

6141AC

ABSOLUTE CONCRETE FLOOR SOLUTIONS

1

GENERAL

This section relates to the application of Absolute Diamond Blades Ltd Absolute Floor Solutions concrete polishing system to new and existing concrete floors.

It includes:

- Concrete grinding and preparation
- Concrete densifiers and hardeners
- Penetrating concrete sealers
- Maintenance cleaning agents

1.1

RELATED WORK

Refer to ~ for ~

1.2

ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

COF	Coefficient of friction
CSDA	Concrete Sawing & Drilling Association, Inc.
NZWTA	NZ Wool Testing Authority
SRV	Slip resistance value

The following definitions apply specifically to this section:

RA Meter	Instrument used for determining Roughness Average Value (surface texture/finish) of the tested surface.
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Documents

1.3

DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC D1/AS1	Access routes
CSDA ST-115	Measuring concrete micro surface texture

1.4

MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer and supplier documents relating to this part of the work:

decoBULK Technical Data Sheet
decoCLEAN Technical Data Sheet
decoPINFIX Technical Data Sheet
decoSIL Technical Data Sheet
decoSTAINSTOP Technical Data Sheet
Indoor Advantage™ Gold certificate No. SCS-IAQ-06441
NZWTA test report No.1452126-4 for E3 imperviousness and slip resistance

Manufacturer/supplier contact details

Company:	Absolute Diamond Blades Ltd
Web:	www.absolutefloorsolutions.co.nz
Email:	afspolish@gmail.com
Telephone:	027 261 3581

Warranties

1.5

WARRANTY - MANUFACTURER/SUPPLIER

Provide a material manufacturer/supplier warranty:

5 years For materials

- Provide this warranty on the standard form in the general section 1237WA WARRANTY AGREEMENT
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

1.6

WARRANTY - INSTALLER/APPLICATOR

Provide an installer/applicator warranty:

2 years For application

- Provide this warranty on the installer/applicator standard form (if not available then use the standard form in the general section 1237WA WARRANTY AGREEMENT)
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

Requirements

1.7

QUALIFICATIONS WORKERS - MANUFACTURER / SUPPLIER REQUIREMENTS

Workers to be approved and Certified by manufacturer / supplier. Refer to 1270

CONSTRUCTION for additional requirements relating to qualifications.

1.8

ACCEPTABLE PRODUCT/MATERIAL SUPPLIERS

Where a product or material supplier is named in SELECTIONS, the product/material must be provided by the named supplier. Where more than one named supplier, any one of the named suppliers will be acceptable.

1.9

NO SUBSTITUTIONS

Substitutions are not permitted to any of the specified systems, components and associated products listed in this section.

1.10

SAMPLES

Refer to the general section 1270 CONSTRUCTION for details of how samples will be reviewed and how instructions to proceed will be given. Provide the following samples for review:

	Sample A	Sample B	Sample C
Sample description:	~	~	~
Sample type:	~	~	~
Number:	~	~	~
Location:	~	~	~
Supporting documentation:	~	~	~
Reviewer:	Contract administrator~	Contract administrator~	Contract administrator~
Time for review:	10 working days ~	10 working days ~	10 working days ~
Review criteria:	~	~	~

1.11

INFORMATION FOR OPERATION AND MAINTENANCE

Refer to the general section 1239 OPERATION & MAINTENANCE for provision of the following general operation and maintenance information as electronic PDF format documents:

Absolute Diamond Blades Maintenance Instructions for Polished Concrete Flooring

Provide this information prior to practical completion.

1.12

MAINTENANCE CONTRACT PROPOSAL

Provide a priced proposed maintenance contract for the reapplication of decoSTAINSTOP and polishing every 5 years.

Compliance information

1.13

INFORMATION REQUIRED FOR CODE COMPLIANCE

Provide the following compliance documentation: -

- Applicator approval certificate from the manufacturer / importer / distributor
- Manufacturer / supplier warranty
- Installer / applicator warranty
- Producer Statement - Construction from the applicator / installer
- Other information required by the BCA in the Building Consent Approval documents.

