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**Agrément
Certificate
No 98/3526**
Second issue*

Designated by Government
to issue
European Technical
Approvals

PROCOR

Revêtement d'étanchéité couche d'étanchéité
Dachabdichtungen Feuchtigkeitssperre

Product



• THIS CERTIFICATE RELATES TO PROCOR, TWO-PART LIQUID-APPLIED WATERPROOFING SYSTEMS.

• The systems are for use in waterproofing inverted roofs, elevated concrete decks and substructures.

These Front Sheets must be read in conjunction with the accompanying Detail Sheets, which provide information specific to the membranes.

Regulations — Detail Sheet 1

1 The Building Regulations 2000 (as amended) (England and Wales)



The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of roof and basement waterproofing systems with the Building Regulations. In the opinion of the BBA, Procor, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: **B4(2)**

Comment:

External fire spread

The fire rating designation of roofs on which the systems are used is dependent on the protective surface finish used. See section 3 of the relevant Detail Sheet.

Requirement: **C4**

Comment:

Resistance to weather and ground moisture

Tests for water resistance on the material indicate that the systems meet this Requirement. See section 2.1 of the relevant Detail Sheet.

Requirement: **Regulation 7**

Comment:

Materials and workmanship

The systems comprise acceptable materials. See section 4 of the relevant Detail Sheet.

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2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, Procor, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation:	10	Fitness of materials and workmanship
Standards:	B2.1 and B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The systems comply with these Standards. See section 4 of the relevant Detail Sheet.
Regulation:	12	Structural fire precautions
Standard:	D9.1	Fire spread from adjoining buildings
Comment:		The fire rating designation of roofs on which the systems are used is dependent on the protective surface finish used. See section 3 of the relevant Detail Sheet.
Regulation:	17	Resistance to moisture
Standard:	G2.6	Resistance to moisture from the ground
Standard:	G3.1	Resistance to precipitation
Comment:		Tests for water resistance on the membrane indicate that the use of the systems can enable a structure to satisfy the requirements of these Standards. See section 2.1 of the relevant Detail Sheet.

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Procor, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The systems comprise acceptable materials. See section 4 of the relevant Detail Sheet.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		Tests for water resistance of the membrane indicate that the use of the systems can enable a structure to satisfy the requirements of this Regulation. See section 2.1 of the relevant Detail Sheet.
Regulation:	E5	External fire spread
Comment:		The fire rating designation of roofs on which the systems are used is dependent on the protective surface finish used. See section 3 of the relevant Detail Sheet.

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: *5 Description* (5.3 and 5.4 of these Front Sheets) and *6 Procedure* (6.3 of the relevant Detail Sheet).

Technical Specification

5 Description

5.1 Procor is a two-component, cold vulcanised, liquid-applied waterproofing consisting of cross-linked latex pre-polymers. The systems comprise:

Procor 10 — trowelling grade for horizontal surfaces and upstands up to 300 mm,

Procor 20 — trowelling grade for vertical and inclined surfaces,

Procor 75 — spray grade.

5.2 Ancillary items for use with the systems include:

Procor Protection Board — a 3 mm thick rot-proof board used unbonded for protecting the surface of Procor against physical damage.

Procor Reinforcement — a reinforcing fabric for use in the Procor Deck System 3R and 4R for inverted roof and elevated concrete deck applications.

Servipak 3 — a 3 mm thick rot-proof board used bonded for protecting the surface of Procor against physical damage.

Armourtape — an adhesive bituminous tape for use across primed butt-joints on protection boards.

Hydroduct Sheet 200/220 — drainage geocomposites for use as protection and drainage.

Hydroduct Sheet 650 — a drainage geocomposite for use in horizontal deck applications to provide protection and drainage.

5.3 The liquid components of the Procor systems are supplied together in the correct mix proportions given in Table 1.

Component (units)	Procor 10	Procor 20	Procor 75
Part A			
volume of pail (l)	25	10	2 × 200
weight of material (kg)	18.60	7.10	500
Part B			
volume of pail (l)	8.60	3	200
weight of material (kg)	5.92	2.26	163

5.4 Procor Protection Board is manufactured to the nominal characteristics given in Table 2.

Characteristics (unit)	Value
thickness (mm)	3.0
width (m)	1.0
length (m)	2.0
weight (kg)	8.0

5.5 Quality control checks are performed on the finished product. Checks include:

appearance
rheological yield
pot life
pH.

