CI/SfB Vs1

April 2009

NBSPlus

Toughseal

RIW Toughseal is a solvent free polymer modified epoxide coating, supplied as a two part pack of base and hardener in pre-measured proportions.

BENEFITS

- Water and water vapour barrier
- Abrasion resistant
- Jointless membrane
- High substrate adhesion
- Chemically resistant
- Class 1 Fire rating
- U.V. resistant

APPLICATIONS

Waterproofing and vapour proofing of:

- Ground floors
- Computer floors
- Superstructures
- Basement and Sub-structures
- Swimming pool wet rooms
- Plant room and Bunded Areas

APPLIED TO

- Concrete
- Masonry
- Steel

RIW Toughseal

TYPICAL USES

RIW Toughseal is typically used to provide a water and water vapour proof barrier, or to give protection against abrasion, fresh and salt water, carbon dioxide, alkalis and dilute mineral acids. It is resistant to U.V. light and atmospheric attack. Suitable uses for RIW Toughseal include, raised access floors, ground floor slabs, swimming pool wet areas and shower areas, plant rooms, sewage plants and marine applications. When dressed with a suitable aggregate it will provide a slip retardant wearing surface or a waterproof key for tile bedding or renders. The coating can be used to protect iron and steel against corrosion and concrete against carbonation.

RIW Toughseal should not be used in contact with potable water systems.

DURABILITY

Subject to normal conditions of use RIW Toughseal, when covered, will provide an effective barrier to the transmission of liquid water and water vapour for the life of the structure.

SPECIFICATION

J30 - Liquid Applied Tanking / Damp Proofing in accordance with NBS Clauses.

Please consult RIW Ltd for further information.

ANCILLARY PRODUCTS

RIW Cementfill FC - Cement based waterproof fairing coat and repair mortar for filling minor holes, voids and defects.

RIW Cementfill HB - Cement based waterproof high build repair mortar for profiling and providing fillets.

RIW Aggregate, Grade 1 - a coarse grit to provide a 'key' for following wet trades, such as tiling or rendering.

RIW Aggregate, Grade 2 - a fine grit to provide a 'slip-retardant' finished surface.

RIW Cleaning Solvent - a liquid for cleaning tools, equipment, etc. (must not be used as 'thinners')

RIW Flexiseal - a flexible liquid applied membrane for use over RIW Toughseal when reinforcing joints, etc. - see separate data sheet.

RIW Toughseal Reinforcement Tape - a tape for use over Toughseal when reinforcing joints, etc. prior to tiling.

INDEPENDENT AUTHORITY

RIW Toughseal has been tested in accordance with BS 476 : Part 7 : 1997, " Fire tests on building materials and structures, method for classification of the surface spread of flame of products", and is Classified as Class 1.

CONSTRUCTION

GENERAL

All construction should conform with the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular, it is recommended that reference is made to BS 8102 : 1990.

PERFORMANCE & COMPOSITION

RIW TOUGHSEAL	
Form	Two part epoxy coating
Colour Other colours are available, subject to minimum order quantity	Black or Grey
Specific Gravity	1.15g / ml (mixed product)
Solids content	100% (w / w)
Flash Point	200°C (Base) 130°C (Hardener)
Water vapour transmission rate ASTM D1653	Black - 2.41 g / m^2 / 24 hr Grey - 2.25 g / m^2 / 24hr
Water vapour permeability ASTM D1653	Black - 0.1144 g / m^2 / 24hr / mmHg Grey - 0.1068 g / m^2 / 24hr / mmHg
Coverage*	4m^2 / litre / coat
Number of coats	Two
DFT of coating	0.50mm for two coats
Curing time	Touch dry : 6 hours minimum 7 days (full chemical resistance)
Overcoating time	Minimum : when touch dry Maximum : 7 days
Application temperature limits	5 - 35°C
Preparation of liquid	Stir well by mechanical means
Pot life	20 minutes at 20°C
Shelf life (Temperate climate)	12 months
PHYSICAL RESISTANCE / CHEMICAL RESISTANCE (SPILLAGES)	
U.V Light	High
Heat (Dry)	130°C
Heat (in water)	80°C
SOLVENTS	
White Spirit	Resistant
Diesel	Resistant
Petrol	Resistant
INORGANIC ACIDS	
10% Sulphuric acid	Resistant
10% Nitric acid	Resistant
10% Hydrochloric acid	Resistant
INORGANIC CHEMICALS	
Ammonia solution	Resistant
50% Sodium hydroxide	Resistant
Organic salts (eg. sulphates, nitrates, etc.)	Resistant
MISCELLANEOUS	
Sea water	Resistant
Ethanol / methanol	Resistant
Cooking fats	Resistant
Vegetable oils	Resistant
Chlorine	Resistant

RIW Toughseal is also resistant to immersion in many of the chemicals detailed above. Further details on resistance to immersion, and on other chemicals, is available from the RIW Technical Department. The above performance figures are typical and should not be considered a product specification.
*Figures quoted are theoretical coverage areas. Actual coverage may vary depending on nature of substrate.

