concrete roads, swimming pools, flooring, water treatment Tanks, sewage tanks, oil and gas pipeline and gas stations. Overall Axion Totalcrete Polymer has proven to be an all-in-one stop shop for all concrete application. It can be used as a retarder, plasticizer, and a strength enhancer for concrete.



Axion Totalcrete Polymer *(high-range super plasticizer)*

PRODUCT USES:

- Used as a concrete admixture for waterproofing and improving the tensile strength of concrete
- Casting of slabs, roof decks, concrete floors, swimming pools, water treatment tanks, sewage tanks, etc.
- General concrete works
- Plastering works
- Crack resistant concrete
- Best for ready mix concrete
- Ability to travel with concrete

PRODUCT FEATURES/ ADVANTAGES:

- Waterproof & Fireproof
- Longer Life Expectancy
- Neutralizes Salinity in Sea Water (Salt Resistant)
- More Load Bearing Capacity
- Save on Steel Reinforcement Costs
- Asphalt Layers Can Be Added To It
- Not Affected By Oil And Fuel Spillage
- Repair Old Damaged Concrete
- Flexibility



Axion Totalcrete Polymer (*Liquid Cement*)

TOTALCRETE POLYMER (Liquid Cement) is a high-performance super plasticizer formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively. This effect can be used in high-strength concrete mixes to improve workability, increase ultimate strengths or facilitate a reduction in the cement content while sustaining and improving mix properties.

PRODUCT USES:

- Used as a concrete admixture for waterproofing and improving the tensile strength of concrete
- Casting of slabs, roof decks, concrete floors, swimming pools, water treatment tanks, sewage tanks, etc.
- Improvement of all concrete works
- 100% waterproof Plastering , Screed-Plastering, Block moulding and Tiling works
- Crack resistant concrete

PRODUCT FEATURES/ ADVANTAGES:

- Allows for high-strength production without excessive cement contents.
- Suitable for plastering, tiling and concrete works
- Improved workability reduces placing and compaction problems.
- Cement saving without affecting strength.
- Accelerates cement setting time
- Minimizing segregation and bleeding problems by improving cohesion.
- More durable concrete as a result of reduction in permeability and lower water-to-cement ratio.



AXTRA QUICK FIX

Asphaltic Concrete Liquid Binder

(Cold Asphalt)

Axtra Quick Fix (Cold Asphalt) is a 100% waterproof bituminous Binder (PMB) designed for multi-purpose use. It can be used as an asphalt binder for cold fixes for roads, compounds, etc., and also used as a bituminous felt for wall and floor waterproof coating.

It can be used to coat roof decks, roof gutters, and general surface waterproofing.

PRODUCT FEATURES/ ADVANTAGES:

- It does not require construction professionals or expensive contractors to implement.
- Creates job opportunities for youths just after a day's training.
- It does not require any special material or design to make an asphaltic concrete Road.
- Must not use expensive construction equipment (asphalt Plant) for mixing.
- Hot Asphalts are quite hazardous and requires
- lots of workers and machineries to implement.
- It is cost effective



Axion Hydroshield Poly Bond

Axion Hydroshield Poly Bond is a high-performance polymer-modified screed adhesive and waterproofing compound developed for use in combination with any conventional screed material (Screeding Paint or Cement). It is formulated to produce 100% waterproof, damp-resistant, and weather-resistant screeding for interior and exterior applications.

PRODUCT FEATURES/ ADVANTAGES:

- 100% Waterproof, Damp-proof & Anti-Fungi
- Longer Life Expectancy
- Can be combined with any conventional screeding materials (screeding paint and cement)
- Reduces cracking and shrinkage
- Excellent adhesion
- Saves cost

RECOMMENDED USES:

- Interior and exterior wall screeding and rendering
- Waterproofing in wet areas (bathrooms, kitchens, balconies, terraces)
- As a bonding agent for cement-based screeds



Totalcrete /Tuffcrete Cement & Axion Hydroshield Direct Screed Bond/Putty Combo

This product combination is a chemical formulation specially designed for tiling and screeding. It is 100% water proof and does not require the addition of any other product (Tile Gum, Cement or Top Bond) for its application

Axion Totalcrete/Tuffcrete cement & Axion Hydroshield Direct Screed Bond/Putty combo can also be used for All-in-one Screed Plastering, Water Proofing, Antifungal, Crack Proof, Fireproof, Foundation protection (DPC), Swimming Pools, Outside Decks, Tile Gum, Grouting, Damp Treatments, etc.

PRODUCT FEATURES/ ADVANTAGES:

- 100% Waterproof, Damp-proof & Anti-Fungi
- Longer Life Expectancy
- Does not require any other products for its application (Tile Gum, Cement, or Top Bond)
- Covers an area of over 45-50 square meters
- Saves cost



Exterior Screeding



Interior Screeding

Axion Polycoat Marbluxe Paint (for decorative coating, screeding and painting)

Polycoat Marbluxe Paint is a premium, high-build decorative coating, screeding, and painting technology engineered for luxurious, high-end wall and floor surface applications. It is 100% waterproof and anti-slip; it delivers a stunning marble-like finish while providing outstanding durability and surface protection.

Polycoat Marbluxe Paint can be combined with Axion Totalcrete or Tuffcrete cement to deliver enhanced coating thickness, superior mechanical strength, improved safety performance, and premium customized textured finishes. It can also be used alone as a premium decorative finishing paint developed specifically for high-end wall and floor painting applications, delivering that same luxurious marble-like appearance alongside outstanding durability and surface protection.

Axion Polycolor Marbluxe Paint is available in a wide range of vibrant and customized colors, allowing for creative design flexibility suitable for both external and internal use; it offers long-lasting protection and aesthetic appeal across a wide range of residential, commercial, and industrial applications.

PRODUCT FEATURES/ ADVANTAGES:

- Cost Effective
- Anti Corrosion and Erosion
- Damp Resistant and Water Proof
- Crack Resistant
- Light Weight Coating
- Anti-Fungal
- High Abrasion



Axion Polycoat Marbluxe Paint (for decorative coating, screeding and painting)

PRODUCT USES:

- Interior and Exterior Painting
- Coloured Floor Coat Indoor/Outdoor
- Exposed Roof Decks
- Warehouse Floors.
- Balcony
- Drive Ways
- Retaining Walls
- Fleting
- Pile Cap Coating (Bridges)
- Steel Coating
- Gypsum board coating against water damage
- Polystyrene Coating etc.

AVAILABLE COLOURS:

- White
- Off-White
- Yellow
- Brown
- Black
- Grey
- Neutral



Solid Base Stabilizer (SBS) Test Result



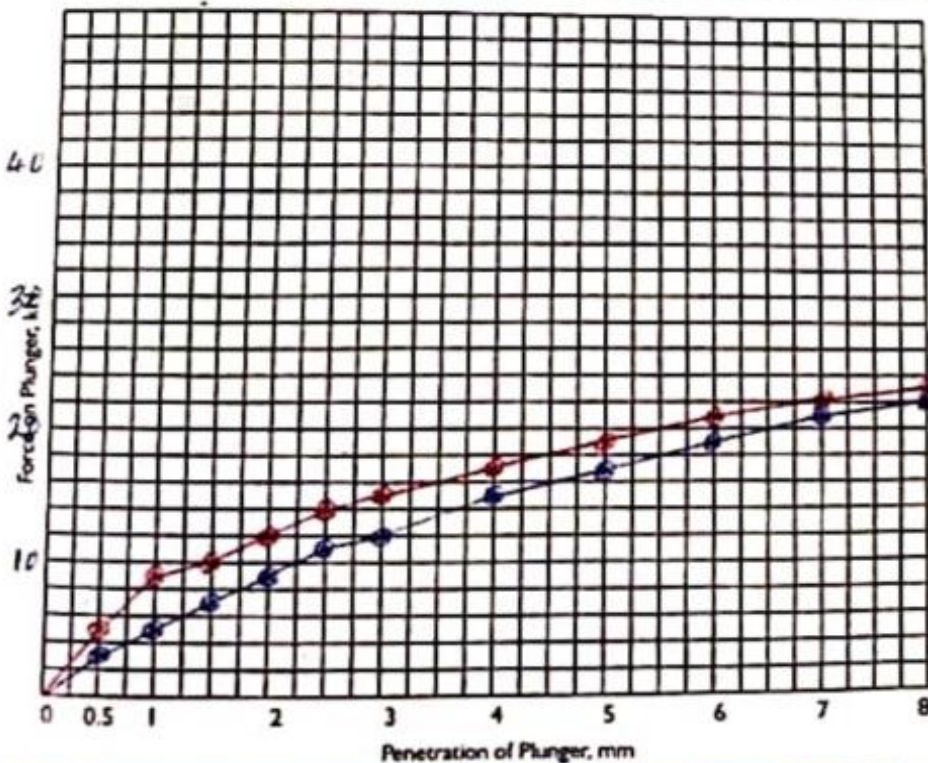
CALIFORNIA BEARING RATIO TEST

Project: Matamoras Site Location: _____
 Chapter: _____ Boring No. _____ Sample No. _____
 Description of Soil: Stabilized material with Axion Stabilizer
 Test Performed by: _____ Date of Test: 31-5-2013

TEST DATA

Density Determination		Moisture Content		Proctor Information	
Mold No.	11	Can No.	47 69	Method	
Wt. of Wet Soil + mould (g)	12507	Wt. of Soil + Can	95.1 95.4	O.M.C.	
Wt. of Mould (g)	5686	Wt. of Dry Soil + Can	86.8 87.1	HDD	
Wt. of wet sample (g)	4821	Wt. of Water	8.3 8.3		
Volume of Mould (cm ³)	2302	Wt. of Can	36.1 36.3	P.R.F.	0.222
Wet Density (g/cm ³)	2.09	Wt. of Dry sample	50.8 50.8	Piston Area	19.4
Moisture Content %	16.3	Moisture content	16.3 16.3		
Dry Density (g/dm ³)	1.80				

Penetration mm.		0.5	1	1.5	2	2.5	3	4	5	6	7	8
Top	Dial Reading	13.9	22.4	31.2	40.0	49.8	59.6	66.1	76.4	84.6	92.5	99.6
	Force KN	3.00	4.97	6.53	8.55	11.1	12.3	14.7	17.0	18.8	20.9	22.1
Bottom	Dial Reading	21.3	38.4	45.6	55.0	63.5	68.9	77.4	85.5	92.4	98.0	105.0
	Force KN	4.79	8.52	10.1	12.2	14.1	15.3	17.2	19.0	20.5	21.9	23.3



Expansion After Soak	
Initial Reading	
Final Reading	
Expansion	
Expansion After Soak %	

Period of Soaking

Results	
Moist. Cont. before Soaking %	
Moist. Cont. after Soaking %	
Dry Density g/cm ³	
Expansion after Soaking %	T.P. 100.0
C.B.R. @ 2.5 mm	93.8 106.5
C.B.R. @ 5.0 mm	85.2 95.2
Ave C.B.R.	106.5

6/13
Date

ADS
Tested by

Checked by

Client Rep.