6 Delivery and site handling

6.1 The liquid components are delivered to site in containers bearing the manufacturer's name, component identification, mixing and application instructions and safety data. A self-adhesive label bearing the batch number is also applied to the container.

6.2 Components should be stored under cover. Liquid components should be stored in their original sealed containers at temperatures between nine months if unopened.

Design Data

7 Adhesion

7.1 Test data indicate that the adhesion of the membrane to the substrate, including damp substrates, is satisfactory.

7.2 When used over construction or bridging joints, the membrane can accommodate the minor structural movement likely to occur under normal service conditions.

8 Resistance to foot traffic

8.1 The membrane can accept foot traffic typically after 12 to 16 hours at 20°C. Provided there are no sharp objects present on the membrane's surface prior to and during installation of the protective layer, it will not be damaged by normal foot traffic.

8.2 The protection layer should be installed within 24 hours of application to protect the membrane from damage caused by construction activities.

9 Maintenance

Damage to the membrane can be adequately repaired by patching in accordance with the manufacturer's instructions.

Conditions of Certification

10 Conditions

10.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

10.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

10.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked by the BBA or its agents; and

(c) are reviewed by the BBA as and when it considers appropriate.

10.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

10.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, Procort is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 98/3526 is accordingly awarded to Grace Construction Products Limited.

On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to read 'P. Q. Newson', is written over a light grey background.

Date of Second issue: 11th July 2002

Chief Executive

**Original Certificate issued 21st October 1998. This amended version includes reference to revised national Building Regulations, product name changes, revised CDM Regulations and updated Conditions of Certification.*



Grace Construction Products Limited

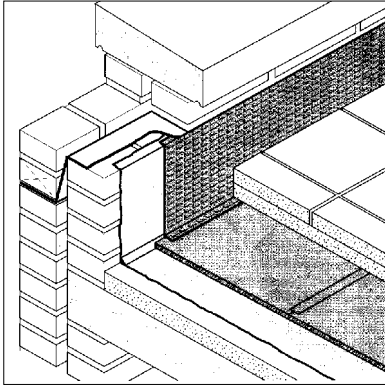
PROCOR AND PROCOR DECK SYSTEMS 2, 3R AND 4R FOR INVERTED ROOFS AND ELEVATED DECKS

Certificate No 98/3526

DETAIL SHEET 2

Second issue*

Product



• THIS DETAIL SHEET RELATES TO PROCOR AND PROCOR DECK SYSTEMS 2, 3R AND 4R FOR INVERTED ROOFS AND ELEVATED DECKS.

• The systems are for use on flat roofs in inverted roof specifications and elevated concrete decks.

This Detail Sheet must be read in conjunction with the Front Sheets, which give the product's position regarding the Building Regulations, general information relating to the applications, and the Conditions of Certification, respectively.

Design Data

1 General

1.1 Procortek and Procortek Deck Systems 2, 3R and 4R are satisfactory for use as:

- (1) Waterproofing layers in inverted specifications on flat roofs.
- (2) Protected waterproofing layers in the following elevated deck specifications:

parking decks
plaza decks
terraces
green roofs
planters
podiums
suspended floor slabs.

1.2 When designing flat roofs, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including such information as overall and local deflection, and direction of falls. Flat roofs are defined for the purpose of this Certificate as those roofs having a minimum finished fall of 1:80. Pitched roofs are defined as those having falls in excess of 1:6.

1.3 Insulation materials used in conjunction with the product must be approved by the manufacturer and either:

- (a) as described in the relevant clauses of BS 8217 : 1994, or

(b) the subject of a current BBA Certificate and be used in accordance with and within the limitations of that Certificate.

1.4 Precast concrete and concrete block decks to which the product is to be applied must comply with the relevant requirements of BS 6229 : 1982, BS 8217 : 1994 and, where appropriate, NHBC Standards, Chapter 7.1 or the Zurich Building Guarantees Technical Standards, Section 5, clause 5.9.3.19.

1.5 Structural decks must be suitable to transmit dead and imposed loads calculated in accordance with BS 6399-1 : 1996 and BS 6399-3 : 1988, respectively, experienced in service.

2 Weathertightness

2.1 Data examined confirm that the membrane will adequately resist the passage of moisture to the inside of the building and so meet or satisfy the relevant requirements of the national Building Regulations:

England and Wales

Approved Document C, Requirement C4, Section 5.1

Scotland

Regulation 17, Standard G3.1

Northern Ireland

Regulation C4.

Electronic Copy

2.2 The membrane is impervious to water and, when used in the systems described, will give a waterproofing layer capable of accepting minor structural movements without damage.

