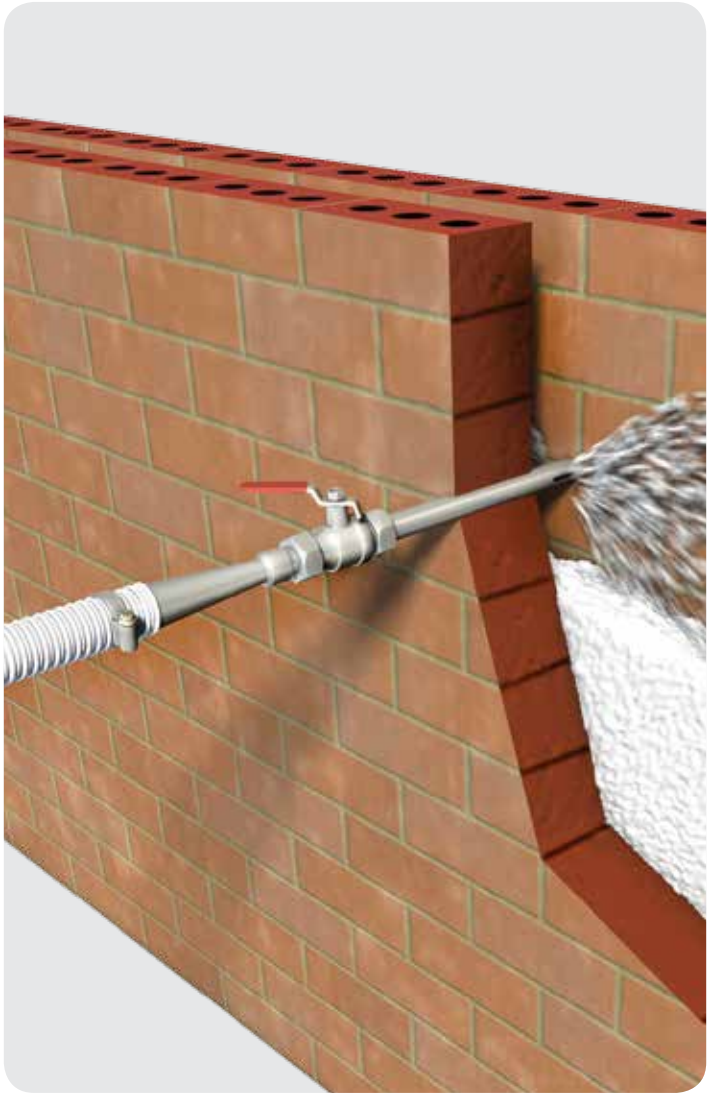
CWI CarbonPlus

SIG Cavity Wall Insulation CarbonPlus®



Installation Manual

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 13/5001

Contents

Typical Equipment Check List

- ✓ SIG Retrofit System Support approved blowing machine
- ✓ Lorry or Trailer
- ✓ SIG Cavity Wall Insulation CarbonPlus® Installation Kit, consisting of:
  - Blowing hose: 63mm diameter - 1 x 15m length
    51mm diameter - 1 x 15m length
    38mm diameter - 1 x 15m length
  - Injection nozzle: 1 x 17mm ball valve injection RF nozzle
  - Drill bit: 1 x 20mm drill bit
  - Hose reducers and clips
- ✓ Test box: (500mm x 500mm x 70mm)
- ✓ 0 - 2 kg spring balance
- ✓ Cavity barriers and chain (or similar)
- ✓ Ventilators, including industry approved sleeving materials
- ✓ Access equipment / PPE:
  - Personal protective equipment and access safety kit
  - HSE approved extending ladders
  - Additional, required and approved access equipment
- ✓ Tools:
  - Hand tools, including chisel/hammer etc.
  - Inspection lamps
  - Drilling machines (heavy duty with 110v safety clutch)
  - Tool kit: spanners, screwdrivers, hacksaw, hammer, pliers
  - Trowel, jointing bar/trowel, mortar hawk, mortar or sand & cement, range of colour pigments, rendering finishes, mixing bowl/bucket
- ✓ Cleaning equipment:
  - Yard brush, shovel, dustpan & brush, rubbish bags
  - Water hose and couplings

Technician Training, Assessment, Approval and Inspections

The following is a guide to training requirements prior to approval of installation technician.

Existing Approved Installing Company:

- Attend approved training centre for training course on flues, chimneys & combustion air ventilators.
- Attend a SIG Retrofit System Support classroom/on-site training course as required. Continuation of on-site training with qualified technician/s overseen by SIG Retrofit System Support (Technical Systems Supervisor).
- Technician assessment and approval. An assessment will be carried out by SIG Retrofit System Support (Technical Systems Supervisor), at the end of the training period to ascertain if trainee technician is competent to become an approved technician. When approved the technician will be supplied with ID card confirming approval and notification sent to British Board of Agrément (BBA).

New Approved Installing Company:

- Technician training for a new approved installing company will be carried out under the guidance and supervision of SIG Retrofit System Support as the System Designer and subsequently audited by the BBA.
- Attend approved training centre for training course on flues, chimneys and combustion air ventilators.
- Installing company training should include, introduction into the industry's standards of health and safety and customer care. This will be followed by a 1 day training course by SIG Retrofit System Support covering all basic installation procedures when installing cavity wall insulation.
- On-site training under the supervision of SIG Retrofit System Support.
- Technician assessment and approval. An assessment will be carried out by SIG Retrofit System Support (Technical Systems Supervisor), at the end of the training period to ascertain if trainee technician is competent to become an approved technician. When approved the technician will be supplied with ID card confirming approval and notification sent to British Board of Agrément (BBA).

On-site Inspections:

- Following approval each Technician will be inspected on-site a minimum of four times in each year evenly spread out through the inspection year.
- A Technician's card will be withdrawn where it is shown that the Technician no longer has the capability, intention or competence to undertake the installation in a correct manner.

Note: Prior to assessment and approval the following will be required:
a) A copy of attendance certificate on ACoPs course.
b) Documentation from installing company listing training development.