Solid Base Stabilizer (SBS) Test Result by Dantata & Sawoe Construction Company

TYPE OF MARTERIAL	SAMPLED AT	LL	PI	SIEVE 200	Soil Class	CBR UNSOAKED		% Increased	CBR UNSOAKED AFTER 7 DAYS(with Stabiliser)
						WITHOUT STABILISER	WITH STABILISER		
BASE COURSE	BORROW PIT	28	6.6	18	A-2	88.7	104.5	15.8	
FILL MATERIAL	SITE	30.2	11.7	30.6	A-2	11	42.1	31.1	109.7

- Two types of materials were tested to determine the effect of Base stabiliser in CBR. One is base and the other is fill quality.
- CBR of these materials were determined in Unsoaked condition since the intended usage of the materials are for Base layer.
- As shown in the table above, the CBR value of the base material without Stabiliser already met the required CBR value of base course which is min of 80% whilst the Fill material has 11% only.
- After treating both materials with Base Stabiliser with a dosage of 1liters Stabiliser to 300liters of water, CBR value increased by 16% to 31%.
- Manufacturer gave instruction that material treated with stabiliser must be tested for CBR at 28days in unsoaked condition which we deemed too long that's why we come up testing it after 7days

Note:

- 1.) No doubt that there is positive effect in CBR after treating the materials with Base stabiliser, even achieving more than 80% CBR after 7 days in unsoaked condition. However, testing CBR after 7days in unsoaked condition is not part of Nigerian Specification unless it is required by Engrs or recommended by the manufacturer with written approval of Engr representative



Axion Bitumen Booster (ABB) Test Result

CMTENGINEERING
LABORATORIES

Construction * Materials * Technologies
Geotechnical, Environmental, & Materials Engineering/Testing/Research

CMT ID: AE 448

Patrick O'keke, Esq.

Axion Global Engineering Ltd/

Federal ministry of works,

Mabuchi, Abuja. Nigeria

Project Info: Rheological property determination of different blends of PG 64-22 with given polymers

Gentlemen,

CMT Engineering Laboratories was requested to perform a binder design utilizing Axion Bitumen Booster (P) and (L). The intent was to design a binder with a top end PG grading on 64 minimum, an elastic recovery of 50% minimum and to pass a Hamburg Rutting test on 10mm maximum. An unmodified binder was selected from a local supplier to begin this process, please reference the test data for the material performance.

Test Required:

1. Prepare Polymer Modified Blends of Unmodified PG 64-22 with Axion Bitumen Booster (P) and (L) in following proportions;
 - A. PG 64-22 + 3% Axion Bitumen Booster (P)
 - B. PG 64-22 + 3% Axion Bitumen Booster (P) + 0.25% Axion Bitumen Booster (L)
 - C. PG 64-22 + 3% Axion Bitumen Booster (P) + 0.50% Axion Bitumen Booster (L)
2. Perform DSR Original (AASHTO T 315) on PG 64-22 and three Polymer modified blends
3. Perform Elastic Recovery (AASHTO T301) on RTFO Aged Residues (AASHTO T 240)

TEST	Temp	Method	SPECIFICATION	REPORT	RESULT
<u>ORIGINAL BINDER</u>					
<u>BASE ASPHALT PG 64-22</u>					
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	64 ⁰ C	T315	Min. 1.0 kPa	1.25	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	70 ⁰ C	T315	Min. 1.0 kPa	0.592	Fail
Tc (High) Original = 65.8⁰ C					
<u>PG 64-22 + 3% AXION BITUMEN BOOSTER (P)</u>					
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	64 ⁰ C	T315	Min. 1.0 kPa	3.17	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	70 ⁰ C	T315	Min. 1.0 kPa	1.64	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	76 ⁰ C	T315	Min. 1.0 kPa	0.887	Fail
Tc (High) Original = 74.8⁰ C					
<u>PG 64-22 + 3% AXION BITUMEN BOOSTER (P) + 0.25% AXION BITUMEN BOOSTER (L)</u>					

Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	64 ⁰ C	T315	Min. 1.0 kPa	3.89	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	70 ⁰ C	T315	Min. 1.0 kPa	2.09	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	76 ⁰ C	T315	Min. 1.0 kPa	1.16	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	82 ⁰ C	T315	Min. 1.0 kPa	0.676	Fail

Tc (High) Original = 77.7⁰ C

PG 64-22 + 3% AXION BITUMEN BOOSTER (P) + 0.5% AXION BITUMEN BOOSTER (L)

Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	64 ⁰ C	T315	Min. 1.0 kPa	4.77	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	70 ⁰ C	T315	Min. 1.0 kPa	2.60	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	76 ⁰ C	T315	Min. 1.0 kPa	1.46	Pass
Dynamic Shear, $G^*/\sin \delta$, 10 rad/sec	82 ⁰ C	T315	Min. 1.0 kPa	0.843	Fail

Tc (High) Original = 80.1⁰ C

ROLLING THIN FILM OVEN(T240)

BASE ASPHALT PG 64-22

Elastic Recovery, %	25 ⁰ C	T301	6.0
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PG 64-22 + 3% AXION BITUMEN BOOSTER (P)

Elastic Recovery, %	25 ⁰ C	T301	75.0
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PG 64-22 + 3% AXION BITUMEN BOOSTER (P) + 0.25% AXION BITUMEN BOOSTER (L)

Elastic Recovery, %	25 ⁰ C	T301	79.0
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PG 64-22 + 3% AXION BITUMEN BOOSTER (P) + 0.5% AXION BITUMEN BOOSTER (L)

Elastic Recovery, %	25 ⁰ C	T301	79.0
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REPORT AND ANALYSIS:

1. Based on Original DSR,
 - a) PG 64-22 is graded at PG 64-XX. The True Grade is 65.8⁰C
 - b) PG 64-22 + 3% Axion Bitumen Booster (P) is graded at PG 70-XX. The true grade is 74.8⁰C
 - c) PG 64-22 + 3% Axion Bitumen Booster (P) + 0.25% Axion Bitumen Booster (L) is graded at PG 76-XX. The true grade is 77.7⁰C
 - d) PG 64-22 + 3% Axion Bitumen Booster (P) + 0.50% Axion Bitumen Booster (L) is grade at PG 76-XX. The true grade is 80.1⁰C.

The finished blend was delivered to the laboratory to be blended into asphalt for Hamburg testing, the following is an outline of the material properties:

A local aggregate was selected that has failed the Hamburg test in the past, this aggregate was chosen because we wanted to avoid an asphalt mixture which would have passed without any modification.

The following is an outline of the asphalt properties as tested:

Blender Content	=5.3% by wt. of mix	
RAP Content	=None	
Air Void Content	=7.3%	Pass
Average Rutting Depth	=3.10mm	Pass

Gradation	
Screen	Percent Passing
3/4"	100
1/2"	99
3/8"	82
#4	48
#8	34
#16	17
#30	11
#50	9.1
#100	7.7
#200	5.3

If you have any questions, please don't hesitate to contact me.

Sincerely

Douglas Weller
President

Axion Tuffcrete Cube Compression Test Result



LAFARGE READY MIX NIGERIA CUBE COMPRESSION TEST REPORT

(Method:BS EN 12390-2000)

Project: Trail mix	
Client:	Site:
Contractor:	Location:
Date of Pour: 11-Feb-21	
Mix No.: Black Axion Powder	Mix Grade: C30
Placing Method	Cube curing
☐ Pump	☐ Curing agent
☐ Chute	☒ Water cured
☐ Bucket	☐ Dry cured
☐ Others	☐ Others

SLUMP (mm):

7 Days AREA (mm²):22500

Mark on cubes	Date of Testing	Age (Days)	Size of cube(mm)	Weight (Kg)	Density (Kg/m ³)	Load (KN)	Strength (N/mm ²)
1	18-Feb-21	7	150x150x150	8.15	2415	418.5	18.6
2	18-Feb-21	7	150x150x150				
3	18-Feb-21	7	150x150x150				
Average			150x150x150	8.15	2415	418.5	18.6

28 Days

Mark on cubes	Date of Testing	Age (Days)	Size of cube(mm)	Weight (Kg)	Density (Kg/m ³)	Load (KN)	Strength (N/mm ²)
4	11-Mar-21	28	150x150x150	8.23	2439	738.0	32.8
5	11-Mar-21	28	150x150x150				
6	11-Mar-21	28	150x150x150				
Average			150x150x150	8.23	2439	738.0	32.8

Cube Cast by:
Mr Ogunjobi

Concrete Cube Compression Test Report - EN 12390:3

Customer Name	AXION
Project Name	TM 1 (PLANT)
Project Address	DANGOTE RIFINERY ROAD

Mix Code		Commercial Name	C28/35-S1-22mm		
Cast Date	April 5, 2024	Structural Member	ROAD PAVEMENT		
Identity No		Slump (mm)	45-60	Flow (mm)	N/A
Sampling Location	HITEC REFINERY	Spot Sample		Composite Sample	
Curing Method	Water Immersion				

Sample Number	Testing Date	Age (Days)	Cube Size (mm)	Weight (kg)	Density (kg/m3)	Load (KN)	Strength (N/mm2)
PT 56455	12-Apr-24	7	150x150x150	8.300	2459	527.59	23.5
PT 56456	12-Apr-24		150x150x150	8.270	2450	640.68	28.5
PT 56457	12-Apr-24		150x150x150	8.330	2468	594.65	26.5
Average				8.30	2459	587.64	26.2