3 Properties in relation to fire



The membrane is always used under a protective surface finish. The fire rating of the roof is dependent on the finish used, the designation of which should be confirmed by:

England and Wales

Test or assessment in accordance with Approved Document B, Appendix A, clause A1

Scotland

Test to conform to Standard D9.1

Northern Ireland

Test or assessment by a UKAS accredited laboratory, or an independent consultant with appropriate experience.

4 Durability



4.1 Procor and Procor Deck Systems 2, 3R and 4R when fully protected and subject to normal service conditions, will provide an effective barrier to the transmission of liquid water and water vapour for the design life of the structure in which they are incorporated.

4.2 In common with all waterproofing systems in situations where maintenance or repair of any of the components in the roof structure are necessary (eg protection layer, insulation, or deck), the durability of the membrane may be reduced due to accidental damage. In these circumstances the Certificate holder should be consulted.

Installation

5 General

5.1 Procor and Procor Deck Systems 2, 3R and 4R for Inverted Roofs and Elevated Decks must be installed in accordance with the manufacturer's instructions. The application of the systems is carried out by trained contractors only.

5.2 Installation should be carried out only at ambient temperatures between +4°C and +35°C and should not be carried out during wet or damp weather (eg rain, snow, fog).

5.3 Substrates must be wood/skip float or shutter finish and free from large voids and sharp projections such as concrete nibs. Any abrupt irregularities greater than 3 mm must be removed or filled prior to application.

5.4 The substrate must be clean, free from loose material, frost free and free from standing water. The membrane may be applied to damp-to-the-

touch substrates. Surfaces with excessive laitance may require shot blasting or pressure hosing.

6 Mixing

6.1 Procor can be mixed either mechanically or manually. Part A is pre-mixed for 30 seconds prior to the addition of Part B. Material is mixed until a homogeneous, streak-free colour, is achieved. Unmixed material from the side of the mixing vessel is scraped off and mixed in.

6.2 Overmixing of the material should be avoided as it will cause excessive thickening.

6.3 Mixed material should not be left in the mixing vessel for any length of time, as temperatures above 100°C could be generated by the curing material and could cause burns to unprotected skin.

6.4 Procor can also be mixed mechanically through the spray application of the product.

7 Procedure

7.1 The main membrane is applied using a pour-and-spread technique using a suitable spreading and levelling tool. Rubber squeegees should not be used for this task. Procor can also be applied by airless spray.

7.2 During the system application, all horizontal to vertical joints should be reinforced with a 2 mm thick layer of Procor, extending 150 mm from the feature being reinforced. For movement joints with a design movement in excess of 25% of the joint width, the manufacturer should be consulted.

System 2

7.3 The main waterproofing layer should be applied at an approximate coverage rate of 2 litres per m², on wood float finish substrates, giving a minimum membrane thickness of 2 mm. On poorer quality finish substrates a greater coverage rate should be used to ensure the 2 mm minimum thickness.

7.4 Application rate is controlled by marking out a set area on the substrate (eg 10 m² for a 20 litre unit) and spot checking with a wet film thickness gauge.

7.5 Once the membrane has cured sufficiently to allow foot traffic, any pinholes and blistering in the membrane should be repaired by slitting and recoating prior to application of protection layer.

System 3R

7.6 The first layer of Procor is applied at a minimum coverage rate of 1.67 litres per m² to give a minimum thickness of 1.5 mm. The reinforcement is then placed over the first layer and coated with a second layer of Procor at a minimum coverage rate of 1.67 litres per m² to give a minimum thickness of 1.5 mm for each layer (overall thickness of 3 mm).

7.7 Any reinforcement showing through the membrane should be recoated once the membrane has cured sufficiently to allow foot traffic.

System 4R

7.8 The first layer of Procor is applied as in sections 7.3 to 7.5. The reinforcement is then placed over the first layer and coated with a second layer of Procor at a coverage rate to give a minimum thickness of 2 mm for each layer (overall minimum thickness of 4 mm).

7.9 Any reinforcement showing through the membrane should be recoated once the membrane has cured sufficiently to allow foot traffic.

Laps

7.10 Fresh Procor can be lapped onto dry, clean, previously-applied Procor up to seven days old using a minimum lap of 100 mm.

7.11 Where previously applied, Procor is more than seven days old, the surface of the membrane is lightly abraded with a coarse sanding disk, wire brush or similar. The minimum lap used is 100 mm.

Protection

7.12 The membrane should be protected against damage from construction activities normally within 24 hours of application of the top layer.