PREPARATION

All surfaces : Should be smooth, clean, dry (to a depth of 1 - 2mm), sound and free from frost, oil, grease, condensation and other contamination. Any voids or hollows must be made good to a flush finish with a suitable filler. Any sharp edges or high points should be eliminated. Powdery or flaking surfaces should be removed by suitable means.

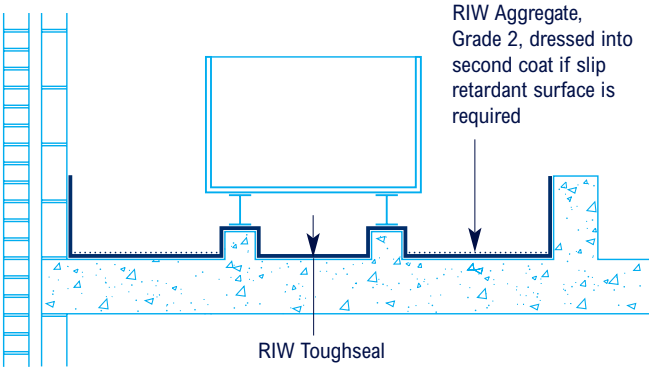
External corners should be chamfered or rounded where required, to assist application.

Concrete surfaces : Horizontal surfaces should preferably be smooth, however lightly tamped (3 - 4 mm peak to trough profile), brushed or floated surfaces may also be acceptable.

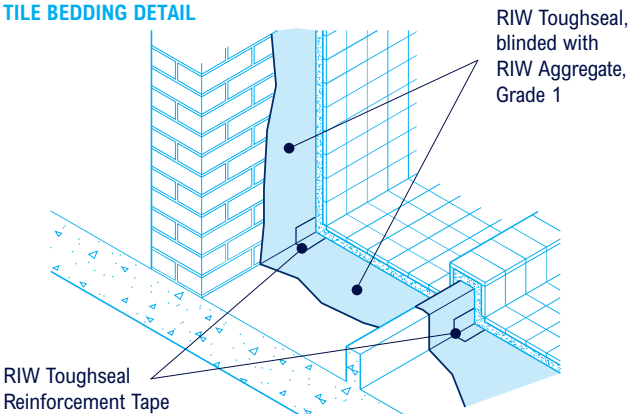
Masonry : Should be sound with joints flush pointed or 'bagged out' with RIW Cementfill FC or similar before the membrane is applied. Open textured surfaces should be sealed with RIW Cementfill FC or a sand/cement slurry or render to provide a suitable surface. If existing surfaces are very rough, they may require rendering.

Metal Surfaces : Should be wire brushed or sand blasted, and pre-treated with a steel primer, prior to application of the membrane. Corroded metal should also be treated with an anti-corrosive primer. RIW Toughseal is compatible with all commonly encountered steel primers, including alkyd, chlorinated rubber and epoxy based materials. Consult RIW for galvanised steel and / or other treatments.

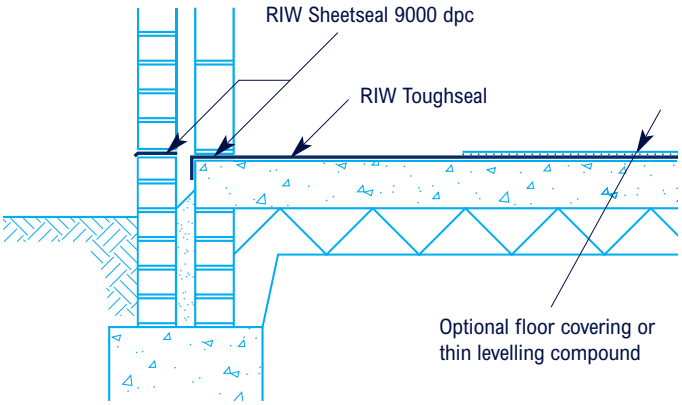
DETAIL 1
PLANT ROOM DETAIL / HORIZONTAL WEARING SURFACE