Sample Number	Testing Date	Age (Days)	Cube Size (mm)	Weight (kg)	Density (kg/m3)	Load (KN)	Strength (N/mm2)
PT 56458	3-May-24	28	150x150x150	8.190	2427	798.31	35.5
PT 56459	3-May-24		150x150x150	8.250	2444	884.75	39.5
PT 56460	3-May-24		150x150x150	8.200	2430	859.32	38.0
Average				8.21	2434	847.46	37.67

Tested By:		LAFARGE AXION PORT HAITONG PLANT  Signature	
	Name		Date

Concrete Cube Compression Test Report - EN 12390:3

Customer Name	AXION
Project Name	TM 3 (BABY MIXER, WITH AXION PRODUCT)
Project Address	DANGOTE RIFINERY ROAD

Mix Code		Commercial Name	C28/35-S1-22mm		
Cast Date	April 6, 2024	Structural Member	ROAD PAVEMENT		
Identity No		Slump (mm)	50	Flow (mm)	N/A
Sampling Location	HITEC REFINERY	Spot Sample		Composite Sample	
Curing Method	Water Immersion				

Sample Number	Testing Date	Age (Days)	Cube Size (mm)	Weight (kg)	Density (kg/m3)	Load (KN)	Strength (N/mm2)
PT 56455	13-Apr-24	7	150x150x150	8.330	2468	777.92	34.5
PT 56456	13-Apr-24		150x150x150	8.300	2459	859.32	38.0
PT 56457	13-Apr-24		150x150x150	8.420	2495	920.52	41.0
Average				8.35	2474	852.59	37.8

Sample Number	Testing Date	Age (Days)	Cube Size (mm)	Weight (kg)	Density (kg/m3)	Load (KN)	Strength (N/mm2)
PT 56458	4-May-24	28	150x150x150	8.490	2516	1031	46.0
PT 56459	4-May-24		150x150x150	8.380	2483	1062.6	47.0
PT 56460	4-May-24		150x150x150	8.290	2456	1041.6	46.5
Average				8.39	2485	1045.07	46.50

Tested By:	TRIMBLE READING INC LTD PORT HARCOURT PLANT  Signature: _____	Date
	Name	



Request no : AXION A5
Client : Axion Africa
Dei-Dei International Building
Material, Market Abuja.
Opposite Panteka

Date reported : 10-05-2024

Project : DANGOTE FERTILIZER TO ELEKO JUNCTION

Attention : Axion Africa

Compressive Strength of Concrete Cubes [TMH1 - D1, D3, ASTM C293]

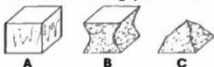
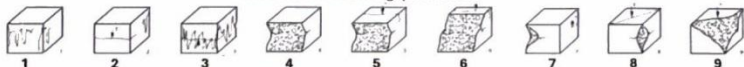
Date Received :	06-04-2024	Structure / Element :	CRCP
Date in Water :	07-04-2024	Location :	REFINERY SECTION 1 LABORATORY
Cubes Made By :		Concrete Supplier :	MIXER AT LABORATORY
Cubes Tested By :		Delivery Note No :	
Specified Strength (MPa) :	C35	Truck Reg. Number :	
Specified Slump :	60 mm	Environmental Condition :	SUNNY AND HOT
Measured Slump :	40 mm	Curing Tank Temp :	26 °C
Engineer's Specification :		Press Serial No :	
Balance Number :		Correction Factor :	1.000

7 Day Compressive Strength

Lab Number	Cube Mark	Date Cast	Date Tested	Age Days	Break Pattern	Flatness	Mass	Apparent Density	Dimension		Load	Compressive Strength
									Length	Width		
A	1	06-04-2024	13-04-2024	7	A		8211	2433	150.00	150.00	859	38.2
B	2	06-04-2024	13-04-2024	7	A		8175	2422	150.00	150.00	840	37.3
C	3	06-04-2024	13-04-2024	7	A		8130	2409	150.00	150.00	845	37.5
Average									150.00	150.00	848 kN	38.0 MPa
Standard Deviation									0.0	0.0	10.2	0.5

28 Day Compressive Strength

Lab Number	Cube Mark	Date Cast	Date Tested	Age Days	Break Pattern	Flatness	Mass	Apparent Density	Dimension		Load	Compressive Strength
									Length	Width		
D	4	06-04-2024	04-05-2024	28	A		8194	2428	150.00	150.00	1021	45.4
E	5	06-04-2024	04-05-2024	28	A		8205	2431	150.00	150.00	995	44.2
F	6	06-04-2024	04-05-2024	28	A		8169	2420	150.00	150.00	997	44.3
Average									150.00	150.00	1004 kN	45.0 MPa
Standard Deviation									0.0	0.0	14.4	0.6

Standard breaking patterns**Unusual breaking patterns****Deviation from test method :**

Remarks and notes : CRCP MIX DONE WITH AXION AFRICA LIQUID POLYMER ADDED

The samples were subjected to analysis according to (COLTO) (TMH1) (BS) (ASTM) (TMH5)

The test results reported relate to the sample tested.

Further use of the above information is not the responsibility or liability of Hitech Construction.

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Report compiled by : Christiaan Jordaan

Report program v13.10.1 (01-04-2024)

Christiaan Jordaan
Ground / Field Manager

Axion Tuffcrete Water Penetration Test Result

AXION TRIAL MIX					
ITB BAR-BEACH					
DATE : 20-4-2024					
CUBE No	3	3			
	WATER PENETRATION (mm)				
	18.23	22.90			
	20.95	16.04			
	17.11	15.42			
	15.53	13.61			
	17.43	10.55			
	16.46	9.81			
AVERAGE	17.62	14.72	0	0	

FEDERAL MINISTRY OF WORKS
MATERIALS, GEOTECHNICS & QUALITY CONTROL
15, AWOLOWO ROAD, IKOYI, LAGOS STATE

TEST SHEET FOR COMPRESSION TEST ON CONCRETE CUBES				REF NO:			
DATE OF CASTING : 04/06/24				DESTINATION: OFFICE(Abuja)			
WHERE USED: TRIAL MIX(NON – CHEMICAL)							
SAMPLE NO: DATE OF DELIVERY: 02/07/24 MIXING TIME: TIME CUBE MADE:				DATE IN WATER: 05/06/24 DATE OUT OF WATER: 02/07/24 AGE OF CUBE: 28 DAYS			
DETAILS OF MIX:							
METHOD OF CURING: DIMENSION IN WATER							
CONCRETE CLASS: C-35			PSI =		N/MM ² : 35.2 N/MM ²		
_____ ADESHOLA I Officer Completing Test _____ Cubes made by Client							
TEST RESULTS							
Mark on Cubes	Date of testing	Age of Testing	Size of Cube(mm)	Weight of cubes (kg)	Density kg/m ³	Crushed at KN	Strength N/mm ²
1	02/06/24	28 DAYS	150X150X150mm	8.26	2.477	800	35.6
2				8.25	2.444	810	36.0
3				8.67	2.569	766	34.0
AVERAGE STRENGTH : 35.2 N/MM ²				MINIMUM STRENGTH : 34.0 N/MM ²			
_____ SATISFACTORY _____ Approved by Client							

FEDERAL MINISTRY OF WORKS
MATERIALS, GEOTECHNICS & QUALITY CONTROL
15, AWOLOWO ROAD, IKOYI, LAGOS STATE

TEST SHEET FOR COMPRESSION TEST ON CONCRETE CUBES				REF NO:			
DATE OF CASTING : 30/05/24				CONTRACTOR: AXION AFRICA			
DETAILS: TRIAL MIX (WITH CHEMICAL).							
SAMPLE NO:				DATE IN WATER: 31/05/24			
DATE OF DELIVERY: 13/06/24				DATE OUT OF WATER: 13/06/24			
MIXING TIME:				AGE OF CUBE: 14 DAYS			
TIME CUBE MADE:							
DETAILS OF MIX:							
METHOD OF CURING: COMPLETE IMMERSION IN WATER							
CONCRETE CLASS: C-35			PSI =		N/MM ² : 37.6N/MM ²		
_____ Cubes made by <u>ADESHOLA J</u> Officer Completing Test _____ Client							
TEST RESULTS							
Mark on Cubes	Date of testing	Age of Testing	Size of Cube(mm)	Weight of cubes (kg)	Density kg/m ³	Crushed at KN	Strength N/mm ²
1	13/06/24	14 DAYS	150X150X150mm	8.68	2.572	830	36.9
2				8.15	2.415	807	35.9
3				8.02	2.316	900	40.0
AVERAGE STRENGTH : 37.6 N/MM ²				MINIMUM STRENGTH : 35.9N/MM ²			
_____ Approved by SATISFACTORY _____ Client							

FEDERAL MINISTRY OF WORKS
MATERIALS, GEOTECHNICS & QUALITY CONTROL
15, AWOLowo ROAD, IKOYI, LAGOS STATE.

SUMMARY TABLE
CONCRETE GRADE 35(Mix ratio 1:1:5:3)

TRIAL MIX (WITH CHEMICAL)	AVERAGE STRENGTH(N/MM ²)	TRIAL MIX (NON-CHEMICAL)	AVERAGE STRENGTH(N/MM ²)
3 DAYS(14.0N/MM ²)	31.9N/MM ²	3 DAYS(14.0N/MM ²)	24.0N/MM ²
7 DAYS(22.75N/MM ²)	36.0N/MM ²	7 DAYS(22.75N/MM ²)	28.2N/MM ²
14 DAYS(31.5N/MM ²)	37.6N/MM ²	14 DAYS(31.5N/MM ²)	30.7N/MM ²
28 DAYS(35N/MM ²)	43.2N/MM ²	28 DAYS(35N/MM ²)	35.2N/MM ²
SLUMP(10-60)mm	20mm	SLUMP(10-60)mm	20mm

Axion Products Approval by Federal Ministry of Works

THIS DAY MONDAY OCTOBER 20, 2014

51



FEDERAL MINISTRY OF WORKS

COMMUNIQUE OF THE 21ST NATIONAL COUNCIL ON WORKS HELD AT THE DELTA STATE GOVERNMENT EVENT CENTRE, ASABA, DELTA STATE FROM OCTOBER 12 TO 17, 2014

- (20) Council approved the use of stabilizers and bitumen booster already being implemented by the Federal Ministry of Works as a means of improving the durability of road pavement, as well as reducing cost of road construction in the country.
- (21) Council directed Ministries in charge of roads to collaborate with universities and Research centres towards utilization of research findings as well as to consciously refer to the office of the Surveyor General of the Federation and State Surveyor-General for permanent data, being the repository for such data.