7.13 If unbonded protection is required, Procor Protection Board or Hydroduct Sheet is laid once the membrane is tack free, normally within 24 hours after application at 20°C.

7.14 If a bonded protection board is required, Servipak 3 or Hydroduct Sheet is laid while the membrane still has some tack.

7.15 Maximum exposure period for protection boards is 30 days.

7.16 Alternatively, the membrane can be protected with a sand/cement screed.

Technical Investigations

The following is a summary of the technical investigations carried out on Procor and Procor Deck Systems 2, 3R and 4R for Inverted Roofs and Elevated Decks.

8 Tests

8.1 Samples of Procor 10 and Procor 20 were obtained from the manufacturer for the purpose of testing. The following tests were performed by the BBA:

tensile strength and elongation at break
water absorption
resistance to six-metre head of water
tensile bond strength
chisel impact
static indentation
dynamic indentation
water vapour permeability
resistance to sliding
fatigue movement
effect of heat ageing
effect of water soak
effect of damp substrates on adhesion.

8.2 The results for the above tests are available on request from the Certificate holder.

9 Other investigations

9.1 The manufacturing process was examined, including the methods adopted for quality control.

9.2 Visits were made to a site to assess the practicability of installation of Procor Deck System 4R.

Bibliography

BS 6229 : 1982 *Code of practice for flat roofs with continuously supported coverings*

BS 6399-1 : 1996 *Loading for buildings — Code of practice for dead and imposed loads*

BS 6399-3 : 1988 *Loading for buildings — Code of practice for imposed roof loads*

BS 8217 : 1994 *Code of practice for built-up felt roofing*



On behalf of the British Board of Agrément

Date of Second issue: 11th July 2002

Chief Executive

**Original Detail Sheet issued 21st October 1998. This amended version includes change of system names, inclusion of System 3R and amendments to installation procedures.*



Grace Construction Products Limited

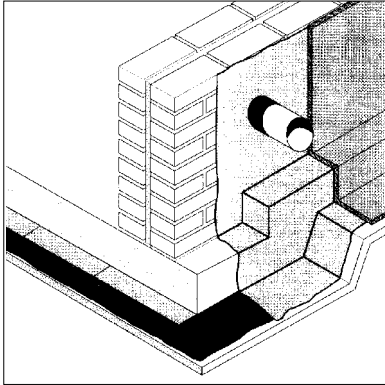
Certificate No 98/3526

DETAIL SHEET 3

Second issue*

PROCOR FOR SUBSTRUCTURES

Product



- THIS DETAIL SHEET RELATES TO PROCOR FOR SUBSTRUCTURES.
- The system is for use in internal and external waterproofing and damp-proof applications.

This Detail Sheet must be read in conjunction with the Front Sheets, which give the product's position regarding the Building Regulations, general information relating to the applications, and the Conditions of Certification, respectively.

Design Data

1 General

1.1 ProcCor for Substructures is satisfactory for use as above- and below-ground waterproofing on substrates of concrete, brickwork, blockwork or masonry in grade 2, 3 and 4 basement constructions⁽¹⁾, or as a damp-proof membrane for solid floors.

(1) As defined in Table 1 of BS 8102 : 1990.

1.2 The membrane is compatible with the substrate and is resistant to those chemicals likely to occur in normal practice. If doubt arises on the compatibility with other materials, the advice of the manufacturer should be sought.

2 Weathertightness



2.1 Data examined confirm that when completely sealed and consolidated, the membrane will adequately resist the passage of moisture to the inside of the building and so meet or satisfy the relevant requirements of the national Building Regulations:

England and Wales

Approved Document C, Requirement C4, Section 3

Scotland

Regulation 17, Standard G2.6

Northern Ireland

Regulation C4.

2.2 The membrane is impervious to water and, when used in the systems described, will give a waterproofing layer capable of accepting minor structural movements without damage.

3 Properties in relation to fire



When used in the specifications described in this Detail Sheet, the membrane is not subject to the Fire Regulations.

4 Durability



ProcCor for Substructures, when fully protected and subjected to normal service conditions, will provide an effective barrier to the transmission of liquid water and water vapour for the design life of the structure in which it is incorporated.

5 General

5.1 Procor for Substructures must be installed in accordance with the relevant requirements of CP 102 : 1973, Section 2 or BS 8102 : 1990 and the manufacturer's instructions.

5.2 Installation should be carried out only at ambient temperatures between +4°C and +35°C and should not be carried out during wet or damp weather (eg rain, snow, fog).