SIG Cavity Wall Insulation CarbonPlus® Training Programme

Company: _____

Approved installer: _____

Name of technician: _____

Starting date: _____

Person responsible for training: _____

- [ ] ACoPs accreditation or equivalent validated
- [ ] Induction course (office)
- [ ] On-site training
- [ ] Health and safety
- [ ] Customer care
- [ ] Pre-installation checks
- [ ] Drilling patterns
- [ ] Drilling operation
- [ ] Fitting cavity barriers
- [ ] Sleeving and reinstatement of air bricks
- [ ] Operation of blowing machine
- [ ] On-site quality control (test box etc)
- [ ] Filling operation to include RF injection nozzle
- [ ] Making good
- [ ] Post-installation checks
- [ ] Flues and combustion air

At the end of the training programme, SIG Retrofit System Support (Technical Systems Supervisor) will test the technician to ensure that he or she has acquired a good basic knowledge of installing Cavity Wall Insulation.

Declaration

This is to confirm that_____has completed the above training on the_____System(s)

B.B.A no/s_____

Technical Systems Supervisor signature_____

Technician's signature_____

Date_____

Representation of training programme, SIG Retrofit System Support training programme available on request.

Customer Care

The following points may seem so obvious as to be trivial but remember this: as far as the customer is concerned, this is their first experience of CWI. You will be judged on what is important to them - not what matters to you.

- Check you are at the right address, and identify yourself, showing your credentials.
- Talk to the customer personally, without being over-familiar. Customers like their names being used.
- Don't park vehicles on the customers drive without permission.
- Explain to the customer what you intend to do before you start work.
- Remind the customer that you will need access to the building, and what you have to do inside. To you it may just be a property, but to them it's their home.
- Advise the customer of any precautions needed e.g., removal of ornaments etc., from window sills, worktops etc.
- Remove all ornaments, above, if the customer is unable to do so.
- If it is a semi-detached house or flat, ask if the neighbours are aware of the work being carried out. If they are not, then let them know what's happening.
- Ask customers and neighbours to move cars, washing and other items that might be affected by dust. Advise them to close windows.
- Put down dust sheets where required.
- If working in a garage remove items from shelves affected by the work. Make sure these are replaced.
- Clear up any mess as soon as possible.
- Ask permission if you need to use the customers toilet facilities.
- Try not to get involved in any arguments with the customer, or respond negatively to any complaints or criticism.
- Avoid criticism of other companies.
- Point out any problems or defects to the customer before starting work and report on work card.
- If you use towers, ladders, planks or scaffolding etc, explain to the customer what you are doing and why.
- If any damage is caused, however small, inform the customer and report the matter to your company. Tell the customer that the matter will be dealt with appropriately.
- If the customer complains you should record their complaint and refer the matter back to your company with the same assurance that it will be dealt with quickly.
- If customers ask about a guarantee, tell them this is issued by the Cavity Insulation Guarantee Agency (C.I.G.A.) which will send the guarantee certificate directly to the customer within four to six weeks.
- Ask the customer to examine and inspect the work carried out and sign any appropriate compliance or satisfaction notes etc.

Pre and Post Installation Checks

Pre - Installation Checks
Must be carried out by the installation crew to ensure that, the property is suitable by:

- Measuring the cavity width in at least 10 locations for every 100m² wall area.
- Measuring a minimum of 3 boroscope holes per elevation including one just above the damp proof course level.
- Where partial fill insulation is found, additional boroscope inspections must be carried out at each corner of the building.

If any single measurement is less than 50mm, the cavity is classed as 'narrow cavity'.

If any cavity is found to contain insulation partially filling the cavity it is classed as 'partial fill'.

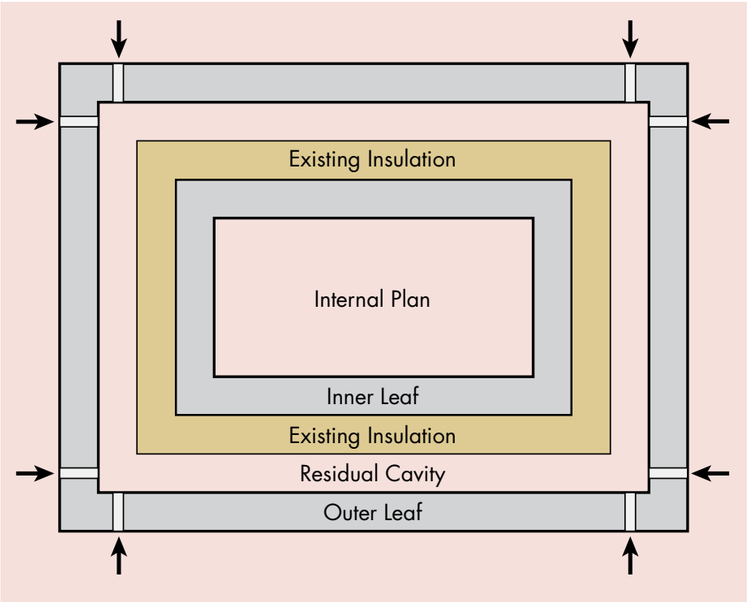
Either type of cavity should not be filled if any measurement is less than 40mm.

The installing technician must also familiarise themselves with the property details, carry out safety checks on all heating appliances and ensure that all ventilators are of the required standard and functioning correctly.

It is necessary to use a good quality boroscope or video endoscope on each elevation and around features likely to cause obstructions to filling.

If using a video endoscope it is preferable that pictures are captured of features such as obstructions within the cavity before and after removal as a record that the cavity is now suitable for filling.

Additional Inspection / Boroscope points



Post - Installation Checks
Must be carried out to ensure that the installation has been completed, and that no damage has occurred to the property.

All heating appliances /ventilators must be checked for safe operation and results documented and make sure that the customer is satisfied before leaving site.

For Further Guidance See:

- SIG Cavity Wall Insulation CarbonPlus® BBA certificate
- C.I.G.A Technician's Guide To Best Practice:
  - -Suitability of External Walls for Filling with Cavity Wall Insulation (Existing buildings).
  - -Installing Cavity Wall Insulation.
  - -Flues, Chimneys and Combustion Ventilators.
  - -Working at height.

It is necessary to drill inspection holes to carry out the checks within the cavity described in C.I.G.A.'s "Installing Cavity Wall Insulation" manual.

A drill depth stop must be used, both during survey and installation.

Partial Fill – Identifying the Insulation

Where partial fill insulation is installed it is necessary to be able to identify which type of insulation it is.

