

# Technical Data Sheet

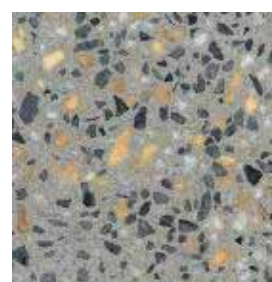


Date Feb 2014  
Replaces Sept 2012

## ARCHITECTURAL TERRAZZITE

**Generic Type:** A thin set (6mm) synthetic resin bound Terrazzo floor finish featuring a colour resin base and numerous aggregate types. The final effect is determined by both the resin base colour and the choice of #1 Marble chips. This offers the designer an unlimited choice of colour, chip appearance and overall layout.

The floor may be laid with colour patterns, borders, metal (brass) dividing strips or in any effect required.



**Australia** A Division of Nuplex Industries Limited  
[www.nuplexconstruction.com.au](http://www.nuplexconstruction.com.au)

**New Zealand**  
Auckland

**A Division of Nuplex Industries (NZ) Limited**  
T: +64 9 5836544 F: +64 9 5253709

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### Some examples of use:

See full list for contracts

- Northlands mall Christchurch
- Hornby mall Christchurch
- Meridian centre Dunedin
- MacArthur Centre Australia
- Maryborough Mall Australia
- Selected Pak n' Save stores NZ
- Glenfield Mall Auckland
- West City Auckland
- Botany Centre Auckland
- Lynmall Auckland
- Queens Wharf Wellington
- North City Wellington

### TYPICAL PHYSICAL PROPERTIES/ FEATURES:

- Architectural Terrazite is a hard wearing, jointless (not tiles), thin set (6mm) polished Terrazzo.
- Wide range of colours available.
- Excellent aesthetic appeal.
- No odour during installation ( as long as ZV system selected); The standard grade has an installation odour for 3-6 hours).
- Can incorporate detailed inlays, designs, logos and patterns within the floor topping.
- Excellent abrasion resistance (wearability).  
ASTM C501 (H22 abrasive wheels and 1000gm load)  
Abrasive wear index 22
- Excellent impact resistance
  - Compressive strength: 62Mpa
  - Flexural strength: 17.6Mpa
  - Shore D hardness: 38
  - Tensile strength: ASTM C307 10.1Mpa
- Excellent adhesion to properly prepared and primed substrates.
- Excellent adhesion to concrete.
- Cohesive failure of the concrete at 1.3 Mpa.
- Excellent resistance to thermal shock.
- Co-efficient of thermal expansion:
  - ASTM C531  $1.49 \times 10^{-5}/^{\circ}\text{C}$
- Service temperature range continuous +80°C - -30°C
- Slip resistance complies with NZ/AS 3661 1993 **dry**.
- Co-efficient of friction 0.65.  
Slip resistant option available for wet areas – refer to Nuplex Industries.
- Critical radiant Flux: 7.4KW/m<sup>2</sup>. AS/ISO 9239.1.2003
- Flammability AS 1530.3-1989: Ignitability Index (0-20): 10, Spread of Flame Index (0-10): 6, Heat Evolved Index (0-10): 3;  
Smoke Developed Index (0-10): 6; Minimum thickness: 6.0mm
- Weight: 12kgs/m<sup>2</sup> @ 6.0mm thick
- Easily cleaned and maintained with the correct polishes.
- Falls can be built up to aid drainage and avoid ponding. Refer to Nuplex STZ Prefill.
- Good exterior weathering resistance and durability.
- Ignitability: Tested in accordance with BS4790:1987: Pass  
Time till flame extinction: 30 seconds; Time of after glow: 4 seconds; Containment radius: 15mm.

**SUGGESTED USES:**

- To provide an attractive, wear resistant, Terrazzo finish topping for shopping malls, supermarkets, food halls, foyers, entrances.
- Company logos in entrances or foyers.
- To give a cleanable attractive floor in areas subject to excessive foot traffic.  
Floors where aesthetic appeal and wear resistance is a prime requisite.