The 21st Meeting of the National Council on Works with the theme "Funding Road Development in Nigeria: A Panacea for Economic Transformation" was held at the Delta State Government Event Centre, Asaba, Delta State, from Sunday 12th to Friday 17th October, 2014. The meeting was declared open by His Excellency, the Deputy Governor of Delta State, Prof. Amos Utanna (SAN) on behalf of His Excellency, Dr. Emmanuel Ewela Uduaghan CON, Executive Governor of Delta State.

Meeting of the Technical Committees, as well as a meeting of the Permanent Secretaries preceded the Council Meeting which was presided over by Arc. Mike Oziegbo Onolemen, CON.

Present at the Council meetings were distinguished members of the National Assembly led by the Chairman, House Committee on Works, Hon. Oguweli Ozoigbo; the Honourable Minister of Works, Arc. Mike Oziegbo Onolemen, CON; Permanent Secretary, Federal Ministry of Works, Dr. A. K. Muhammad, CON; Honourable Commissioners of Works and their Permanent Secretaries from the 36 States of the Federation. Others were the Directors in the Federal Ministry of Works, Directors/Officials of other Federal and State Ministries, Departments and Agencies (MDAs), as well as Stakeholders in the Road Sector.

(17) Council noted that the Contractor-Finance Model of funding road infrastructure has not been fully developed in the country and urged the use of this model for road projects and directed for the review of the provisions of the Construction Policy to promote greater participation of indigenous contractors in the road sector in line with the Local Content Policy.

(18) Council recognised the importance of data to planning for road development, and accordingly adopted the creation of Road Asset Management System (RAMS) as a tool for project planning, budgeting and prioritization.

(19) Council recognized tolling of roads and bridges as a veritable source of funding Road Development and noted that the Federal Ministry of Works had already carried out series of sensitization workshops to elicit stakeholders buy-in.

(20) Council approved the use of stabilizers and bitumen booster already being implemented by the Federal Ministry of Works as a means of improving the durability of road pavement, as well as reducing cost of road construction in the country.

(21) Council directed Ministries in charge of roads to collaborate with Universities and Research Centres towards utilization of research findings, as well as to consciously refer to the Office of the Surveyor General of the Federation and State Surveyors-General for pertinent data, being the repository for such data.

MEMO NO. NCW(2014)DEL/17

**USE OF STABILIZERS TO IMPROVE THE QUALITY AND COST OF
ROADS**

In pursuance to the improvement of the quality of federal road network, the federal ministry of works in collaboration with the Universities, Research Institutions and Consultants have tested and approved a number of Stabilizers to be incorporated in road construction. Some of these materials were successful in the stabilization of Black Cotton soil and other troublesome subgrade materials.

The tested materials :

- i. Axion Soil Stabilizer/Axion Bitumen Booster,

Prayer

Council is invited to note the importance of the new stabilizers for road works as it improves the quality and cost road work: and approve the use of these Stabilizers for road construction in projects executed by the ministry of works in Nigeria.

FEDERAL MINISTRY OF WORKS

HIGHWAYS MATERIALS, GEOTECHNICS & QUALITY CONTROL DEPARTMENT

HEADQUARTERS, MABUSHI – ABUJA

P.M.B. 111, GARKI

TELEGRAMS:.....HONWORKS



Ref. No. FMW/HMGQC/AXI/ADMIX/VOL.I/54

Date: 18th October, 2024

The Managing Director/CEO,
Messrs Axion Express Engineering Ltd,
10ATF Kuboye Road, Oniru Lekki Phase 1,
Lagos, Nigeria.

Sir,

USE OF BITUMEN BOOSTER, SOLID BASE STABILIZER AND TUFFCRETE POLYMER MATERIALS.

I am pleased to convey the Hon. Minister's approval for the Ministry to fully incorporate the application of the above mentioned materials in our Bill of Engineering Measurements and Evaluation (BEME) in the construction of both flexible and rigid pavements on roads and bridges in Nigeria.

2. You are therefore enjoined to ensure that the approved products are adequately supplied to meet possible large scale demand for use in the construction of our roads and bridges.
3. You are further advised to ensure that the materials being supplied continue to meet international standards.


Engr Francis A. Ejim
Deputy Director Highways (MG&QC)
For: Honourable Minister

THANK
YOU!

CONTACT INFORMATION



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Some of Our Clients



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CONSTRUCTION COMPANY LIMITED



BLACK DIAMOND
—ENGINEERING—

BILALAD
REALTY





AXION DECORATIVE COLOURED WALL AND FLOOR PAINTING & COATING



Technical Data Sheet: *Polycoat Marbluxe Paint* (for decorative coating, screeding and painting)

DESCRIPTION:

Polycoat Marbluxe Paint is a premium, high-build decorative coating, screeding, and painting technology engineered for luxurious, high-end wall and floor surface applications. It is 100% waterproof and anti-slip; it delivers a stunning marble-like finish while providing outstanding durability and surface protection.

Polycoat Marbluxe Paint can be combined with Axion Totalcrete or Tuffcrete cement to deliver enhanced coating thickness, superior mechanical strength, improved safety performance, and premium customized textured finishes. It can also be used alone as a premium decorative finishing paint developed specifically for high-end wall and floor painting applications, delivering that same luxurious marble-like appearance alongside outstanding durability and surface protection.

Axion Polycolour Marbluxe Paint is available in a wide range of vibrant and customized colors, allowing for creative design flexibility suitable for both external and internal use; it offers long-lasting protection and aesthetic appeal across a wide range of residential, commercial, and industrial applications.

ADVANTAGES:

- 100% waterproof and damp-resistant
- Anti-slip surface performance

- High-build coating with enhanced thickness
- Superior mechanical strength
- Excellent adhesion to prepared substrates
- Durable and abrasion resistant
- Resistant to cracking, peeling, and delamination
- Fast Setting
- Full decorative control
- Interior and exterior use

PACKAGING:

- Axion Polycolour Marbluxe Paint is available in 30kg.

AVAILABLE COLOURS:

- White
- Off-White
- Yellow
- Brown
- Black
- Grey
- Neutral Polish & Sheen

RECOMMENDED SUBSTRATES:

- Concrete Surfaces
- Cement Screeds
- Rendered Walls
- Masonry Blocks
- Polystyrene Boards
- Metal Surfaces
- Gypsum Board Coating Against Water Damage
- Floors

USES:

- Decorative coloured wall and floor coating, screeding and painting (interior/exterior)
- Exposed roof decks
- Warehouse floors.
- Balcony
- Retaining walls
- Drive ways
- Crack treatments
- Pile cap coating (bridges)
- Steel coating
- Polystyrene coating etc.

MIX METHOD:

- Before use, Mix thoroughly.

APPLICATIONS:

1. 100% WATERPROOF WALL COATING

Product Combo	Polycoat Marbluxe Paint + or Tuffcrete Cement
Mix Ratio	1 bucket of Polycoat Marbluxe Paint (30kg) : 1 bag of tuffcrete Cement (20kg)
Mode of Application	Applied using trowel



2. 100% WATERPROOF FLOOR COATING

Product Combo	Polycoat Marbluxe Paint + Totalcrete Cement
Mix Ratio	1 bucket of Polycoat Marbluxe Paint (30kg) : 1 bag of totalcrete Cement (20kg)
Mode of Application	Applied using trowel



After the coating process, apply Axion Polycoat Marbluxe Paint with any cement combination to achieve the desired colour finish.

3. 100% WATERPROOF WALL AND FLOOR PAINTING



<i>Product Combo</i>	<i>Axion Polycoat Marbluxe Paint</i>
<i>Mode of Application</i>	<i>Applied using trowel, roller, or spray depending on finish requirement.</i>

COVERAGE:

Painting: 50 SQM

Coating: 20 SQM

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Polycoat Marbluxe Paint is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. For further information refer to the material safety data sheet. Polycoat Marbluxe Paint is nonflammable.

TECHINICAL ADVICE:

Call RTT Sealant: (+1)416-414-4285, (+1)473-406-5336

Email RTT Sealant: www.axioncanada.com

Prepared by: Axion Construction Solutions Inc.

Preparation date: 24th August 2024

TECHINICAL ADVICE:

Customers are advised to consider the information in this data sheet in the context of how the product will be used, including surfaces and any other products used. The information provided in this data sheet represents our best scientific and practical knowledge. Any advice, information or assistance provided by AXION in relation to its products is given in good faith, however is provided without liability or responsibility. Due to the wide variety of site conditions we are unable to assume liability for any loss that may arise from the use of our products. The user is responsible for checking the suitability of products for their intended use..

AXION TOTALCRETE POLYMER X

Water resistant polymer additive / bonding agent, to provide improved adhesion to concrete.



Description:

Axion Totalcrete Polymer X is a modified styrene butadiene emulsion which is supplied as a ready to use Milky-White liquid. It is designed to improve the qualities of site-batched cementitious mortars and slurries. Being resistant to hydrolysis, it is ideal for internal and external applications in conjunction with TT cement/ Ordinary Portland Cement (OPC).

Design Criteria:

The application parameters for mortars modified by the use of Axion Totalcrete Polymer X will differ depending on the actual mix design used. Generally, Axion Totalcrete Polymer X mortars can be applied in sections up to 40mm thickness in horizontal locations and up to 15mm in vertical locations. The thickness achievable in overhead locations without the use of formwork is largely dependent on the profile of the substrate. Vertical and overhead sections greater than those stated above may be built up in layers but may sometimes be possible in a single application dependent on the actual size and configuration of the repair area, and the volume of any exposed reinforcing steel. Axion Totalcrete Polymer X mortars should not be applied at less than 6mm thickness. Thicknesses up to 40mm in a single application can be achieved by the use of formwork.

Properties

Axion Africa, a division Axion Construction Solution Canada Inc.

Kleinburg Ontario
+1(437)881-6118
www.axionafrica.com

The results listed below were achieved by assessing the mechanical properties of a 3:1 sand:cement mortar containing Axion Totalcrete Polymer X in the proportions 4 litres per 20kg TT cement/OPC.