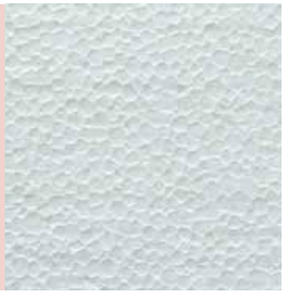
SIG Cavity Wall Insulation CarbonPlus® is approved for use with the following types of partial fill insulation:

Mineral Wool

- These products are most often referred to as DriTherm or Rockwool.
- Mineral Wool insulation can be brown, yellow, pink or greenish in colour.
- Mineral wool is suitable for use as both full and partial fill insulation so extra care must be taken to confirm that there is a suitably sized residual cavity.

Expanded Polystyrene

- It is manufactured by expanding beads of Polystyrene (a plastic) which is then formed into boards for use in buildings.
- Even if you have never seen Expanded Polystyrene being used on a building site you are probably familiar with it, as it is used in packaging and drinks cups.
- You might have heard it being referred to as 'EPS', bead board or 'Poly'.
- The product is usually white or grey in colour or a mixture of the two.



Extruded Polystyrene

- Extruded Polystyrene is made from Polystyrene which is extruded into rigid foam boards rather than formed from beads of polystyrene.
- You might have heard it being referred to as XPS, Polyfoam or Styrofoam.
- It is most often pink, orange or blue in colour but other colours are available – each manufacturer tends to make their XPS in a different colour.
- When used in a cavity application it most often has a ship-lap edge detail – a rebate that locks one board to the next board.

PUR / PIR / Phenolic

- The polyurethane family of insulation products are made by reacting chemicals together to form a foam which cools and sets into a rigid board.
- You might have heard it being referred to as Urethane, Kingspan or Celotex.
- It is most often foil faced (i.e. with a layer of foil facing into the cavity) with a cream, pink or orange coloured core.
- The boards should be stuck together at the edges with foil tape but may not be.

Pre-insulated blocks

- These are standard building blocks that had insulation bonded to them at the factory before going to site.
- The insulation could be any of the types you've already seen.
- They can be distinguished from a 'built-in' type of insulation as the mortar joints will be evident between the insulation boards, and the boards will be block size – typically 440 x 215mm. Built-in insulation boards are more likely to 1200 x 450mm.

Insulation Types NOT approved

- Wood fibre board
- Cork
- Foil insulation
- Bubble wrap
- Pre-insulated formwork

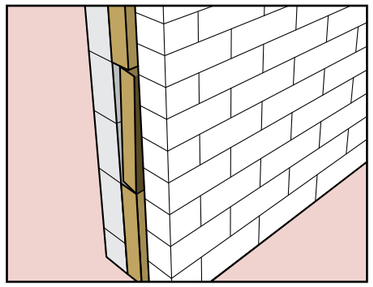
If in any doubt abort the installation and contact us.

Condition of the Partial Fill

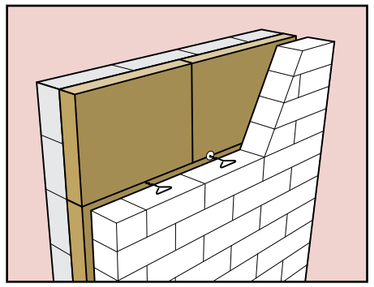
After identifying the partial fill as being of a suitable type, further checks must be made to ensure that the existing insulation is in good condition.

Any of the following defects must be rectified before installation can proceed. It is necessary to check that:

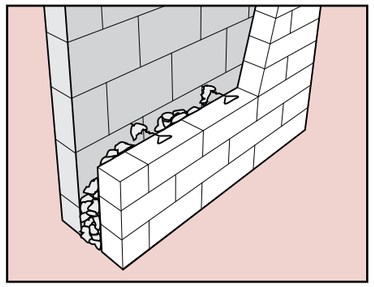
- There are no boards dislodged or overlapping each other in the cavity



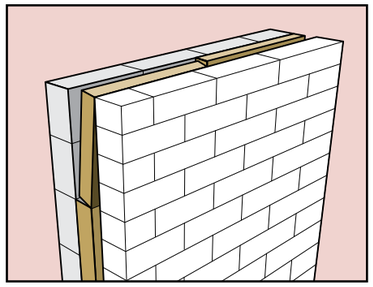
- The insulation is securely fixed with clips on all wall ties



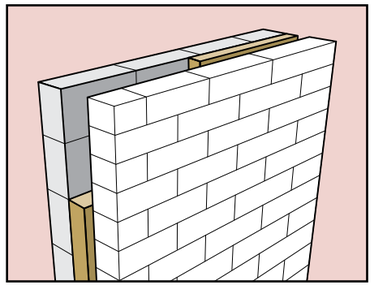
- There is not excessive mortar on wall ties and at the base of cavities



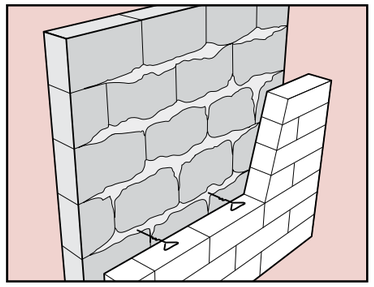
- There are no boards touching the outer leaf



- There is no insulation missing especially near windows and at cavity heads



- The cavity is not restricted by excessive mortar squeeze between bricks in the inner or outer leaf



The above checks are particularly important where the wall includes bridging features such as boiler flues, service boxes, waste-pipes etc. In these situations, additional documented boroscope checks will be required.

Drilling Operation

- Every care should be taken to minimise the amount of debris that falls into the cavity.

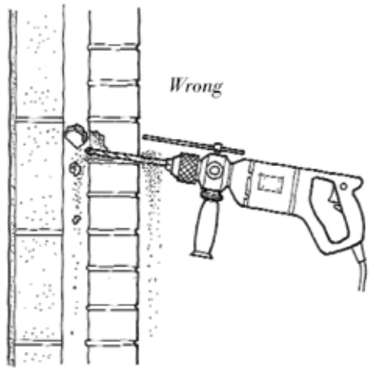
- When drilling holes through the outer leaf, make sure they do not slope inwards towards the cavity.

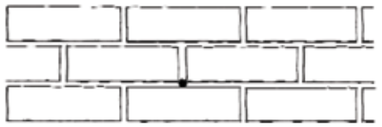
- When drilling facing brickwork, make sure the holes are drilled at the base of the mortar joint.