Performance - Slip resistance

1.14

TEST - SLIP RESISTANCE

Test walking surfaces for slip resistance. Refer to SELECTIONS.

Performance - imperviousness

1.15

PERFORMANCE - IMPERVIOUS

The impervious performance of the polished concrete finish is the responsibility of the contractor. Absolute Diamond Blades Ltd polished concrete system is a proposed alternative solution and has been tested by NZWTA as impervious to the passage of water. Refer to NZWTA test report No. 1452126-4.

Quality control and assurance

1.16

INSPECTIONS

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2

PRODUCTS

Materials

2.1

POTASSIUM SILICATE CONCRETE HARDENER

decoBULK water based VOC-free concentrated potassium silicate hardener.

2.2

MIXED SILICATE CONCRETE HARDENER

decoSIL low VOC mixed silicate hardener containing lithium and colloidal silicates.

2.3

PINHOLE & HAIRLINE CRACK CONCRETE FILLER

decoPINFIX liquid additive with acrylic polymer and nano silica. Indoor Air Quality Certified to SCS-EC10.3-2014 v4.0.

2.4

PENETRATING CONCRETE SEALER

decoSTAINSTOP water based non-toxic breathable penetrating sealer containing colloidal silica and high performance acrylic binders. Indoor Air Quality Certified to SCS-EC10.3-2014 v4.0.

Accessories

2.5

CONCRETE CLEANING AND PROTECTION AGENT

decoCLEAN degreaser and cleaning agent containing colloidal silica.

2.6

JOINT SEALANT

Waterproof, high bond, flexible neutral cure silicone or polyurethane sealant for concrete. Refer to SELECTIONS.

3

EXECUTION

Conditions

3.1

DELIVERY, STORAGE & HANDLING OF PRODUCTS

Refer to 1270 CONSTRUCTION for requirements relating to delivery, storage and handling of products.

3.2

ROUTINE MATTERS

Refer to 1250 TEMPORARY WORKS & SERVICES for protection requirements.

Refer to 1270 CONSTRUCTION for requirements relating to defective or damaged work, removal of protection and cleaning.

3.3

PRE-COATING/FINISHING REQUIREMENTS

Check work previously carried out and confirm it is of the required standard for specified finish.

Application - Generally

3.4

STANDARDS AND TOLERANCES

Refer to the general section 1270 CONSTRUCTION for general requirements.

3.5

APPLICATION GENERALLY

To Absolute Floor Solutions installation and maintenance instructions. Grinding of the concrete surface can start within 7 days of concrete placement, once a level of curing (hardening) is achieved that allows grinding without the aggregated dislodging. For best results allow 28 days minimum after concrete placement before commencing.

Application - Grinding & polishing

3.6

INITIAL GRIND - FULLY EXPOSED AGGREGATE

Grind concrete surface to expose aggregate using aggressive metal bond segmented shoe to Absolute Floor Solutions instructions. Bush hammers can be used to achieve high rates of removal on hard concrete.

3.7

SECOND GRIND - FULLY EXPOSED AGGREGATE

Spray apply decoPINFIX evenly over concrete surface and grind to form a paste using a heavy polishing machine with non-aggressive metal bond segmented shoes to Absolute Floor Solutions instructions.

3.8

INITIAL GRIND - HEAVY SALT & PEPPER EXPOSED AGGREGATE

Grind concrete surface to partially expose aggregate using aggressive metal bond segmented shoe to Absolute Floor Solutions instructions.

3.9

SECOND GRIND - HEAVY SALT & PEPPER EXPOSED AGGREGATE

Spray apply decoPINFIX evenly over concrete surface and grind to form a paste using a heavy polishing machine with non-aggressive metal bond segmented shoes to Absolute Floor Solutions instructions.