Colour	Milky White
Constituency	Low Viscosity Liquid
Compressive strength:	52 MPa
Tensile strength:	3.3 MPa
Flexural strength:	9 MPa
Slant shear bond:	53 MPa
VOC content:	29g / litre
Chemical resistance:	Cementitious materials have limited chemical resistance. The addition of Axion Totalcrete Polymer X to cement mortars reduces permeability and therefore helps reduce the rate of attack by aggressive chemicals, acid gases and water

Uses:

For improving and bonding concrete repair mortars, cementitious floor toppings and screeds, waterproof renders and cementitious slurries. Cementitious mortars are alkaline in nature and will protect embedded steel reinforcement. Mortars produced with Axion Totalcrete Polymer X may be used for horizontal, vertical and overhead repair work.

Mixing

Care should be taken to ensure that Axion Totalcrete Polymer X mortars are thoroughly mixed. A forced-action mixer is essential.

A wide range of mix designs is achievable using Axion Totalcrete Polymer X
Typical designs are detailed below:

1. **Heavy-duty floor screed:** 20kg TT Cement/OPC + 30kg 3mm to 6mm crushed rock + 30kg grade 16/30 sharp sand + 2.5 litres Axion Totalcrete Polymer X + 2.5 litres (approximately) clean water. The screed should be of a semi-dry cohesive consistency. Recommended thickness: 10mm - 40mm

2. **Patching and repair mortar:** 20kg TT Cement/OPC + 60kg grade 16/30 sharp sand + 4 litres Axion Totalcrete Polymer X + 3 litres (approximately) clean water. Recommended thickness: 6mm - 40mm
3. **Bonding mortar for tiles, etc:** 20 kg TT Cement/OPC + 50kg grade 16/30 sharp sand + 3 litres Axion Totalcrete Polymer X + 3 litres (approximately) clean water. Water is adjusted to give a firm mortar. Support where necessary until the mortar is set. Recommended thickness: 6mm to 40mm.
4. **Render:** 50kg TT Cement/OPC + 150kg grade 16/30 sharp sand + 15 litres Axion Totalcrete Polymer X + 15 litres (approximately) clean water. The render should be of a semi-dry cohesive consistency. Recommended thickness: 6mm - 9mm.

Note: these mix designs are based on the use of dry sand and aggregate. Adjustments must be made to the water demand relative to the moisture content of the sand and aggregate used.

Application Instructions:

Preparation

- Saw cut or cut back the extremities of the repair locations to a depth of at least 10mm to avoid feather-edging and to provide a square edge. Break out the complete repair area to a minimum depth of 6mm up to the sawn edge.
- Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting.
- Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should then be assessed by a pull-off test.
- Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit-blasting is recommended for this process.

- Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water immediately after grit-blasting to remove corrosion products from pits and imperfections within its surface.

Substrate priming:

- The substrate should be thoroughly soaked with clean water and any excess removed prior to commencement. A slurry primer should be prepared consisting of 1 volume Axion Totalcrete Polymer X to 1 volume clean water to 3 volumes fresh TT cement/OPC. To obtain a smooth consistency, the TT cement/OPC should be blended slowly into the premixed liquids. The slurry primer should be stirred frequently during use to offset settlement.
- The slurry primer should be scrubbed well into the surface of the concrete. Avoid applying too thickly and avoid 'puddling'. The repair mortar, topping or render must be applied on to the wet slurry primer. If the slurry primer dries before application of the mortar, it must be removed (ground off) and the area reprimed before continuing.
- In exceptional circumstances, e.g. where a substrate/repair barrier is required or where the substrate is likely to remain permanently damp Axion Totalcrete Polymer X bonding aid should be used. Contact Axion for further information.

Reinforcing steel priming:

- Weigh the TT cement/OPC, sand and, where required, aggregate into the mixer and dry blend together for 1 minute. With the machine in operation, add the pre-mixed Axion Totalcrete Polymer X and clean water. Continue mixing for 3 minutes to ensure complete dispersal into the sand and cement. Make any small adjustment to the quantity of clean water but do not significantly exceed the litreage shown above.
- Additional water should be kept to a minimum. Continue mixing up to a maximum of 5 minutes until a smooth and fully homogeneous consistency is achieved with the required workability and application properties. It is

critical that allowance is made for the moisture content of the sand and aggregate, particularly where they are stored on site.

Screed-Plastering:

Plastering mortar:

- Dilute 1litre of Axion Totalcrete Polymer X : 20Litres of Water
- With the diluted Axion Totalcrete Polymer X, Mix the cement and sand to form your plastering mortar. 30mins after plastering, mix the raw polymer with the TT cement thoroughly to make your screeding paste and screed immediately.

Screeding Paste:

- 20 Litres Axion Totalcrete Polymer X : 20kg of TT cement. mix gradually until the desired consistency is achieved.

It should also be noted that, due to the frequent inconsistencies of site-stored materials and variable conditions, actual yields and results may differ from those published above.

Application

For application to all surfaces, Axion Totalcrete Polymer X mortars, toppings and renders must be well-compacted on to the primed substrate by trowel. It is frequently beneficial to work a thin layer of the mortar into the slurry primer and then build the mortar on to this layer. Exposed steel reinforcement should be completely encapsulated by the mortar.

Axion Totalcrete Polymer X mortars can be applied at a minimum thickness of 6mm and up to 40mm thickness, dependent on the location and configuration of the repair zone. The thickness achievable in overhead locations without the use of formwork is largely dependent on the profile of the substrate. Refer to the recommended thicknesses shown in the 'Mix design' section above. If the recommended thickness is exceeded and sagging occurs, the affected section

must be completely removed and reapplied in accordance with the procedure described above. The use of formwork may facilitate achieving the required build. If formwork is used, it should have properly sealed faces to ensure that no water is absorbed from the repair material.

Finishing

Axion Totalcrete Polymer X mortars can be finished with a steel, plastic or wood float, or by a damp sponge technique, to achieve the desired surface texture. The completed surface should not be overworked.

Low temperature working

In cold conditions down to 5°C, the use of warm water (up to 30°C) is advisable to accelerate strength development. Normal precautions for winter working with cementitious materials should then be adopted.

High temperature working

At ambient temperatures above 35°C, the material should be stored in the shade and cool water used for mixing.

Curing

Axion Totalcrete Polymer X mortars, toppings and renders are cement-based. In common with all cementitious materials, they must be cured immediately after finishing in accordance with good concrete practice. The use of one of Axion's recommended curing compounds, sprayed on to the surface of the finished mortar in a continuous film, is recommended. In harsh drying conditions, supplementary curing with polythene sheeting must be used.

Cleaning

Axion Totalcrete Polymer X should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

Limitations

Axion Totalcrete Polymer X mortars, toppings and renders should not be applied when the temperature is 5°C and falling. Neither should they be exposed to moving water during application. Exposure to heavy rainfall prior to the final set may result in surface scour. If any doubts arise concerning temperature or substrate conditions, consult Axion.

Limitations

Axion Totalcrete Polymer X mortars, toppings and renders should not be applied when the temperature is 5°C and falling. Neither should they be exposed to moving water during application. Exposure to heavy rainfall prior to the final set may result in surface scour. If any doubts arise concerning temperature or substrate conditions, consult Axion.

Supply:

Axion Totalcrete Polymer X	Available in 20litres and 1000 liters package
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Coverage and yield:

Axion Totalcrete Polymer X:	Refer to mix designs
Axion Totalcrete Polymer X (as slurry primer):	Approximately 3 to 4m ² /litre

Notes: the coverage figures for liquid products are theoretical - due to wastage factors and the variety and nature of possible substrates and mix design used, practical coverage figures will be reduced.

Storage

- Axion Totalcrete Polymer X should be kept in a dry store in the original, unopened packaging.
- Axion Totalcrete Polymer X should be protected from frost.

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Axion does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.





AXION ASPHALTIC CONCRETE LIQUID BINDER (COLD ASPHALT)



Technical Data Sheet: *Axtra Quick Fix Asphaltic Concrete Liquid Binder (Cold Asphalt)*

DESCRIPTION:

Axtra Quick Fix (Cold Asphalt) is a 100% waterproof bituminous Binder (PMB) designed for multi-purpose use. It can be used as an asphalt binder for cold fixes for roads, compounds, etc., and also used as a bituminous felt for wall and floor waterproof coating.

It can be used to coat roof decks, roof gutters, and general surface waterproofing.

ADVANTAGES:

- It does not require construction professionals or expensive contractors to implement.
- Creates job opportunities for youths just after a day's training.
- It does not require any special material or design to make an asphaltic concrete Road.
- Must not use expensive construction equipment (asphalt Plant) for mixing.
- Hot Asphalts are quite hazardous and requires lots of workers and machineries to implement.
- It is cost effective

PACKAGING:

- Axtra Quick Fix (Cold Asphalt) is available in 30kg, 200L or 1000L (bulk Purchase).

APPEARANCE:

- Black

USES:

- Cold asphalt for Roads
- Road Construction
- Road Maintenance / Road Patch
- Driveway Surfacing
- Road Crack Repair
- Felting

MIX METHOD:

- *Add 5L Polymer Activator: 100L Quick Fix Emulsion, mix thoroughly and apply*

APPLICATIONS:

<i>Product Combo</i>	<i>Axtra Quick Fix (Cold Asphalt) + Stone</i>
<i>Mix Ratio</i>	<i>50L Axtra Quick Fix (Cold Asphalt) : 1 tone of stone</i>
<i>Mode of Application</i>	<i>Lay normally</i>

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Axtra Quick Fix (Cold Asphalt) is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. For further information refer to the material safety data sheet. Axtra Quick Fix (Cold Asphalt) is nonflammable.

TECHINICAL ADVICE:

Call RTT Sealant: (+1)416-414-4285, (+1)473-406-5336

Email RTT Sealant: www.axioncanada.com

Prepared by: Axion Construction Solutions Inc.

Preparation date: 24th August 2024

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AXION HYDROSHIELD DIRECT SCREED BOND/PUTTY



Technical Data Sheet: *Axion Hydroshield Direct Screed Bond/Putty*

DESCRIPTION:

Axion Hydroshield Direct Screed Bond/Putty is a high-performance polymer-modified bonding and waterproofing compound developed for use in combination with Totalcrete or Tuffcrete Cement. It is formulated to produce 100% waterproof, damp-resistant, and weather-resistant screeding for interior and exterior applications.