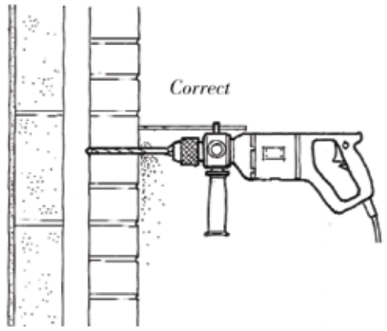
- All drilling must be completed on one elevation and at least 2m of the adjoining elevations before injection commences on that elevation.

  Care should be taken when drilling next to building features such as pipes, vents flues etc. Extra injection holes will be required to ensure completeness of fill around building features. It is advisable to drill at least two courses below such features.

- The cavity width must be measured and recorded through the drill holes on each elevation to enable quality control checks to take place after installation. The cavity must be measured in at least 10 locations and more if possible to enable an accurate calculation to be made.
  The cavity should not be filled if any measurement is less than 40mm.

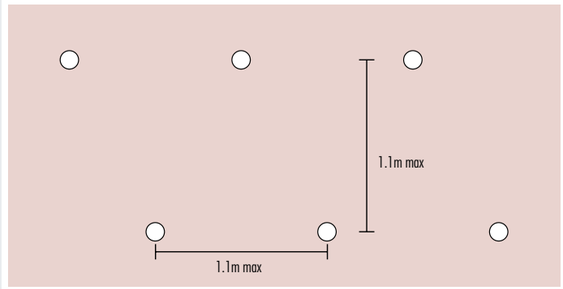




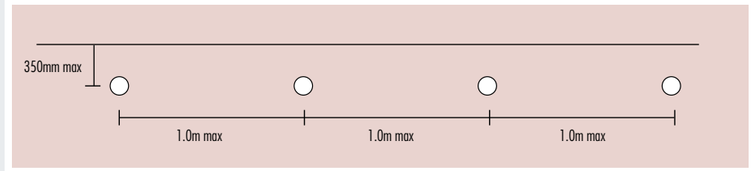


Drilling Pattern

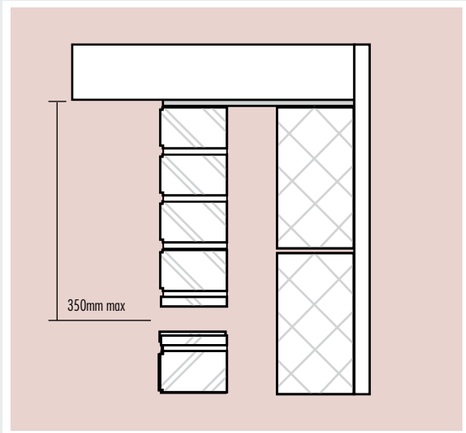
The SIG Cavity Wall Insulation CarbonPlus® system uses 20mm diameter holes. Subject to the constraints given below, the distance between successive injection holes should be a maximum of 1.1m. Wherever possible, a diamond pattern should be used so that an injection hole in one row is midway between two holes in the rows above and below.



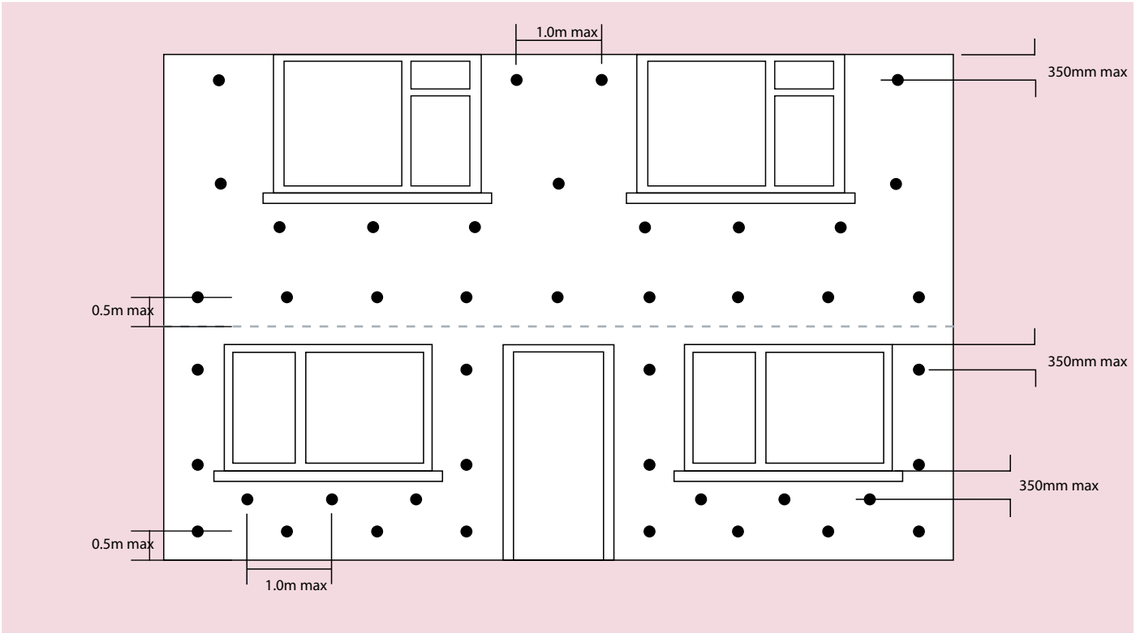
At the tops of walls and under gables, the topmost injection holes should not be more than 350mm below the upper edge of the cavity to be filled. Additionally under horizontal boundaries, for example under eaves, windows or lintels, the centres between the topmost injection holes should not exceed 1.0m.