**NOT RECOMMENDED:**

- Application to uncured concrete (minimum cure 28 days).
- Application to unstable substrates.
- Application where fumes may contaminate adjacent foodstuffs (only applies during and for 3 hrs after application. (Refer Nuplex Architectural Terrazzite ZV for no-odour installations ).

**SURFACE PREPARATION:**

(Refer to Nuplex full specification #330 available on request) Concrete is to be at least 28 days old and dry to below 75% RH. All surfaces are to be shotblasted by captive shot (small areas by coarse diamond grinding). Concrete joints are to be carried through the Terrazzite topping and filled with K130 sealant after installation.

**APPLICATION METHOD:**

- Primer/sealer – apply as below. Broadcasting fine CPG may aid trowelling  
Apply Architectural Terrazzite over the primer within 24 hours.
- Power float, hand trowel.
- Polished on curing with varying grades of grinding stones.

	Primer	Resin
<b>Standard system</b>	STZ primer 3-4m <sup>2</sup> /lt (catalysed)	Architectural Terrazzite Resin 12.5kg STZ hardener (catalyst) 190mls #1 Marble chips (3-6mm) 25kg Fine marble chip (CPG) 25kg
<b>ZV zero VOC system</b>	Intafloor primer 3-4m <sup>2</sup> /lt (promoted & catalysed)	Add 6% Cobalt Solution to the resin at a rate of 200mls per 20kg. Do this as a separate process but during the same day as using the resin. Identify promoted pails. The pails of promoted resin must be mixed again immediately before decanting, weighing and the addition of catalyst. This is to prevent phasing and hence colour variation. <u>MIX</u> Promoted Architectural Terrazzite Resin 12.5kg STZ VE Catalyst 200 – 250mls (1.5 -2.5% by volume) Mix well with the resin. #1 Marble chips (3-6mm) 25kg #2 Fine grade Marble Chip, eg CPG 25kg  ZV systems: Approved contractors will be required to undergo training and sign application certificates for this system. Contractors must have and use the ZV <u>installation specifics</u> product sheet.

- **Weigh** all ingredients as bag weights may vary.
- The #1-marble chips (3-6mm) commonly consist of a combination of black, white, Murchison cream, dolomite, red and green marble chips. (as available, please check).  
All marble aggregates must be of a Nuplex approved grade.
- **Base Resin Colours:** Architectural Terrazzite is provided as white (BS 10A01) or as colour bases as specified on the BS5252F or AS2700 chart. Other colours can be matched as required.  
Some colours are **not** suitable. Refer to Nuplex for selection advice.
  - The resin to aggregate ratios are very specific and may not be altered by the contractor.
  - **Note:** A variety of gel times are available to suit the ambient temperatures.

**MIX METHOD:** Power slow speed paddle mixer etc.

**Note:** Care must be taken to avoid air entrainment.

**COVERAGE RATES:(Approx)**

6.0mm topping to 1m<sup>2</sup> Architectural Resin: 4.2kg/m<sup>2</sup>  
Aggregate blend: 17kg/m<sup>2</sup>

**Note:** The above rates are theoretical and do not take into account losses through surface irregularities, mixing and application.

**THINNING:** Not suitable

**CURE AND DRY TIMES:**

(25°C 50% RH) Workable pot life: 35-40 minutes  
Hard Dry: 3 hours  
Grind Start Time: 8hrs  
Recoat: within 24 hours  
Full cure: 3 days

**GROUTING:** Pinholes are produced by the laying and grinding process. These are progressively filled during the full grinding process as outlined in the Nuplex specification.

**FINISHING:** Once laid, Terrazzite is progressively finished with finer grinding stones until an even aggregate effect is obtained. All areas must be evenly treated.

