

MANUAL SECTION	ISSUE DATE	AUTHORISED	REPLACES	PAGE
----------------	------------	------------	----------	------

*Flooring
Technical Data and
Specification*

Jan 2008

PM

April 2007

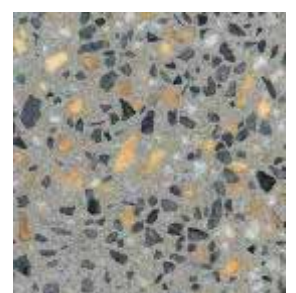
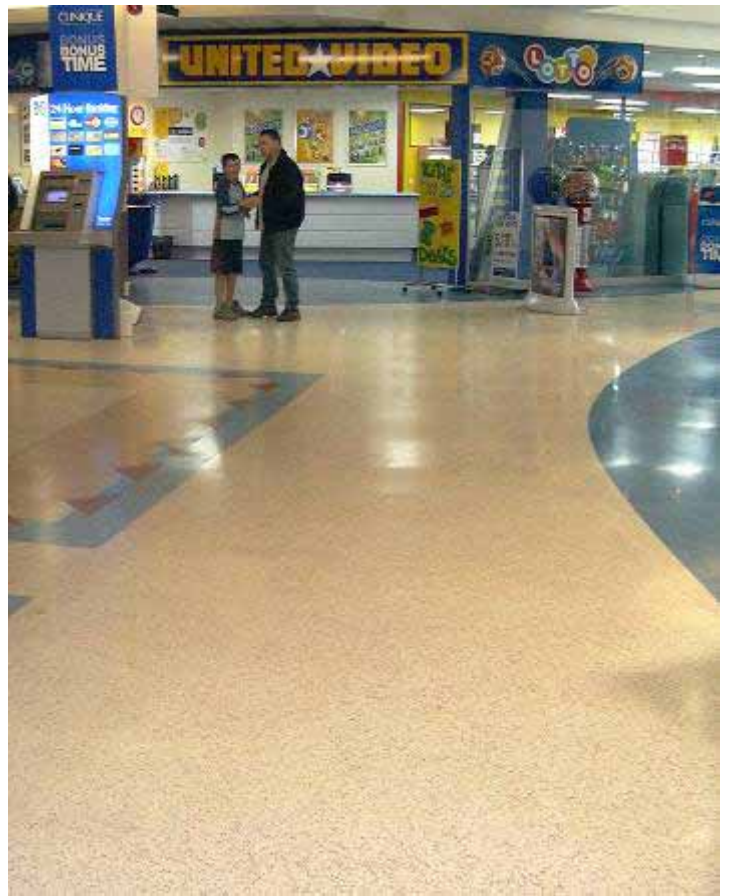
1 of 6

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.



No warranty either expressed or implied or statutory is made by NUPLEX in this document except as expressly stated in any sale and purchase agreement entered into between NUPLEX and the buyer. CERTIFIED ISO 9001 REG. NO. 158
This document is a technical data information sheet. The description of the product or products and the properties of the product or products contained in this document is for the sole purpose of identifying the product or products and describing their property or properties and does not constitute a warranty that the product or its properties shall conform to that description; nor is the description of the product and/or its properties a warranty by NUPLEX that the goods are suitable for a particular purpose.

NUPLEX CONSTRUCTION PRODUCTS WWW.NUPLEXCONSTRUCTION.CO.NZ
PO Box 1 2841, Penrose, Auckland Telephone: 0-9-579 2029, Fax: 0-9-525 3709, Email: bpdsales@nuplex.co.nz

H A M I L T O N
Telephone: 0-7-847 8658
Fax: 0-7-847 3766

PALMERSTON NORTH
Telephone: 0-6-353 3685
Fax: 0-6-353 3632

W E L L I N G T O N
Telephone: :0-4-477 7040
Fax: 0-4-477 7039

CHRISTCHURCH
Telephone: 0-3-366 6802
Fax: 0-3-379 0279

Some examples of use:

See full list for contracts

- Northlands mall Christchurch
- Hornbay 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 Terrazzite is a hard wearing, jointless (not tiles), thin set (6mm) polished Terrazzo.
- Wide range of colours available.
- Excellent aesthetic appeal.
- 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.
- 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/m² @ 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 Terrazite ZV or Mode E for alternatives).

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. Concrete joints are to be carried through the Terrazite topping and filled with K130 sealant after installation.

APPLICATION METHOD:

- Primer/sealer – STZ Primer. Apply Architectural Terrazite over the primer within 24 hours.
- Power float, hand trowel.
- Polished on curing with varying grades of grinding stones.

MIX RATIOS (TYPICAL):

- Resin 20% by weight of total mix.
- Catalyst normally 1.5% on the polyester resin only.