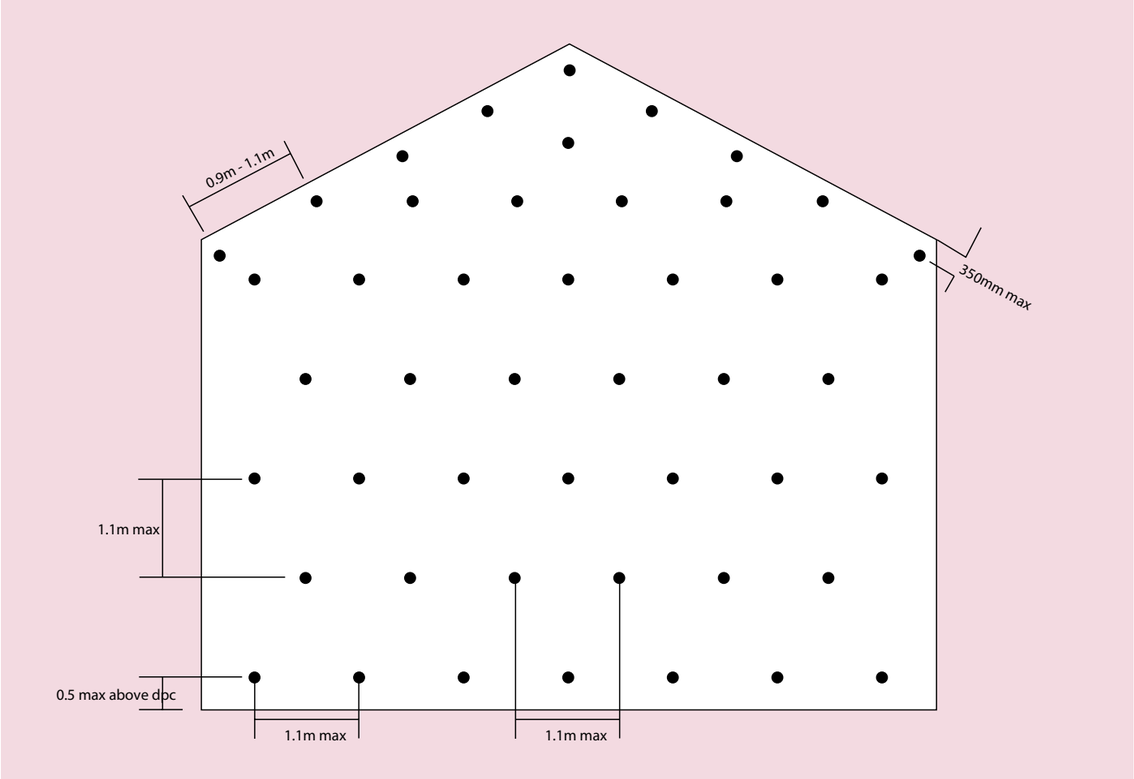
With sloping boundaries, for example under the eaves of a gable end, the centres between the successive injection holes should be between 0.9m and 1.1m depending on the slope of the boundary. The nearer the boundary is to the horizontal, the closer together the holes should be. The lowest blowing holes should not be more than 0.5m above the horizontal dpc.
Extra injection holes will be required to ensure completeness of fill around building features.
Where lintels project beyond a vertical cavity closure the 350mm rule shall apply.



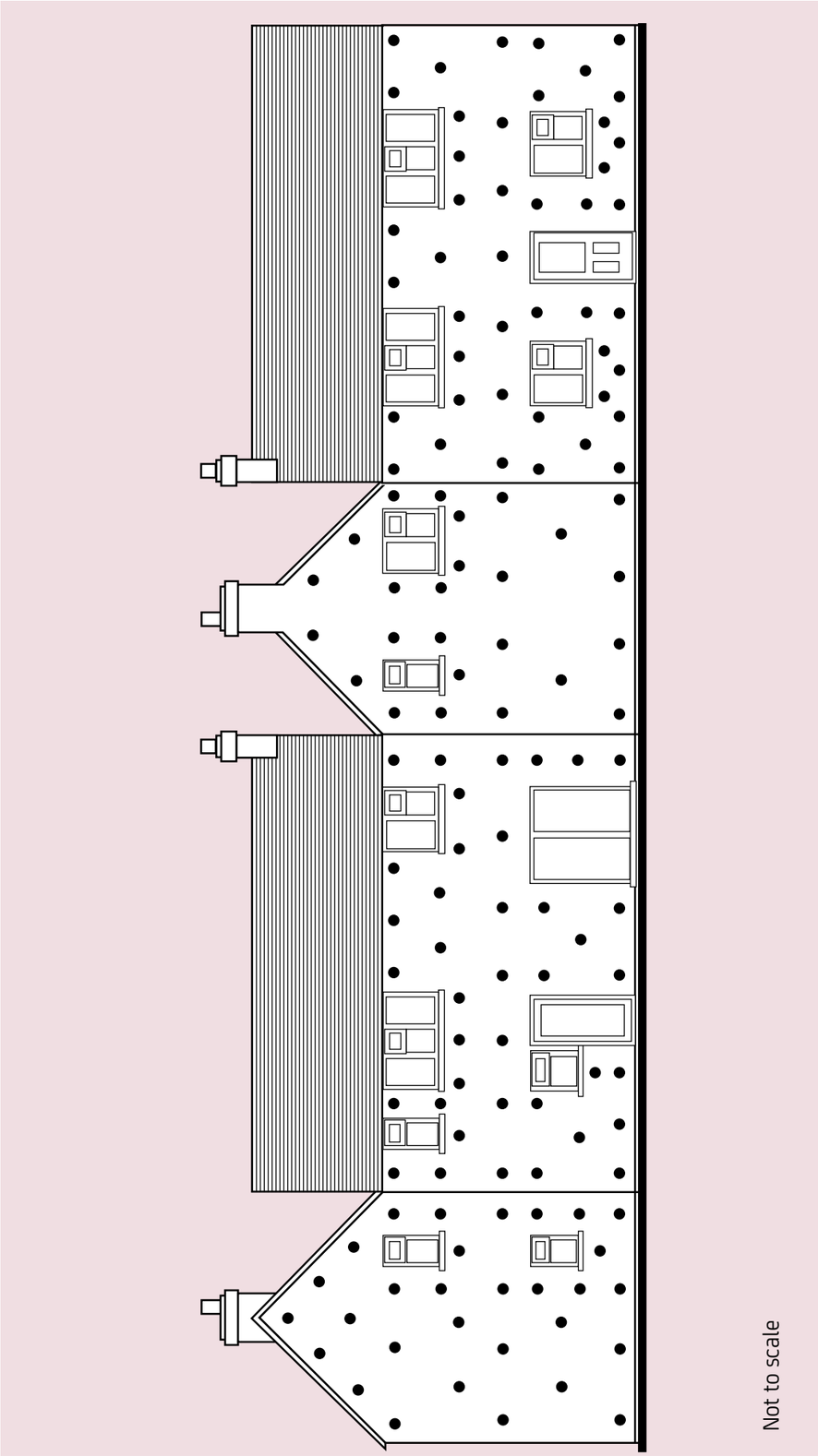
Typical SIG Cavity Wall Insulation CarbonPlus® drilling pattern - elevation



Typical SIG Cavity Wall Insulation CarbonPlus® drilling pattern - plain gable end



Typical Detached House Elevations



Injection Machinery

SIG Cavity Wall Insulation CarbonPlus® must be installed using an approved blowing machine. The following blowing machines are approved by SIG Retrofit System Support and the British Board of Agrément (BBA).