3.10

GRIND - LIGHT SALT & PEPPER EXPOSED AGGREGATE

Grind concrete surface to lightly expose aggregate using non-aggressive metal bond segmented shoe or aggressive sponge pads. If non-aggressive metal bonded segmented shoe are used apply decoPINFIX evenly over concrete surface prior to grinding to Absolute Floor Solutions instructions. If aggressive sponge pads are used, apply decoBULK prior to grinding to Absolute Floor Solutions instructions.

3.11

GRIND - CREAM FINISH CEMENT

Polish concrete surface with non-aggressive sponge pads to Absolute Diamond Blades Ltd instructions.

3.12

FLOOD COAT CONCRETE HARDENER

Evenly flood coat concrete surface with decoBULK to manufacturer's instructions and leave for 8 hours.

3.13

REMOVE EXCESS HARDENER & PINHOLE FILLER

Remove excess decoBULK and decoPINFIX using sponge pads to Absolute Floor Solutions instructions. Check Surface Texture Grade is 2.5µm / 95 micro inches average (B-3 Honed Smooth) or better using RA Meter to CSDA ST-115. RA Meter readings to be taken 1 per 50m² floor area for floors ≥50m² and 1 per 10m² floor area for floors <50m², all readings to be within the specified range then averaged to give a one number measure.

3.14

REMOVE EXCESS HARDENER

Remove excess decoBULK using sponge pads to Absolute Floor Solutions instructions. Check Surface Texture Grade is 2.5µm / 95 micro inches average (B-3 Honed Smooth) or better using RA Meter to CSDA ST-115. RA Meter readings to be taken 1 per 50m² floor area for floors ≥50m² and 1 per 10m² floor area for floors <50m², all readings to be within the specified range then averaged to give a one number measure.

3.15

POLISH CONCRETE SURFACE

Apply decoSIL evenly over concrete surface and polish floor surface using polishing pads to achieve specified Surface Texture Grade to Absolute Floor Solutions instructions. Check Surface Texture Grade using RA Meter to CSDA ST-115 and record results. RA Meter readings to be taken before sealing, at a rate of 1 per 50m² floor area for floors ≥50m² and 1 per 10m² floor area for floors <50m², all readings to be within the specified range then averaged to give a one number measure.

3.16

APPLY CONCRETE SEALER

Apply 2 coats of decoSTAINSTOP. Evenly spread first coat using microfiber pad to Absolute Floor Solutions instructions. Allow to dry before repeating with second coat to achieve specified Gloss level.

3.17

SEAL JOINTS

If the concrete surface is to be ground within 28 days of placement, fill expansion and perimeter joints with cementitious filler to prevent the edges chipping. Once concrete is fully cured (after 28 days minimum), remove cementitious filler and replace with waterproof high bond elastic sealant in accordance with Absolute Floor Solutions instructions.

Completion & Commissioning

3.18

COMPLETION MATTERS

Refer to 1270 CONSTRUCTION for completion requirements and if required commissioning requirements.

4

SELECTIONS

For further details on selections go to www.absolutefloorsolutions.co.nz.

Substitutions are not permitted to the following, unless stated otherwise.

Test

4.1

TEST - SLIP RESISTANCE

Test walking surface for slip resistance to comply with [NZBC D1/AS1](#), 2.1 Slip resistance. Refer to 1278SR SCHEDULE OF SLIP RESISTANCE TESTING for test method, minimum test value required and general reporting requirements.

Location:	~
Surface:	~
Test condition:	~
Level/slope:	~
Specific reporting requirements:	~

Polished concrete

4.2

POLISHED CONCRETE FLOOR

Location: ~

Grind type: ~

Surface Texture Grade: ~

Gloss level: ~

Accessories

4.3

JOINT SEALANT

Location: Expansion and perimeter joints

Type/Brand: ~

Spares & maintenance products

4.4

SPARES & MAINTENANCE PRODUCTS

Refer to the general section 1270 CONSTRUCTION for details of how spares and maintenance products will be handled. Provide the following spares and maintenance products:

Item: decoCLEAN

Quantity: ~

Location: Refer to 1270 CONSTRUCTION