CI/SfB Vs1

April 2009

BBA BRITISH BOARD OF AGREMENT CERTIFICATE No 05/4232

nssPlus

Cavity Drain

RIW Cavity Drain is manufactured from1.0mm thick black high density polyethylene with studs approximately 20mm high.

Other systems are available for specific uses, refer to Typical Uses inside.

BENEFITS

- Easy to install
- High drainage capacity
- High factor of safety
- High compressive strength
- Chemically resistant
- Can be applied to wet substrates

APPLICATIONS

Waterproofing and vapour proofing of:

- Basement and Sub-structures

APPLIED TO

- Concrete
- Masonry
- Piled walls

RIW

Cavity Drain

TYPICAL USES

RIW Cavity Drain is used in situations where site conditions or structural design make it difficult or impossible to use traditional tanking methods. RIW Cavity Drain is used to collect water entering the structure and channel it to a sump or collection point for disposal (see details 1 and 5).

When designing Type C structures (as classified in BS 8102 : 1990), the product applied correctly, is capable of providing the levels of protection required for Grade 1, 2, 3 & 4 basements.

The product can also be used in conjunction with Type A or B structures where additional protection is required.

Other systems available are :

RIW P5 Cavity Drain - suitable for use vertically where a smaller drainage capacity system is sufficient.

RIW Plaster Drain - suitable for use where walls are to be finished with a plaster or render.

RIW Roof Drain - suitable for use as part of a 'green roof system'.

DURABILITY

Subject to normal conditions of use RIW Cavity Drain will provide an effective barrier to the transmission of water and water vapour for the life of the structure.

SPECIFICATION

J40 - Sheet Tanking / Damp Proofing in accordance with NBS Clause 290. Please consult RIW Ltd. for further information.

INDEPENDENT AUTHORITY

RIW Cavity Drain has been awarded British Board of Agrément Certificate No. 05/4232, covering its use on walls and floors above and below ground.

ANCILLARY PRODUCTS

RIW produce a range of ancillary products for use with RIW Cavity Drain which include :

RIW Sealing Rope - a self-adhesive rope for sealing between individual sheets and around services, fixings etc.

RIW Brick Plugs - a fixing plug for vertical fixing of the RIW Cavity Drain.

RIW Wall / Floor Junction - a pre-formed corner piece for assisting in sealing around corners and services.

RIW Sealing Tape - a self-adhesive tape to seal joints between the RIW Wall / Floor Junction and RIW Cavity Drain vertically.

RIW Adhesive Tape - a double-sided tape for adhering the RIW Wall / Floor Junction to the RIW Cavity Drain horizontally.

RIW Aqua Channel - an internal peripheral drainage channel for use at the base of the wall.

PERFORMANCE & COMPOSITION

RIW CAVITY DRAIN	
Form	High density polythlene sheet
Colour	Black
Thickness	1.0mm
Stud height	20mm
Roll size	2m wide x 20m long
Weight	0.95kg / m^2
Laps	100 mm (2 studs)
Maximum drainage capacity	13 litres / sec / metre length
Working temperature	- 50°C to 80°C
Maximum compressive strength	150kN / m^2

The above performance figures are typical values and should not be considered a product specification.

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.

PREPARATION

All surfaces : Should be firm, and free from obstructions, which would hamper free drainage.

Horizontal surfaces : Should ideally be laid to falls to drainage outlets. Flat slabs are acceptable, provided 'ponding' water is not in excess of 20mm deep.

Concrete surfaces should be treated prior to the cavity drainage membrane being laid or fitted on walls and floors to reduce the risk from leaching of free lime or minerals salts and to avoid the obstruction of the drainage system constructed of new concrete.

APPLICATION

Horizontal : The membrane is laid out 'domes down' over the floor, and consecutive membrane widths are laid so an overlap of two interlocking domes is achieved. The overlapped joints should be sealed using RIW Sealing Rope in the flat section between the two domes. There should be no fixings applied through the floor membrane.

Vertical : Installation of the RIW Cavity Drain is ideally commenced at the top of the construction. Sheets are interlocked by two domes, giving an overlap of 100mm. The lower sheet is always positioned in front of the upper sheet, to form a 'weathered lap'.

All overlaps : Should be sealed using a run of RIW Sealing Rope placed along the flat area of the RIW Cavity Drain membrane between the two rows of domes.

Fixings : Should be made, using RIW Brick Plugs, into 10 mm diameter drilled holes to a minimum depth of 75mm (use punch). Fixings are sealed with RIW Sealing Rope, which is packed around the brick plug before positioning. The fixings are normally required at 1.0m centres, and should be staggered.

Wall / floor junctions : The horizontal and vertical sheets should be butt jointed at the base of the wall, the joint is then covered with the pre-formed RIW Wall / Floor Junction piece.

The dimples that will be covered by the RIW Wall / Floor Junction must be filled with a suitable strength concrete prior to placing the wall / floor junction piece and fixing it horizontally using RIW Adhesive Tape. The vertical joint is sealed using RIW Sealing Tape (see detail 2).

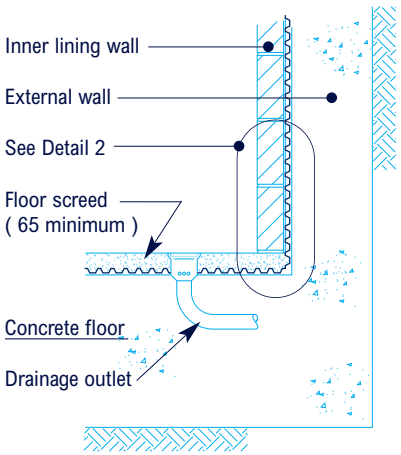
Column / Service penetrations : The RIW Cavity Drain should be cut so it forms a butt joint against any projections, and then sealed with RIW Sealing Rope. The two rows of dimples surrounding the penetration should be filled with a suitable strength concrete or mortar and allowed to dry. The surface should then be cleaned prior to application of RIW Sheetseal 226 around the penetration (see detail 3).