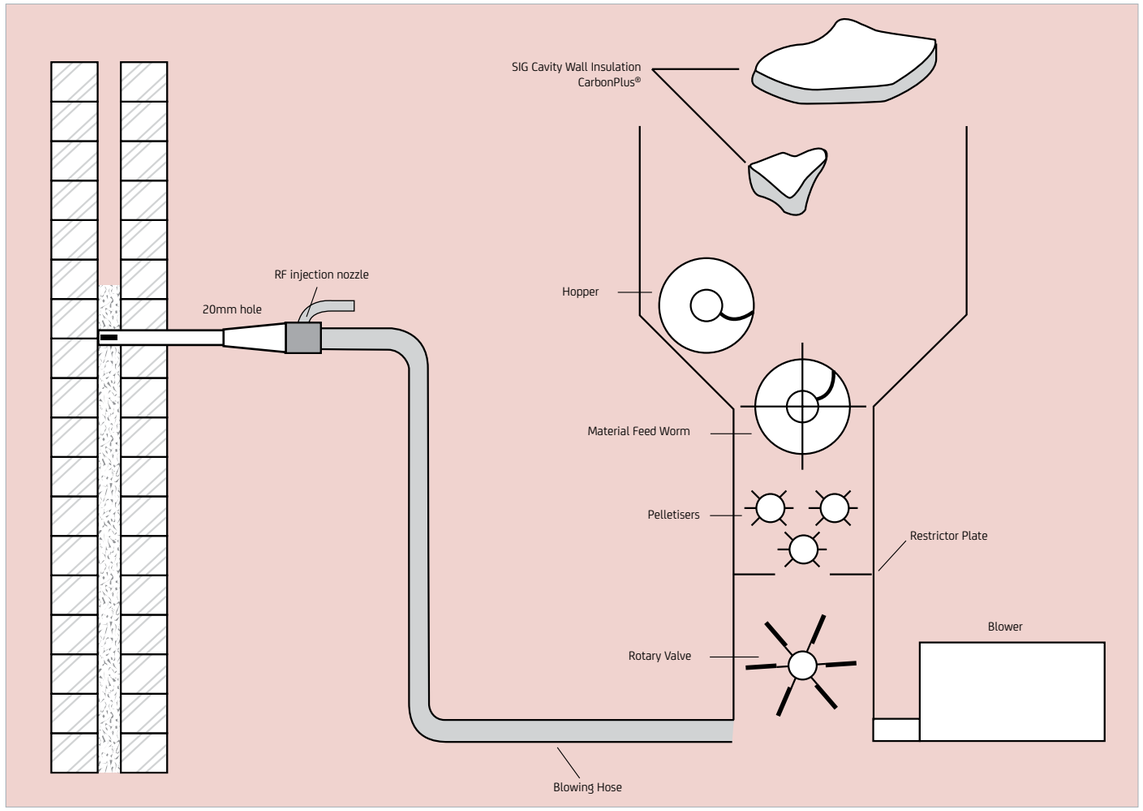
- Krendl KR 2300
- Peak Clipper (Electric)
- Peak Diesel
- Stewart Energy Fibremaster Mk3 500
- Stewart Energy Fibremaster Mk3 750
- Stewart Energy Fibremaster Mk3 1000
- TIMCO Compact
- TIMCO Standard

Each blowing machine is identified as being approved by a plate/label showing the BBA Certificate No. 13/5001 (SIG Cavity Wall Insulation CarbonPlus®).

As far as the handling and treatment of SIG Cavity Wall Insulation CarbonPlus® is concerned, the blowing machines are virtually identical.

The role of each piece of equipment is detailed below:

- The BALE BREAKER opens up the compressed bale of blowing wool.
- The WORM SCREW meters the blowing wool at a fixed rate.
- In the PELLETISING section, the wool length is reduced by the shredder bars and a pelleted form of the desired shape is given by circulation of the wool within the pelletising chamber.
- The adjustable RESTRICTOR PLATE at the base of the pelletising chamber controls the wool residence time in the chamber, which in turn controls the pellet characteristics to achieve the required installed density.
- As the processed insulation passes through the ROTARY VALVE it enters the airstream generated by the BLOWER and passes into the blowing hose and through the RF injection nozzle for delivery in to the cavity being insulated.
- A pressure switch is connected to the machine control circuits, when actuated it causes the drive clutches to disengage thus stopping the blower and wool feed once the cavity wall area is filled to the required density.
- A dump/lift valve arrangement is fitted to all blowing machines and is used for fine control of the installed density.



Quality Control Checks

1. Pressure Switch

A daily calibration check should be carried out to ensure that the blowing machine pressure switch is operating correctly.

Start the engine and insert the RF injection nozzle into a hessian bag.
Start blowing SIG Cavity Wall Insulation CarbonPlus® into the bag whilst watching the blowing pressure gauge. Block off the RF injection nozzle gently inside the bag. Blowing should cease when the correct pressure is achieved.

If necessary adjust the switch. To adjust, use a small screwdriver to turn the screw in to increase the pressure and out to lower the pressure.

2. Wool Density Check

Start up machine and blow into a hessian bag. Ensure machine is operating correctly.

Fill test box with wool and note time taken (between 35 - 45 seconds). Check visually that box has been completely filled.

Empty contents of box into a bag and weigh (optimum weight 0.60kg +/- 0.10kg), if the weight is below 0.5kg close restrictor plate one quarter turn at a time, blow into bag to clear pelletiser and fill test box.

Re-check weight.

If weight is greater than 0.7kg, open restrictor plate one quarter turn at a time (or reduce engine revs slightly). Blow into bag to clear pelletiser and refill test box.

Re-check weight.

NOTE

The air dump valve fitted to the blowing machines should be used for fine control of the density.

To increase density - reduce air being dumped.

To reduce density - increase air being dumped.

Recommended blowing machine operating pressure:

- Air only: 120 - 160 mbar
- Air & wool: 160 - 200 mbar

The Filling Operation

Filling should proceed from the bottom to the top of walls and from the most to the least restricted sections. Filling from the bottom ensures a uniform fill.

The blowing machine is simple to operate, 1 - 2 bales of wool can be emptied into the hopper at once. It is not recommended to allow the hopper to get less than half full. The feed rate is automatically controlled by the worm screw or paddle feeders and the only necessary adjustment will be to the restrictor plate, dump valve or engine revs in order to obtain the correct density fill.