5.3 Concrete substrates must be wood/skip float or shutter finish and free from large voids and sharp projections such as concrete nibs. Any abrupt irregularities greater than 3 mm must be removed or filled prior to application. Walls of masonry, brickwork and blockwork should be flush pointed or bagged.

5.4 The substrate must be clean, free from loose material, frost free and free from standing water. The membrane may be applied to damp-to-the-touch substrates.

5.5 Poor quality surfaces, such as those that are powdery, friable or have excessive laitance, may require shot-blasting or pressure hosing to provide a sound, dense surface, free from contaminants.

6 Mixing

6.1 Procor can be mixed either mechanically or manually. Part A is pre-mixed for 30 seconds prior to the addition of Part B. Material is mixed until a homogeneous, streak-free colour is achieved. Unmixed material from the side of the mixing vessel is scraped off and mixed in.

6.2 Overmixing of the material should be avoided as it will cause excessive thickening.

6.3 Mixed material should not be left in the mixing vessel for any length of time, as temperatures above 100°C could be generated by the curing material and could cause burns to unprotected skin.

6.4 Procor can also be mixed mechanically through the spray application of the product.

7 Procedure

7.1 During the system application, all horizontal to vertical joints should be reinforced with 1.5 mm thick layer of Procor, extending 150 mm from the feature being reinforced. For movement joints with a design movement in excess of 25% of the joint width the manufacturer should be consulted.

Horizontal surfaces

7.2 Procor is applied using a pour-and-spread technique, using a suitable spreading and levelling

tool. Rubber squeegees can also be used for this task. Procor can also be applied by airless spray.

7.3 Procor should be applied at an approximate coverage rate of 1.67 litres per m², on wood float finish substrates, giving a minimum membrane thickness of 1.5 mm. On poorer quality finish substrates a greater coverage rate should be used to ensure the 1.5 mm minimum thickness.

7.4 The application rate is controlled by marking out a set area on the substrate (eg 12 m² for a 20 litre unit) and spot checking with a wet film thickness gauge or steel rule.

7.5 Once the membrane has cured sufficiently to allow foot traffic, any pinholes and blistering in the membrane should be repaired by recoating prior to application of protection layer.

Vertical surfaces

7.6 Procor is applied using a pour-and-trowelling technique starting at the bottom of walls and working up, using a plasterer's trowel. Coverage rate, methods of controlling rate (in this case area would be 4.5 m² for a 7.5 litre unit) and repair are carried out as described in sections 7.3 to 7.5.

Laps

7.7 Fresh Procor can be lapped onto dry, clean, previously applied Procor up to seven days old using a minimum lap of 100 mm.

7.8 Where previously-applied Procor is more than seven days old, the surface of the membrane is lightly abraded with a coarse sanding disk, wire brush or similar. The minimum lap used is 100 mm.

Protection

7.9 The membrane should be protected against damage from construction activities normally within 24 hours of application.

7.10 If protection boards are to be heavily trafficked during construction work additional protection must be provided.

7.11 If a bonded protection board is required, Servipak 3 or Hydroduct Sheet is laid while the membrane still has some tack.

7.12 If unbonded protection is required, Procor Protection Board or Hydroduct Sheet is laid once the membrane is tack free, normally 24 hours after application.

7.13 Maximum exposure period for protection boards is 30 days.

7.14 Alternatively, the vertical membrane can be protected with a brick or block wall.

Technical Investigations

The following is a summary of the technical investigations carried out on Procor 10 and Procor 20 (component parts of Procor for Substructures).

8 Tests

8.1 Samples of Procor 10 and Procor 20 were obtained from the manufacturer for the purpose of testing. The following tests were performed by the BBA:

tensile strength and elongation at break
water absorption
resistance to six-metre head of water
tensile bond strength
chisel impact
static indentation
dynamic indentation
water vapour permeability
resistance to sliding
fatigue movement
effect of heat ageing
effect of water soak
effect of damp substrates on adhesion.

8.2 The results for the above tests are available on request from Grace Construction Products Limited.

9 Other investigations

9.1 The manufacturing process was examined, including the methods adopted for quality control.

9.2 Visits were made to a site to assess the practicability of installation.

Bibliography

BS 8102 : 1990 *Code of practice for protection of structures against water from the ground*

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*



On behalf of the British Board of Agrément

Date of Second issue: 11th July 2002

Chief Executive

**Original Detail Sheet issued 21st October 1998. This amended version includes amendments to installation procedures.*