Protection : As soon as possible after application of the horizontal cavity membrane a screed or slab should be laid. Care must be taken to avoid displacing the Cavity Drain during screed or concrete placement. Reinforcement spacers should be supported by pre-filling dimples with suitable strength concrete in localised areas prior to placing the reinforcement. Walkways should be provided to prevent damage during reinforcement, and concrete placing. Vertical surfaces should be protected, by casting concrete against the Cavity Drain, or by building an inner masonry wall. The inner masonry wall may be tied back into the Cavity Drain, by fixing into the brick plugs. A similar method can be adopted should a 'dry lining' system be required.

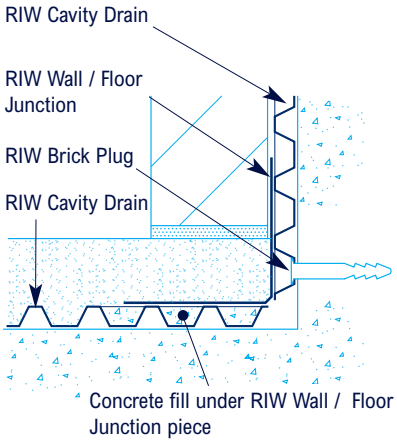
Any damaged areas may be repaired, by cutting a patch at least two dimples larger than the damaged area. The patch is then overlaid and the edges sealed with RIW Sealing Rope.

Drainage : A drainage system of suitable capacity should be provided to collect and dispose of the infiltrating water. The system must be maintainable and inspected at regular intervals.

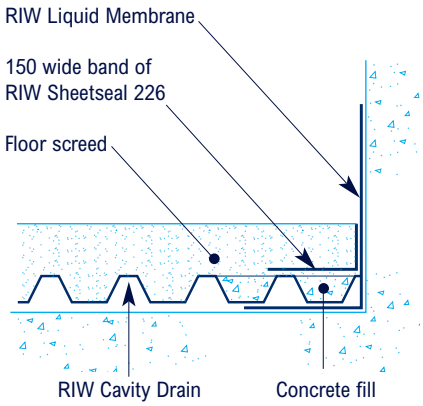
DETAIL 1
TYPICAL FLOOR / WALL DETAIL



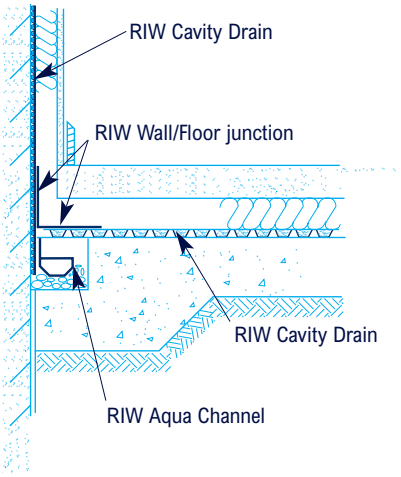
DETAIL 2
WALL - FLOOR JUNCTION



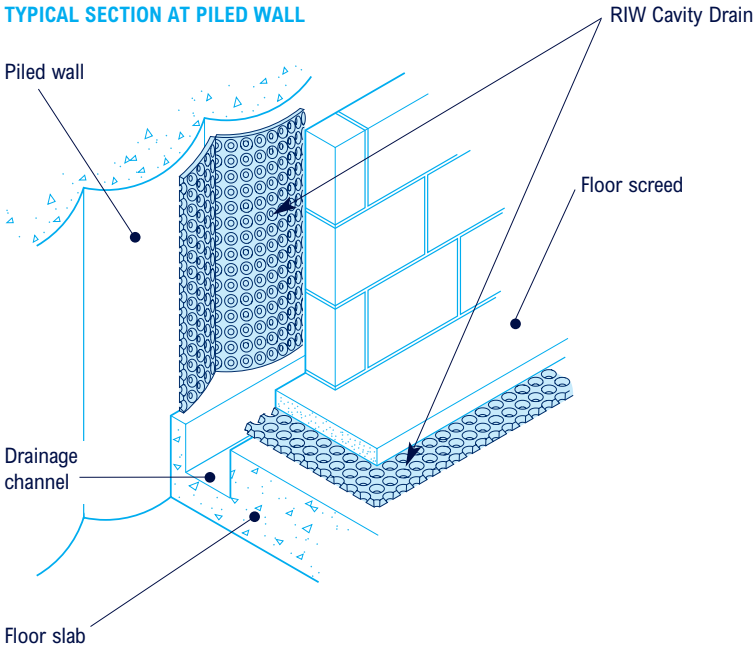
DETAIL 3
DETAIL AT COLUMNS, SERVICE, PIPES ETC .



DETAIL 4
DETAIL AT WALL - FLOOR JUNCTION USING RIW AQUA CHANNEL.



DETAIL 5
TYPICAL SECTION AT PILED WALL



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 Cavity Drain	2m wide x 20m long rolls
RIW Brick Plugs	Box of 100
RIW Sealing Rope	10mm diameter x 5m long rolls
RIW Sealing Tape	30 x 2mm x 20m long rolls
RIW Wall / Floor Junction	20m long rolls
RIW Adhesive Tape	150mm wide x 15m long rolls
RIW Aqua Channel	2m Lengths

STORAGE

There are no special requirements but rolls should be kept upright under cover and protected from extremes of temperature.

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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