If the machine cuts off prematurely or if it is felt that the hole has not filled correctly, remedial action must be taken to ensure adequacy of fill.
Remedial action could include at least the following as deemed necessary:

- additional boroscope inspection
- emptying the RF injection nozzle and hose of insulation and attempt to re-inject
- removal of any obstruction found
- drilling additional injection hole

In an area where filling problems have occurred these must be recorded on the job sheet and additional post installation checks with a boroscope undertaken.

Insulant should be introduced into each injection hole in turn. Starting at one end of the elevation and at the bottom of the wall and working across from side to side.

The 17mm diameter tip of the RF injection nozzle is located in the pre-drilled hole. Injection must start against a vertical barrier (e.g. door frame or cavity brush) with SIG Cavity Wall Insulation CarbonPlus® blown horizontally in the direction of vertical barrier. (fig.1)

Fig 1 - Horizontal fill against vertical barrier

Once the blowing unit has started, the insulant will continue to flow at a steady rate (fig.2) until a signal from the pressure switch de-energises the clutches indicating that the part of the cavity adjacent to the injection hole in the direction you are blowing is now filled. (fig.3)

Fig 2 - Flow at steady rate

Fig 3 - Pressure switch activates

Immediately after indication that the injection hole is filled in the direction you are blowing, turn nozzle 180° (fig.4 & 5) and continue blowing. Once this direction has filled, turn 180° until no more material can be injected. (fig.6)

Fig 4 - Rotate nozzle to continue

Fig 5 - 180° rotation

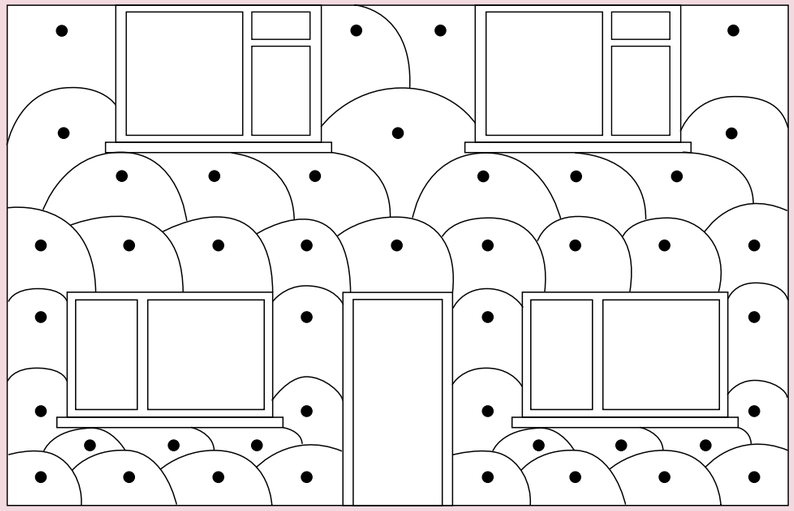
Fig 6 - Area filled

When filling the hole is complete turn the RF injection nozzle through 360° to relieve back pressure. After this shut off the ball valve and remove RF injection nozzle. Once the RF injection nozzle has been moved to the next injection hole, re-open the ball valve so that injection of insulant can continue by activating the start switch.

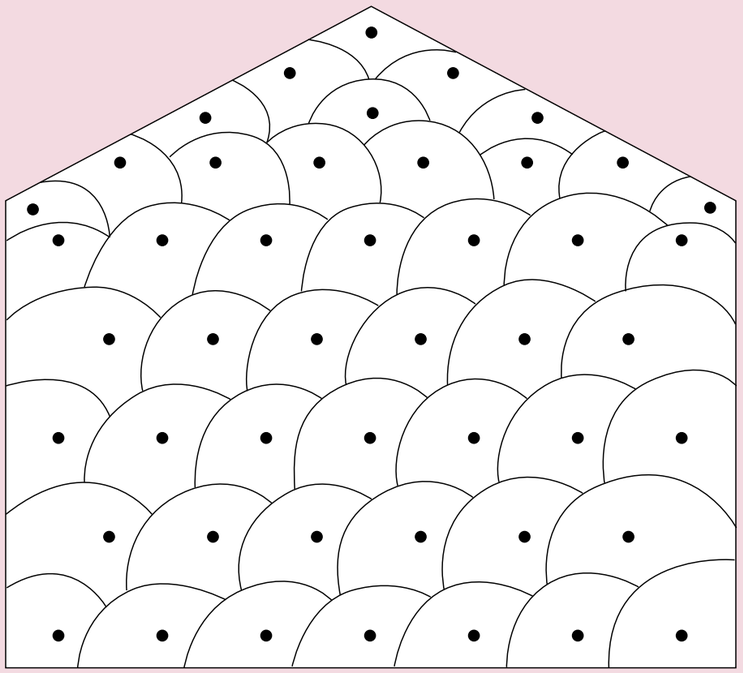
Injection should always start in the direction of the previous hole which has been filled. (fig.7)

Fig 7 - Filling against previous fill

Typical SIG Cavity Wall Insulation CarbonPlus® filling pattern - elevation



Typical SIG Cavity Wall Insulation CarbonPlus® filling pattern - plain gable end



Installed Density Checks

The wool to be used has been subjected to strict quality control procedures during manufacture and it is necessary to check that it has been kept clean and dry.

To check that the correct density has been obtained, the number of bales used on-site and average cavity width should be recorded on the work card and an average installed density calculated.

For Example:

Gross Area of Walls		110m²			
Less openings		27m²			
Net Area		83m²			
Average Cavity Width		40mm = 0.040			
Volume of Cavity		83m² x 0.040	=	3.32m³	
No of SIG Cavity Wall Insulation CarbonPlus® Bags Used	=	5.5 x 15.5kg	=	85.25 kg / 3.32m³	= 25.68kg/m³

Cavity widths can vary considerably within one building. Therefore at least ten cavity width measurements should be made at various heights in the building before installation (cavity widths can tend to vary the greater distance from ground level).

NB. For an average density of 25kg/m³ the following coverage can be obtained.

Cavity Width – mm	40	45
Coverage – m² / bale	15.5	13.8

Making Good

The importance of making good after the installation, cannot be over-emphasised. Leaving the property in the same condition that you found it in is the best possible recommendation and source of new leads.