Prior to handing over, two coats of **CRYSTAL SEAL** are applied to prevent contamination. **Wet areas:** To more fully seal the surface apply two coats of Revathane non-yellowing glaze in place of the Crystal seal. If the solvent based Revathane cannot be used because of fumes then use three coats of non-yellowing Aqua-Clear .

The floor owner should then immediately treat the floor with multiple coats of a normal waterbased floor polish. This should be repeated on a normal basis as part of the floor maintenance.

**SEALER / Floor Finish & protection MATERIALS**

Approved systems are:

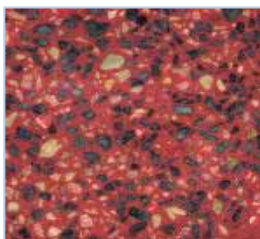
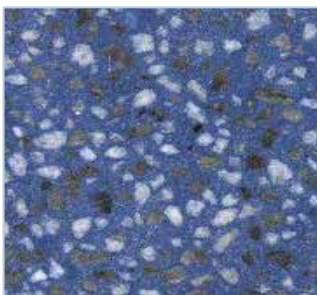
- **ADVANCE International cleaning systems – Always use a sealer and a polish with Terrazzo**  
Basecoat: Pioneer Eclipse Sealer – First Step sealer  
Topfinish: Pioneer Eclipse Equinox - Sta Brite 20  
Maintainer: Pioneer Eclipse - Extend Autoburnish  
Cleaner: Pioneer Eclipse Neutral Cleaner.  
Plan Daily, weekly and quarterly cutbacks to maintain top appearance and life.

(Refer to specific product recommendations).

Do not use strong acidic, alkaline or chlorine based cleaners on Architectural Terrazzite as they will attack or discolour the marble composition of the Architectural Terrazzite or metal strips.

**NOTES:**

- Floors above work spaces: Architectural Terrazzite forms a watertight barrier and is compliant with E3 Internal water 3.1.1e. (In wet areas use full fibreglass laminated floor and Joint safe tape in these situations).
- Note: If the substrate is an above grade slab and waterproofing is required to comply with NZBC E3, then tank the floor and cove upstands with a layer of 450gsm CSM fibreglass prior to the Terrazzite application. This will provide a seamless waterproofing layer.



# *Nuplex Specification*

## ARCHITECTURAL TERRAZZITE GENERAL

Nuplex Architectural Terrazzite is a polished synthetic terrazzo flooring made up of marble aggregates and polyester based resin. This specification deals with:

1. Manufacture of Materials
2. Finish Options
3. Surface Preparation
4. Application
5. Producer Statement
6. Full Specification

### 1. MANUFACTURE OF MATERIALS

All materials shall be produced, supplied or specified by Nuplex Industries Ltd. To avoid incompatibility of component material it is essential that Nuplex technical staff is consulted before any product other than those specified is used. Specify: the resin base carefully:

**P: std System;            ZV: fully odour free system (Zero Volatile organic compounds) .**

### 2. FINISH OPTIONS

The colours and patterns that can be achieved with Architectural Terrazzite are almost limitless so it is important that a 300mm x 300mm sample of colour and pattern be submitted to the Architect, Engineer, Client for approval.

### 3. SURFACE PREPARATION NEW CONCRETE

Shall have a surface which has been mechanically trowelled to an NZS3114:1987 U3 finish\_A minimum compressive strength of 25 Mpa at 28 days cure. All falls and levels to be accurately laid into the concrete. A surface free of cement laitence or other contaminants and any roughly screeded or floated patches or areas. No traces of cure membranes. . Must be diamond ground or shotblasted prior to application.

### OLD CONCRETE REQUIREMENTS

Remove all contaminants including cement laitence, dirt, grease, oil, existing coatings/toppings, unsound substrate etc by shot blasting, grinding, scabbling, acid etching, hammering etc as appropriate.