The product is supplied as a ready-to-use system and does not require the addition of tile gum, cement, top bond, or any other admixture.

ADVANTAGES:

- 100% Waterproof, Damp-proof & Anti-Fungi
- Longer Life Expectancy
- Does not require any other products for its application like water, tile gum, cement, or other screeding bond.
- Reduces cracking and shrinkage
- Excellent adhesion
- Saves cost

PACKAGING:

- Axion Hydroshield Direct Screed Bond/Putty is available in 30kg.

APPEARANCE:

- Without any combination = Milky
- Combination with Totalcrete cement = Grey Colour
- Combination with Tuffcrete cement = White Colour

RECOMMENDED USES:

- Interior and exterior wall screeding and rendering
- 100% waterproofing in wet areas (bathrooms, kitchens, balconies, terraces)

MIX METHOD:

- *Before use, Mix thoroughly.*

APPLICATIONS:

<i>Product Combo</i>	<i>Axion Hydroshield Direct Screed Bond/Putty + Totalcrete Cement or Tuffcrete Cement</i>
<i>Mix Ratio</i>	<i>1 bucket of Axion Hydroshield Direct Screed Bond (30kg) : 1 bag of totalcrete Cement (20kg) or 1 bag of tuffcrete Cement (20kg)</i>
<i>Mode of Application</i>	<i>Applied using any screeding Tools</i>

Note: Axion Hydroshield Direct Screed Bond/Putty is combined with Totalcrete cement for exterior screeding and with Tuffcrete cement for interior screeding.

COVERAGE:

- 45 – 50 SQM

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C

CAUTION HEALTH AND SAFETY:

Axion Hydrosshield Direct Screed Bond/Putty is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. For further information refer to the material safety data sheet. Axion Hydrosshield Direct Screed Bond/Putty is nonflammable.

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AXION SCREED ADHESIVE



Technical Data Sheet: *Axion Hydroshield Poly Bond*

DESCRIPTION:

Axion Hydroshield Poly Bond is a high-performance polymer-modified screed adhesive and waterproofing compound developed for use in combination with any conventional screed material (Screeding Paint or Cement). It is formulated to produce 100% waterproof, damp-resistant, and weather-resistant screeding for interior and exterior applications. Its more affordable than the conventional screed adhesive.

ADVANTAGES:

- 100% Waterproof, Damp-proof & Anti-Fungi
- Longer Life Expectancy
- Can be combined with conventional screeding materials (Screeding Paint and Cement)
- Reduces cracking and shrinkage
- Excellent adhesion
- Saves cost

PACKAGING:

- Axion Hydroshield Poly Bond is available in 10kg.

APPEARANCE:

- Without any combination = Milky

RECOMMENDED USES:

- Interior and exterior wall screeding and rendering
- Waterproofing in wet areas (bathrooms, kitchens, balconies, terraces)
- As a bonding agent for cement-based screeds

MIX METHOD:

- *Before use, mix thoroughly*

APPLICATIONS:

<i>Product Combo</i>	<i>Axion Hydrosshield Poly Bond can be combined with any conventional screeding material (Screeding Paint or Cement)</i>
<i>Mix Ratio</i>	<i>Mix 5kg Axion Hydrosshield Poly Bond : 20L conventional screeding Paint. Then use as normal</i> <i>1: 20L water or 1% - 5% cement content</i>
<i>Mode of Application</i>	<i>Applied using trowel</i>

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Axion Hydrosshield Poly Bond Putty is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. For further information refer to the material safety data sheet. Axion Hydrosshield Poly Bond is nonflammable.

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GENERAL CONCRETE WORKS



Technical Data Sheet: Totalcrete Polymer (*Liquid Cement*)

DESCRIPTION:

TOTALCRETE POLYMER (Liquid Cement) is a high-performance super plasticizer formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively. This effect can be used in high-strength concrete mixes to improve workability, increase ultimate strengths or facilitate a reduction in the cement content while sustaining and improving mix properties.

ADVANTAGES:

- 100% waterproof and damp-resistant concrete.
- Allows for high-strength production without excessive cement contents.
- Suitable for plastering, tiling and concrete works
- Improved workability reduces placing and compaction problems.
- Cement saving without affecting strength.
- Accelerates cement setting time
- Minimizing segregation and bleeding problems by improving cohesion.
- More durable concrete as a result of reduction in permeability and lower water-to-cement ratio.
- Light weight concrete

PACKAGING:

- Totalcrete Polymer is available in 5Litre, 20Litre Jerricans

COMPATIBILITY:

Totalcrete polymer can be used with all types of Portland cement and cement replacement materials. Totalcrete polymer is compatible with other admixtures used in the same concrete mix. If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

METHOD OF USE:

- Totalcrete polymer should be added in the water to be used for the concrete mix or dispensed directly into the concrete while adding water to achieve maximum performance.

MIX METHOD:

- *Before use, mix thoroughly.*

STANDARDS:

- Totalcrete polymer complies with BS EN 934-2:1998 and ASTM C494 Type G

TECHNICAL PROPERTIES:

Appearance: Milky

Specific Gravity: 1.88

DOSAGE:

Totalcrete Polymer = 1% - 1.5% of cement content (100kg cement : 1Litre – 1.5Litre), depending on the desired strength to be achieved.

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Totalcrete polymer is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. Suitable protective gloves and goggles should be worn. For further information refer to the material safety data sheet. Totalcrete polymer is nonflammable.

USES & APPLICATION:**1. 100% WATERPROOF CONCRETE (For General Concrete Work)**

Product Combo	Totalcrete polymer + Portland Cement
Mix Ratio	a) Dilute 1litre of totalcrete polymer : 20Litres of Water b) Use the diluted totalcrete Polymer for your concrete mix

2. HIGH STRENGTH DAMP-RESISTANT BLOCKS:

Product Combo	Totalcrete polymer + Portland Cement
Mix Ratio	a) Dilute 1.5litre of totalcrete polymer : 20Litres of Water b) Use the diluted totalcrete Polymer for your cement mix

TECHINICAL ADVICE:

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GENERAL CONCRETE WORKS



Technical Data Sheet: Totalcrete Polymer (*Liquid Cement*)

DESCRIPTION:

TOTALCRETE POLYMER (Liquid Cement) is a high-performance super plasticizer formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively. This effect can be used in high-strength concrete mixes to improve workability, increase ultimate strengths or facilitate a reduction in the cement content while sustaining and improving mix properties.

ADVANTAGES:

- 100% waterproof and damp-resistant concrete.
- Allows for high-strength production without excessive cement contents.
- Suitable for plastering, tiling and concrete works
- Improved workability reduces placing and compaction problems.
- Cement saving without affecting strength.
- Accelerates cement setting time
- Minimizing segregation and bleeding problems by improving cohesion.
- More durable concrete as a result of reduction in permeability and lower water-to-cement ratio.
- Light weight concrete

PACKAGING:

- Totalcrete Polymer is available in 5Litre, 20Litre Jerricans

COMPATIBILITY:

Totalcrete polymer can be used with all types of Portland cement and cement replacement materials. Totalcrete polymer is compatible with other admixtures used in the same concrete mix. If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

METHOD OF USE:

- Totalcrete polymer should be added in the water to be used for the concrete mix or dispensed directly into the concrete while adding water to achieve maximum performance.

MIX METHOD:

- *Before use, mix thoroughly.*

STANDARDS:

- Totalcrete polymer complies with BS EN 934-2:1998 and ASTM C494 Type G

TECHNICAL PROPERTIES:

Appearance: Milky

Specific Gravity: 1.88

DOSAGE:

Totalcrete Polymer = 1% - 1.5% of cement content (100kg cement : 1Litre – 1.5Litre), depending on the desired strength to be achieved.

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Totalcrete polymer is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. Suitable protective gloves and goggles should be worn. For further information refer to the material safety data sheet. Totalcrete polymer is nonflammable.

USES & APPLICATION:**1. 100% WATERPROOF CONCRETE (For General Concrete Work)**

Product Combo	Totalcrete polymer + Portland Cement
Mix Ratio	a) Dilute 1litre of totalcrete polymer : 20Litres of Water b) Use the diluted totalcrete Polymer for your concrete mix

2. HIGH STRENGTH DAMP-RESISTANT BLOCKS:

Product Combo	Totalcrete polymer + Portland Cement
Mix Ratio	a) Dilute 1.5litre of totalcrete polymer : 20Litres of Water b) Use the diluted totalcrete Polymer for your cement mix

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AXION TOTALCRETE POLYMER (High-Range Super Plasticizer)



Technical Data Sheet: Totalcrete Polymer (High-Range Super Plasticizer)

DESCRIPTION:

TOTALCRETE POLYMER (High-Range Super Plasticizer) is a 4-in-one high-performance super plasticizing admixture formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively. This effect can be used in high-strength concrete mixes to improve workability, increase ultimate strengths or facilitate a reduction in the cement content while sustaining and improving mix properties.

APPLICATION:

- Recommended for early high-strength concrete mixes.
- Excellent Plasticizer
- Can be used as a Retarder
- 100% Water-proofing / damp-resistant effect
- Piling works, Pile caps
- Ready concretes... etc.

ADVANTAGES:

- Allows for high-strength production without excessive cement contents.
- Improved workability reduces placing and compaction problems.
- Cement saving without affecting strength.
- Minimizing segregation and bleeding problems by improving cohesion.
- More durable concrete as a result of reduction in permeability and lower water-to-cement ratio.
- 100% waterproof and damp resistant.

PACKAGING:

- Totalcrete Polymer is available in 1000Litres.

COMPATIBILITY:

Totalcrete polymer can be used with all types of Portland cement and cement replacement materials. Totalcrete polymer is compatible with other admixtures used in the same concrete mix. If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

METHOD OF USE:

- Totalcrete polymer should be added in the water to be used for the concrete mix or dispensed directly into the concrete while adding water to achieve maximum performance.