Making good holes

A mortar mix should be made up before the installation begins. That way the preceding holes can be made good while the next hole is filling. It also allows adjustments to be made to the colour match when required.

Make sure that the customer understands that although every effort is made to match the existing finish particularly to painted areas it may be difficult due to weathering etc.

Brick faced properties

a) Wet an area of wall to give you a better match indication
b) Choose the correct type and colour of sand for the local area
c) Different parts of the building may require different colours/mixes to match the existing mortar (mortar dyes may help to achieve the match)

In some cases it may be necessary to touch-up the corners of the brick with mortar dyes.

Rendered/Tyrolean-faced/pebble dash and spar chipping finishes walls.

Special care must be taken with rendered walls, the colour and texture of the facing type being chip/pebble/spar-chippings etc, these should be copied as closely as possible. It may be possible to re-use spar chippings from drilling debris. Remember that your mortar mix may need to be slightly wetter, in order to retain the chippings.

Technician's Safety Check Sheet

Installing firm's name, address and contact details
(or letterhead)

Technician's safety check sheet - Flues, chimneys and combustion air ventilators

This check sheet specifies the minimum checks, and actions that MUST be carried out during the installation of CWI to buildings containing fuel-burning appliances.
It must be read in association with "Technicians guide to best practice - Flues, chimneys and combustion air ventilators."

Survey, identify and record

• Fuel type(s)	Gas - Oil - Coal - Wood
• Appliance type(s)	Boiler - Gas Fire - Open Fire - Balance Flue
• Flue/chimney location(s)	Internal wall - External wall, front, side, rear
• Location of combustion air ventilator(s)	Front elevation - Side elevation - Rear elevation

Pre-Installation

			Comments
• Appliance identified, flue/chimney routes, internal & external	Y	N	
• *Appliance run	Y	N	
• *View and note flame colour	Y	N	
• *Combustion gases checked externally	Y	N	
• *Appliance checked (smoke test/spillage test)	Y	N	
• *Smoke/spillage test satisfactory	Y	N	
• Combustion air supply adequate	Y	N	

Installation - Visually check

• Flue/chimney routes to avoid drilling into them	Y	N
• Flue/chimney routes to avoid ingress of material	Y	N
• Combustion air ventilator(s) unobstructed	Y	N

Post Installation

• *Appliance run at maximum for a minimum of five minutes	Y	N
• *Visual check that flame compares with pre-installation	Y	N
• *Smoke test/spillage test satisfactory	Y	N
• *If results were unclear, re-test after a further 10 minutes	Y	N
• *Re-test satisfactory	Y	N

*Only on appliances fitted to flues & chimneys on external walls.

If there is any doubt or any question answered 'N' then -

1. Switch OFF appliance and
2. Issue WARNING NOTICE and
3. ADVISE occupants and owner, and
4. CALL OUT a competent body or person such as fuel supplier or maintenance contractor (e.g. CORGI for gas)

Installation address: Name of Technician:

Signature:

Date: / /20

Important:

• It is the installing firm's responsibility to ensure that the Technician is training to be able to discharge these responsibilities
• Failure to carry out these safety checks could lead to the death of an occupant and prosecution of the Technician.

Customer Complaints

Complaints - Primary Air Ventilation

All complaints received concerning primary ventilation must be investigated immediately. A blocked flue following cavity wall installation could result in CO_2 poisoning for the occupants of the property. This could lead to serious injury or in worst cases, could be fatal. Post installation checks of the property should pick up any problems caused during the installation.
(For more information, refer to CIGA's Best Practice Guide for "Flue, Chimneys & Combustion air ventilators").

Complaint Procedures

In the event of an approved installing company receiving a customer complaint, the following procedure should be adopted:

a) The customer shall be contacted within 24 hours of the complaint and any problems or defects identified or associated with the works shall be responded to within 5 working days.
b) All complaints are to be resolved within 6 weeks of the complaint being received with the corrective actions recorded, and a full written record of all communications with all parties regarding the matter to be kept on file.
c) Where a complaint is not resolved within 6 weeks then SIG Retrofit System Support must be informed of the reasons why, and appropriate action will then be taken to resolve the matter.

All customer concerns or enquiries must be dealt with in a pro-active manner, with the intention of resolving any customer concern as quickly as possible to the customers satisfaction.

Damage caused during Installation

If any damage is caused to the property however small, every effort should be made to rectify the problem before leaving site.

In the event of the problem not being resolved the Technician must inform his company immediately and inform the customer that the matter will be dealt with appropriately.

In all cases you should record any complaint made by the customer and inform your company as soon as possible.

Rectification Procedures

In the event of having to carry out any rectification measures to resolve a complaint you must:

a) Carry copies of the documentation specifying the remedial action required.
b) Ensure you have all equipment and materials to carry out the remedial works.
c) On arrival introduce yourself to the customer and confirm what you are there to do.
d) Be courteous to the customer at all times.
e) Do not get drawn into any conflict with the customer, refer any issues to your company immediately.
f) Carry out all remedial works in a professional manner.
g) Clean up and remove debris etc from site to the customers satisfaction.
h) Ensure that the customer is satisfied and where possible obtain a signature of satisfaction before leaving site.

Further References

For best practice documents please visit the members area of www.ciga.co.uk where the items listed below can be found:

C.I.G.A. Guide to Best Practice
Guide to Best Practice for Members

C.I.G.A. Working at Height Guide
Health and Safety guide to working at height

C.I.G.A. Assessors Guide
Suitability of external walls for filling with cavity wall insulation

C.I.G.A. Guide to Best Practice:
Installing CWI

C.I.G.A. Guide to Best Practice:
Flues, Chimneys and Combustion air ventilators

C.I.G.A. Guide to Best Practice:
Revised page 7 of Flues, Chimneys and Combustion air ventilators GBP

C.I.G.A. Guide to Best Practice:
Ladder Restraints

C.I.G.A. Guide to Best Practice:
Flat Roofs

CWI Technical Note:
Drilling Near Flues

CWI Technical Note:
Flueless gas Fires

CWI Technical Note:
Conservatories

CWI Technical Note:
Ventilators

CWI Safety Note:
Internal Flues

Safety Note:
Core Drilling

CSCS:
Application form

BBA
Assessment & Surveillance Scheme

Notes

Talk to the SIG Retrofit System Support team
to become part of our Installer Network.

www.sig360retrofit.co.uk

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Follow us on Twitter @SIGInsulation

SIG branded Insulation Systems are available through the SIG Insulation network

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