Deep depressions, defects, hollows etc to be repaired or filled using Nuplex Architectural Terrazzite Prefill system. All surfaces must be diamond ground or shotblasted prior to application.

All cracked or unusual substrates to be glassed all over using 450gms/m<sup>2</sup> chopped strand mat and Nuplex Architectural Terrazzite resin. Ensure joints between sub-floor sheets and the fibreglass are staggered.

**OTHERS:            Refer to Nuplex Industries Ltd for specific recommendations.**

### 6. APPLICATION

Specify:

- Resin Type Std or ZV
- Resin Colour ( which is mixed with the aggregates)
- Aggregates types, size and colour ( which is mixed with the colour resin)
- Apply Nuplex Architectural Terrazzite flooring to correctly prepared and sealed substrate by hand trowel and/or power float.

Nuplex Architectural Terrazzite must be applied in such a manner to achieve a **minimum 6mm** thickness when ground and polished.

Floor patterns may be achieved with the use of angle strip between sections of the floor. Sturdy section brass or stainless is recommended.

Grinding shall be accomplished by a proven modern process using standard terrazzo grinding equipment.

Concrete joints are expressed through the Terrazite by cutting on that joint and filling with K130.

Grout pinholes before finally finishing with 220 grit stone and polishing with Terrazzo acid blocks or pads.

A Nuplex sealer system (two coats of Nuplex Crystal seal is applied before any traffic at all) is applied prior to a full maintenance polish programme, below.

#### **POLISH MATERIALS**

Approved systems are:

- **ADVANCE International cleaning systems – Always use a sealer and a polish with Terrazzo**

Basecoat: Pioneer Eclipse Sealer – First Step sealer

Topfinish: Pioneer Eclipse Equinox - Sta Brite 20

Maintainer: Pioneer Eclipse - Extend Autoburnish

Cleaner: Pioneer Eclipse Neutral Cleaner.

Plan Daily, weekly and quarterly cutbacks to maintain top appearance and life.

(Refer to specific product recommendations).

Do not use strong acidic, alkaline or chlorine based cleaners on Architectural Terrazite as they will attack or discolour the marble composition of the Architectural Terrazite or metal strips.

A log shall be kept by the Nuplex Architectural Terrazite contractor and be made available to Nuplex Industries Ltd at their request. Information to be recorded daily:

1. Material batch numbers used.
2. Sequence of mixing, ratios and quantities and formula.
3. Substrate moisture content.
4. Substrate temperature.
5. Ambient temperature.
6. Ambient relative humidity.

Treatment of cracks and control joints, please refer to Industrial Terrazite specification in this section of the manual.

#### 5. **PRODUCER STATEMENT**

The products, systems and application of Nuplex Architectural Terrazite comply with the requirements of the Building Industry Authority and related acts. In particular, two items of key importance are complied with. These are slip resistance and durability. The warranties implied by the “Durability” code are accepted and complied with. The factors required by the slip resistance code are also complied with.

- Floors above work spaces: Architectural Terrazite forms a watertight barrier and is compliant with E3 Internal water 3.1.1e. (use full fibreglass laminated floor and Joint safe tape in these situations).
- Note: If the substrate is an above grade slab and waterproofing is required to comply with NZBC E3, then tank the floor and cove upstands with a layer of 450gsm CSM fibreglass prior to the Terrazite application. This will provide a seamless waterproofing layer.
- Complies with D1 Access routes.

\*\*\*\***Note**\*\*\*\*

Special treatments may be required on some ramps in wet situations in order to comply with slip resistance requirements of AS/NZ 3661.1:1993. Specific advice must be sought from Nuplex Industries Ltd, Construction Products Division prior to specifying in this situation.

#### 6. **FULL SPECIFICATION**

A full and highly detailed specification is available on request from Nuplex Industries Ltd.

This specification is to be read in conjunction with relevant technical data sheets. If in doubt please contact Nuplex Industries Ltd, Building Products Division.