Mix Method:

- *Before use, mix thoroughly.*

STANDARDS:

- Totalcrete polymer complies with BS EN 934-2:1998 and ASTM C494 Type G

TECHNICAL PROPERTIES:

Appearance: Milky

Specific Gravity: 1.88

DOSAGE:

Totalcrete Polymer = 1% - 1.5% of cement content (100kg cement : 1Litre – 1.5Litre), depending on the desired strength to be achieved.

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Totalcrete polymer is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. Suitable protective gloves and goggles should be worn. For further information refer to the material safety data sheet. Totalcrete polymer is nonflammable.

TECHNICAL ADVICE:

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AXION SCREED-PLASTERING



Technical Data Sheet: Totalcrete Polymer (*Liquid Cement*)

DESCRIPTION:

TOTALCRETE POLYMER (*Liquid Cement*) is a high-performance super plasticizer formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively. This effect can be used in high-strength concrete mixes to improve workability, increase ultimate strengths or facilitate a reduction in the cement content while sustaining and improving mix properties.

ADVANTAGES:

- 100% waterproof and damp-resistant concrete.
- Allows for high-strength production without excessive cement contents.
- Suitable for plastering, tiling and concrete works
- Improved workability reduces placing and compaction problems.
- Cement saving without affecting strength.
- Accelerates cement setting time
- Minimizing segregation and bleeding problems by improving cohesion.
- More durable concrete as a result of reduction in permeability and lower water-to-cement ratio.
- Light weight concrete

PACKAGING:

- Totalcrete Polymer is available in 5Litres, 20Litres Jerricans.

COMPATIBILITY:

Totalcrete polymer can be used with all types of Portland cement and cement replacement materials. Totalcrete polymer is compatible with other admixtures used in the same concrete mix. If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

METHOD OF USE:

- Totalcrete polymer should be added in the water to be used for the concrete mix or dispensed directly into the concrete while adding water to achieve maximum performance.

MIX METHOD:

- *Before use, mix thoroughly*

STANDARDS:

- Totalcrete polymer complies with BS EN 934-2:1998 and ASTM C494 Type G

TECHNICAL PROPERTIES:

Appearance: Milky

Specific Gravity: 1.88

DOSAGE:

Totalcrete Polymer = 1% - 1.5% of cement content (100kg cement : 1Litre – 1.5Litre), depending on the desired strength to be achieved.

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Totalcrete polymer is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. Suitable protective gloves and goggles should be worn. For further information refer to the material safety data sheet. Totalcrete polymer is nonflammable.

USES & APPLICATION:**1. SCREED-PLASTERING:**

Product Combo	Totalcrete polymer + Plastering mix + Totalcrete Cement or Tuffcrete Cement
Mix Ratio	Plastering mortar: a) Dilute 1litre of totalcrete polymer : 20Litres of Water b) With the diluted Totalcrete Polymer, Mix the cement and sand to form your plastering mortar. 30mins after plastering, mix the raw polymer with the Totalcrete or tuffcrete cement thoroughly to make your screeding paste and screed immediately Screeding Paste: c) 1 jerrican of Totalcrete polymer (20L) : 1 bag of totalcrete cement or tuffcrete cement (20kg). mix gradually until the desired consistency is achieved.
Coverage	35- 40SQM

2. 100% WATERPROOF PLASTERING:

Product Combo	Totalcrete polymer + Plastering mix
Mix Ratio	Plastering mortar: a) Dilute 1litre of totalcrete polymer : 20Litres of Water b) With the diluted Totalcrete Polymer, Mix the cement and sand to form a mortar

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AXION TUFFCRETE POLYMER (Plasticizer co-polymer)



Technical Data Sheet: Tuffcrete Polymer (Plasticizer co-polymer)

DESCRIPTION:

Tuffcrete Polymer (Plasticizer co-polymer) is a 4-in-one high-performance super plasticizing admixture formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively. This effect can be used in high-strength concrete mixes to improve workability, increase ultimate strengths or facilitate a reduction in the cement content while sustaining and improving mix properties.

APPLICATION:

- Recommended for early high-strength concrete mixes.
- Excellent Plasticizer
- Can be used as a Retarder
- 100% Water-proofing / damp-resistant effect
- Piling works or Pile caps
- Ready mix concrete, etc.

ADVANTAGES:

- Allows for high-strength production without excessive cement contents.
- Improved workability reduces placing and compaction problems.
- Cement saving without affecting strength.
- Minimizing segregation and bleeding problems by improving cohesion.
- More durable concrete as a result of reduction in permeability and lower water-to-cement ratio.
- 100% waterproof and damp resistant.

PACKAGING:

- Tuffcrete Polymer (Plasticizer co-polymer) is available in 1000Litres.

COMPATIBILITY:

Tuffcrete Polymer (Plasticizer co-polymer) can be used with all types of Portland cement and cement replacement materials. Tuffcrete Polymer (Plasticizer co-polymer) is compatible with other admixtures used in the same concrete mix. If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

METHOD OF USE:

- Tuffcrete Polymer (Plasticizer co-polymer) should be added in the water to be used for the concrete mix or dispensed directly into the concrete while adding water to achieve maximum performance.

Mix Method:

- *Before use, mix thoroughly.*

STANDARDS:

- Tuffcrete Polymer (Plasticizer co-polymer) complies with BS EN 934-2:1998 and ASTM C494 Type G

TECHNICAL PROPERTIES:

Appearance: Black

Specific Gravity: 1.88

DOSAGE:

Totalcrete Polymer = 1% - 1.5% of cement content (100kg cement : 1Litre – 1.5Litre), depending on the desired strength to be achieved.

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Tuffcrete Polymer (Plasticizer co-polymer) is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. Suitable protective gloves and goggles should be worn. For further information refer to the material safety data sheet. Tuffcrete Polymer (Plasticizer co-polymer) is nonflammable.

TECHINICAL ADVICE:

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AXION TILE ADHESIVE



Technical Data Sheet: Tile Adhesive

DESCRIPTION:

TOTALCRETE POLYMER (*Liquid Cement*) is a high-performance super plasticizing admixture formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively. This effect can be used in high-strength concrete mixes to improve workability, increase ultimate strengths or facilitate a reduction in the cement content while sustaining and improving mix properties.

ADVANTAGES:

- Allows for high-strength production without excessive cement contents.
- Suitable for tiling works
- Improved workability reduces placing and compaction problems.
- Cement saving without affecting strength.
- Accelerates cement setting time
- Minimizing segregation and bleeding problems by improving cohesion.
- More durable concrete as a result of reduction in permeability and lower water-to-cement ratio.

PACKAGING:

- Totalcrete Polymer is available in 5Litres, 20Litres Jerricans.

COMPATIBILITY:

Totalcrete polymer can be used with all types of Portland cement and cement replacement materials. Totalcrete polymer is compatible with other admixtures used in the same concrete mix. If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

METHOD OF USE:

- Totalcrete polymer should be added in the water to be used for the concrete mix or dispensed directly into the concrete while adding water to achieve maximum performance.

STANDARDS:

- Totalcrete polymer complies with BS EN 934-2:1998 and ASTM C494 Type G

TECHNICAL PROPERTIES:

Appearance: Milky

Specific Gravity: 1.88

DOSAGE:

Totalcrete Polymer = 1% - 1.5% of cement content (100kg cement : 1Litre – 1.5Litre), depending on the desired strength to be achieved.

STORAGE:

Store in a dry area out of reach of direct sunlight between 3⁰C and 50⁰C.

CAUTION HEALTH AND SAFETY:

Totalcrete polymer is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. Suitable protective gloves and goggles should be worn. For further information refer to the material safety data sheet. Totalcrete polymer is nonflammable.

Mix Method:

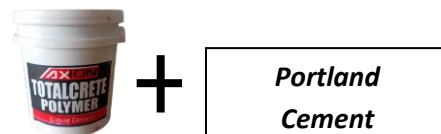
Before use, mix thoroughly.

USES & APPLICATION:**1. 100% WATERPROOF TILING:**

Product Combo	Totalcrete polymer + Totalcrete Cement
Mix Ratio	1 jerrican of Totalcrete polymer (20L) : 2 bags of totalcrete Cement (40kg)
Coverage	40-50SQM

**2. REGULAR TILING:**

Product Combo	Totalcrete polymer + conventional portland cement
Mix Ratio	a) Dilute 1Litre of totalcrete polymer : 20Litres of Water b) With the diluted Totalcrete Polymer, Mix with 50kg conventional Portland cement

**TECHINICAL ADVICE:**

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GENERAL CONCRETE WORKS 2



Technical Data Sheet: Tuffcrete Polymer (Plasticizer co-polymer)

DESCRIPTION:

Axion Tuffcrete polymer (Plasticizer co-polymer) is a chemical specifically developed for polymer modification of Portland cement and other hydraulic cement compositions. Axion Tuffcrete polymer show improved bonding strength to a variety of substrates, including all concrete works. In addition, this product improves the flexural and tensile strengths of hydraulic cement concretes. This multi-component polymer resists saponification and demonstrates good exterior durability with resistance to UV light and moisture. Thereby, protecting steel reinforcement from oxidation and corrosion.

The Tuffcrete polymer is designed to neutralize the salinity in seawater. It has also been proven to be one of the best products for lightweight concrete design.

ADVANTAGES:

- Enhanced bonding strength to concrete and masonry substrates
- 100% waterproof and damp-resistant performance
- Improved flexural and tensile strength
- Chemical resistance
- Fire-resistant properties
- Excellent exterior durability
- UV and moisture resistance
- Corrosion protection for steel reinforcement
- Suitable for saline and coastal environments

- Optimized for lightweight concrete design

TYPICAL APPLICATIONS:

- General concrete works
- Damp Proof Courses (DPC) casting
- Structural slabs
- Concrete roads and pavements
- Concrete roofs
- Pile foundations
- Swimming pools
- Drainage systems
- Marine and coastal concrete structures

PACKAGING:

- Tuffcrete polymer is available in 20L Jerricans

COMPATIBILITY:

Axion Tuffcrete polymer (Plasticizer co-polymer) can be used with all types of Portland cement and cement replacement materials. Axion Tuffcrete polymer (Plasticizer co-polymer) is compatible with other admixtures used in the same concrete mix. If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

METHOD OF USE:

- Axion Tuffcrete polymer (Plasticizer co-polymer) should be added in the water to be used for the concrete mix or dispensed directly into the concrete while adding water to achieve maximum performance.