Standard Formulations

Architectural Terrazite Resin	12.5kg	
STZ hardener (catalyst)	180mls	
#1 Marble chips (3-6mm)		25kg
Nuplex Terrazite #2	Marble Chip mix	25kg

- **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. All marble aggregates must be of a Nuplex approved grade.
- **Base Colours:** Architectural Terrazite is provided as white (BS 10A01) or as colour bases as specified on the BS5252F chart. Other colours can be matched as required. Refer to Nuplex for the BS5252F chart. 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.

*****Caution*****

Note: A variety of gel times are available to suit the ambient temperatures.

*****Caution*****

MIX METHOD:

Concrete mixer, Hobart mixer, paddle mixer etc.

Note: Care must be taken to avoid air entrainment.

COVERAGE RATES:

(Approx)

6.0mm topping to 1m²

Architectural Resin: 4.2kg/m²

Aggregate blend: 17kg/m²

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

THINNING:

Not recommended.

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 grinding process as outlined in the Nuplex specification.

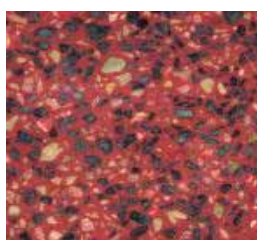
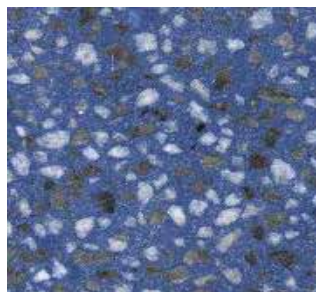
FINISHING:

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.

- 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.



MANUAL SECTION	ISSUE DATE	AUTHORISED	REPLACES	PAGE
----------------	------------	------------	----------	------

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. Choose the resin base carefully:

P: std System; WB :water based epoxy, E: Epoxy system, ZV: fully odour free system (Zero Volatile organic compounds) (available Jan 2008).

See differences at document end.

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 or better than **lightly** broomed after compaction and screeding to assist with mechanical bond.

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.

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.

WOODEN FLOORS

A minimum of 20mm in thickness, ridged, free of cracks, deflection, and solidly fixed to the sub framework.

Free of waxes, varnishes, paints and any other material likely to interfere with the fusion of the Architectural Terrazzite to the wood (a test area may be laid to determine this).

Have a moisture content less than 12%.

Sanded smooth using coarse grit sanding paper.

In sheet form and of an exterior grade. Slatted wooden floors such as T&G should be overlaid using suitable exterior grade plywood solidly fastened to the existing floor.

All timber substrates to be glassed all over using 450gms/m² 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

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

Grout pinholes before finally finishing with 220 grit stone and polishing with Terrazzo acid blocks or pads. A Nuplex sealer system is applied prior to a full maintenance polish programme.

A log shall be kept by the Nuplex Architectural Terrazzite 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 Terrazzite specification in this section of the manual.

5. PRODUCER STATEMENT

The products, systems and application of Nuplex Architectural Terrazzite 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 Terrazzite 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 Terrazzite 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.

NUPLEX MARKET VARIOUS FORMS

Standard Architectural Terrazzite

- Polyester base
- All bright colours
- Very rapid cure (2 hours)
- Some odour during installation only
- Mid price

Architectural Terrazzite Mode E

- Epoxy base
- No odour
- Expensive
- Less suitable for light, bright, white colours than standard version

Architectural Terrazzite Mode WB

- Waterbased epoxy base
- No odour
- Slower cure 24 – 48 hours
- Complex system
- Lowest price
- Not suitable for light, bright colours

Architectural Terrazzite Mode ZV

- Similar To Standard Terrazzite
- ZV: Zero VOC or zero volatile organic compounds
- Available January 2008

No warranty either expressed or implied or statutory is made by NUPLEX in this document except as expressly stated in any sale and purchase agreement entered into between NUPLEX and the buyer. CERTIFIED ISO 9001 REG. NO. 158 This document is a technical data information sheet The description of the product or products and the properties of the product or products contained in this document is for the sole purpose of identifying the product or products and describing their property or properties and does not constitute a warranty that the product or its properties shall conform to that description; nor is the description of the product and/or its properties a warranty by NUPLEX that the goods are suitable for a particular purpose.

NUPLEX CONSTRUCTION PRODUCTS WWW.NUPLEXCONSTRUCTION.CO.NZ

PO Box 1 2841, Penrose, Auckland Telephone: 0-9-579 2029, Fax: 0-9-525 3709, Email: bpdsales@nuplex.co.nz

H A M I L T O N	PALMERSTON	NORTH	W E L L I N G T O N	CHRISTCHURCH
Telephone: 0-7-847 8658	Telephone: 0-6-353 3685	Telephone: 0-4-477 7040	Telephone: 0-3-366 6802	
Fax: 0-7-847 3766	Fax: 0-6-353 3632	Fax: 0-4-477 7039	Fax: 0-3-379 0279	