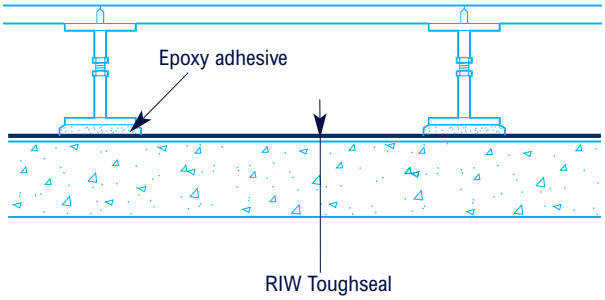
DETAIL 2
TILE BEDDING DETAIL



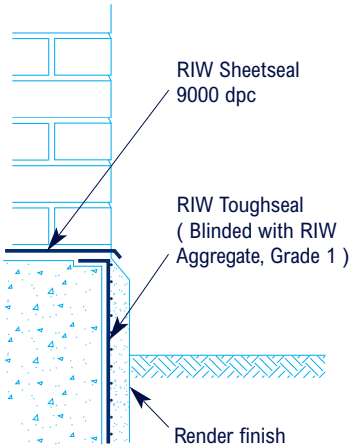
DETAIL 3
DPM TO GROUND FLOOR SLAB



DETAIL 4
RAISED ACCESS FLOOR



DETAIL 5
PLINTH DETAIL



APPLICATION

General : Application of RIW Toughseal should not be attempted in temperatures below 5°C. RIW Toughseal should not be thinned and should be applied as supplied. The base component of RIW Toughseal should be mechanically stirred for 3 minutes, and then the hardener component added and mixed thoroughly until a uniform colour is achieved.

APPLICATION continued

Do not split base or hardener packs. RIW Toughseal should be applied immediately after mixing. Apply in two coats at a minimum application rate of 4m^2 / litre per coat. Good ventilation is necessary to obtain a proper cure. At 20°C, RIW Toughseal will require 6 hours minimum before overcoating. Curing will stop at temperatures below 5°C. The second coat should be applied within seven (7) days of the first, if this is not possible advice should be sought from the RIW Technical Department.

Reinforcement at angles, joints, pipes, etc. should be carried out using RIW Flexiseal, over the RIW Toughseal at a rate of 1m^2 / kg, within seven days of application.

Manual : RIW Toughseal should be applied using a stiff brush or medium pile roller.

Spray : For details of specialist applicators, please consult the RIW Technical Department.

SPECIFIC USES

Wearing Surfaces : (Detail 1) RIW Toughseal can be used as a waterproof and chemically resistant wearing surface to pedestrian walkways, bunded areas, plant rooms etc. The second coat should be blinded with RIW Aggregate Grade 2 if required at a rate of 1m^2 / kg to provide slip retardant properties. Blinding should be carried out before the membrane begins to "skin over".

Tile Bedding / Render Key : (Details 2 & 5) RIW Toughseal can be used to provide a water and water vapour barrier behind tiles, render or beneath thin levelling screeds. Reinforce the first coat of RIW Toughseal, if required, with RIW Toughseal Reinforcing Tape, prior to the application of the second coat. The second coat of the membrane should be blinded with RIW Aggregate Grade 1 at a rate of 1m^2 / kg to provide a key for the finishes.
Blinding should be carried out before the membrane begins to "skin over".
For tiling onto timber / plasterboard substrates, refer to RIW Tilesafe data.

Surface Applied Damp Proof Membrane : (Details 3 & 4) RIW Toughseal may be used as a surface applied damp proof membrane under raised access floors and / or floor finishes at ground level. In this situation the material relies very heavily on a good bond with the substrate to resist water pressure so surface preparation should be of a high standard.

SAFETY

RIW Toughseal products can affect sensitive skins. Gloves or barrier cream should always be used by operatives and hands should be thoroughly washed at the end of each working period. Normal levels of air change are acceptable, however wear a suitable respirator if application is in an enclosed space. Do not allow the products to enter watercourses. Full health and safety instructions are contained on the product material safety data sheets, and these must be referred to before use.

For details of RIW Aggregates and RIW Cleaning Solvent see separate material safety data sheets.

SUPPLY

AVAILABILITY

All RIW products can be obtained through Builders merchants or approved stockists. A list of approved stockists is available from RIW Ltd's offices.

PACKAGING

RIW Toughseal	5 and 20 litre packs (two part)
RIW Aggregate (Grades 1 & 2)	25kg bags
RIW Cleaning Solvent	5 litre containers
RIW Toughseal Reinforcement Tape	7.5m rolls

STORAGE

The shelf life of unopened containers stored in dry warm conditions is 12 months.

TECHNICAL SERVICES

The RIW Technical Department is available to advise on individual projects and to prepare or assist in the preparation of specifications and drawings. A list of experienced applicators of RIW materials is available from RIW Ltd's offices.

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