MIX METHOD:

- *Before use, mix thoroughly.*

STANDARDS:

- Axion Tuffcrete polymer (Plasticizer co-polymer) complies with BS EN 934-2:1998 and ASTM C494 Type G

TECHNICAL PROPERTIES:

Appearance: Black

DOSAGE:

Tuffcrete polymer (Plasticizer co-polymer) = 1% - 1.5% of cement content (100kg cement : 1L – 1.5L), depending on the desired strength to be achieved.

5L – 7L per cubic meter (m³) of concrete for casting works.

STORAGE:

Store in a dry area out of reach of direct sunlight between 30°C – 50°C.

CAUTION HEALTH AND SAFETY:

Tuffcrete polymer (Plasticizer co-polymer) is not classified as hazardous material. In case of accidental splashes to the eye, rinse with clean water and seek medical advice. Suitable protective gloves and goggles should be worn. For further information refer to the material safety data sheet. Tuffcrete polymer (Plasticizer co-polymer) is nonflammable.

USES & APPLICATION:**1. PLASTERING WORKS**

Product Combo	Tuffcrete polymer + Portland Cement
Mix Ratio	a) Dilute 1litre of Tuffcrete polymer: 20Litres of Water b) Use the diluted Tuffcrete polymer for your concrete mix

2. CONCRETE CAST WORKS:

Product Combo	Tuffcrete polymer + Portland Cement
Mix Ratio	5 – 7 Litres per cubic meter (m ³) of concrete

TECHINICAL ADVICE:

Call RTT Sealant: (+1)416-414-4285, (+1)473-406-5336

Email RTT Sealant: www.axioncanada.com

Prepared by: Axion Construction Solutions Inc.

Preparation date: 24th August 2024

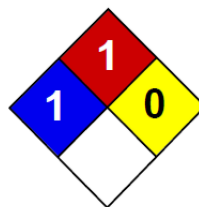
TECHNICAL ADVICE:

Customers are advised to consider the information in this data sheet in the context of how the product will be used, including surfaces and any other products used. The information provided in this data sheet represents our best scientific and practical knowledge. Any advice, information or assistance provided by AXION in relation to its products is given in good faith, however is provided without liability or responsibility. Due to the wide variety of site conditions we are unable to assume liability for any loss that may arise from the use of our products. The user is responsible for checking the suitability of products for their intended use.



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Health	1
Fire	1
Reactivity	0
Personal Protection	E

TECHNICAL DATA SHEET -TDS

Section 1: Chemical Product and Company Identification

PRODUCT NAME: Axion Bitumen Booster

Catalog Codes: NA

CAS#: NA

RTECS: NA / Non-Toxic

TSCA: NA / Non-Toxic

CI#: Not available.

Chemical Formula: NA

Contact Information:

Axion Canada

4 Robert Speck Pkwy

Mississauga, Ontario

L4Z 1S1, Canada

Order Online: axioncanada.com

24 hour emergency contact: 1-473-406-5336

Section 2: Description

Product Description : Axion Bitumen Booster is an organic Polymer designed to enhance the general properties of Bitumen which enables it to perform and withstand most challenging circumstances found in the asphalt layer.

Design: Organic Liquid Polymer.

Product Benefits: ABB Increases the volume of Bitumen by over 30%. ABB improves the Elastic Recovery of Asphalt from 6% to over 80% thereby protecting the asphalt layer from hairline cracks or any deformation caused by fluctuating weather conditions. Asphalt enhanced with ABB will withstand upto +82C. ABB reduces rutting problems by over 80% thereby guaranting twice the life Span expectancy of the asphalt Layer.

Application: Add Bitumen Booster 0.5-1% (5L -10L/tonne of Bitumen) While heating the Bitumen for 6-8hrs. Ensure homogenous Mix.

Section 16: Other Information

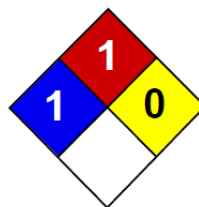
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Construction Materials



Health	1
Fire	1
Reactivity	0
Personal Protection	E

TECHNICAL DATA SHEET -TDS

Section 1: Chemical Product and Company Identification

PRODUCT NAME: Axion Solid Base Stabilizer

Catalog Codes: NA

CAS#: NA

RTECS: NA / Non-Toxic

TSCA: NA / Non-Toxic

CI#: Not available.

Chemical Formula: NA

Contact Information:

Axion Canada

4 Robert Speck Pkwy

Mississauga, Ontario

L4Z 1S1, Canada

Order Online: axioncanada.com

24 hour emergency contact: 1-473-406-5336

Section 2: Description

Product Description : Axion Solid Base Stabilizer is an organic Polymer designed to strengthen and improve the natural soil properties enabling it to achieve very high load bearing Capacity. Soil treated with Axion Sbs normally will attain a minimum 100- 200cbr in 28days depending on the soil type. The process is an ionic exchange that helps to prevent soil swell and shifting underneath buildings or road base.

Design: Organic Liquid Polymer.

Product Benefits: Sbs increases the load bearing capacity of any soil pavement. It eliminates the use of coarse aggregate in road construction as a base. Sbs guarantees time and cost effectiveness in construction as there will be no cutting and replacement of top soil.

Application:1: Dilute Sbs 1L:300L Water. 2: Scarify the road base by 25cm depth. 3:Saturate the road base with the diluted Sbs.4:Mix the saturated soil until a homogenous blend.5:Get your road level and compact 4times without vibration and 4times with vibration.

Uses: Fortify Both Building and Road Base.

Section 16: Other Information

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CONSTRUCTION CHEMICALS . WATERPROOFING SYSTEMS

AXION SCREEDING MATERIAL

	Tuffcrete Cement For waterproof exterior screed and tile cement. Mix/Coverage: 20kg Cement : 30kg Hydroshield Bond · Coverage 45–50 sqm	20kg	₦6,000
	Totalcrete Cement For waterproof exterior screed and tile cement. Mix/Coverage: 20kg Cement : 30Kg Hydroshield Bond · Coverage 45–50 sqm	20kg	₦7,500
	Hydroshield Polymerized Screeding Bond 10Kg Bond : 10kg Totalcrete/Tuffcrete · Coverage 20–25 sqm Mix/Coverage: 10Kg Bond : 10Kg Totalcrete/Tuffcrete · Coverage 20–25 sqm	10kg	₦21,500
	Hydroshield Direct Screed Bond/Putty For waterproof exterior and interior screeding. Mix/Coverage: 30Kg Bond : 20kg Totalcrete/Tuffcrete. · Coverage 45–50 sqm	30kg	₦49,500

CEMENT WATERPROOFING MATERIALS

	Tuffcrete Polymer (Plastercizer Co-polymer) For waterproofing any cement works — plastering, casting, swimming pools, decking, block moulding, concrete floors, quick set, damp-proofing, tile gum. Mix/Coverage: 1L Polymer : 15–20L Water · Coverage (20L) 8–10 bags of cement	20L (mixes with 400L water)	₦45,000
	Total-Crete Polymer For waterproofing any cement works — plastering, casting, swimming pools, decking, block moulding, concrete floors, quick set, damp-proofing, tile gum. Mix/Coverage: 1L Polymer : 15–20L Water · Coverage (5L) 2–3 bags of cement	5L (mixes with 100L water)	₦11,500



CONSTRUCTION CHEMICALS . WATERPROOFING SYSTEMS

	Total-Crete Polymer (Liquid Cement): Concrete hardener and waterproofing agent For waterproofing any cement works — plastering, casting, swimming pools, decking, block moulding, concrete floors, quick set, damp-proofing, tile gum. Mix/Coverage: 1L Polymer : 15–20L Water · Coverage (20L) 8–10 bags of cement	20L (mixes with 400L water)	₹45,000
	Total-Crete Polymer (4-in-1 Admixture) Plasticizer, retarder, hardener and waterproofing agent for any cement works including concrete roads. Mix/Coverage: 5–7L Polymer per Cubic · Per cubic metre of concrete	1000L	₹3,200,000
	Tuffcrete Polymer (Bulk) For waterproofing any cement works — plastering, casting, swimming pools, decking, block moulding, concrete roads, quick set, damp-proofing, tile gum. Mix/Coverage: 5–7L Polymer per Cubic · Per cubic metre of concrete	1000L	₹3,200,000

WATER SEAL & WALL/FLOOR DECORATIVE COATING AND PAINTING MATERIAL

	Polycoat Marbluxe Paint (for coating, decorative Screeding and painting) 100% waterproof and damp-resistant — floor decorative coating, exposed deck, roof gutter, old floor coating, wall damp prevention, interior and exterior, floor and wall paint . Mix/Coverage: Painting: Coverage 50 sqm Coating: 30Kg PolyCoat : 20kg Tuffcrete or Tuffcrete Cement · Coverage 20 sqm Available Colours White, Off-white , Yellow, Brown, Black, Grey & neutral	30kg	₹60,500
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CONSTRUCTION CHEMICALS . WATERPROOFING SYSTEMS

AXION ROAD & ASPHALT MATERIALS

	Axtra Quick Fix (Cold Asphalt) For cold patching, driveways, parking lots, compounds. Mix/Coverage: 50L Asphalt : 1 ton of Stone	200L (mixes with 4 tons of stone)	₦500,000
	Axtra Quick Fix (Cold Asphalt) with Activator For cold patching, driveways, parking lots, compounds. Mix/Coverage: 50L Asphalt : 1 ton of Stone	250L (mixes with 4 tons of stone)	₦550,000

DISTRIBUTION OUTLETS:

Abuja: Century Mall, Plot 162 Olaipo Diya Street, Opp. Green View Garden, Gudu, Abuja · 09135889233 / 07077170124

Lagos: 10A T.F Kuboye Road, Oniru, Lekki Phase 1, Lagos · 07077170026

Port-Harcourt: Km 1/2 Aba Express Road, Port Harcourt · 08094917427 | 138 Trans Amadi Industrial Layout, Port-Harcourt · 09011223331

Owerri, Imo State: No 40 Willi Amadi Street, Opp. Relife Shopping Mall, Owerri · 09135919920

Warri, Delta State: 84 Airport Road, Effurun, Opp. The Old Airport, Warri · 08037079028

Onitsha, Anambra State: Building Material Importation Zone, Ogidi, Onitsha · 08162610552