

**CERTIFICATE NO. 01/0121**

Schiedel Chimney Systems,  
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## Schiedel Chimney Systems

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The **Irish Agrément Board** is designated by Government to issue European Technical Approvals. Irish Agrément Board Certificates establish proof that the certified products are '**proper materials**' suitable for their intended use under Irish site conditions, and in accordance with the **Building Regulations 1997 to 2007**.

The **Irish Agrément Board** operates in association with the **National Standards Authority of Ireland (NSAI)** as the National Member of UEAtc.



#### PRODUCT DESCRIPTION:

This Certificate relates to Schiedel Chimney Systems, a prefabricated range of chimney systems for use in domestic accommodation (factory-made insulated chimney). The chimney systems are available in several options as described in Section 2.1. The concept of the Schiedel Chimney Systems involves a 3-layer construction. The first inner layer consists of a flue liner manufactured in accordance with IS EN 1457:1999 (2006) *Chimneys – Clay/ceramic flue liners – Requirements and test methods* surrounded by a second layer of flexible insulation slabs or tubes with a nominal apparent density of 100kg/m<sup>3</sup> designed to

maintain the temperatures of the flue gases and allow them to pass freely up the chimney. The insulation also allows the clay flue liner to expand and contract without damage. The third layer is the lightweight concrete block made from a mix of expanded clay, sand and cement which encases the system and provides additional insulation.

This Certificate certifies compliance with the requirements of the Building Regulations 1997 to 2007.

#### USE:

The Schiedel Chimney Systems are designed to offer fast and efficient erection on site and are suitable for all types of domestic heat appliances. They can accommodate both open fire and closed appliances using fuels up to 50kW. The system is delivered by specified length to site on a series of pallets and contains all the materials necessary to construct a chimney from the base to chimney pot. A chimney system is installed on site by the main contractor using the installation guidelines provided by Schiedel Chimney Systems. The systems are suitable for use in domestic prefabricated constructions such as timber and steel frame as well as traditional masonry construction. With the exception of the Multi System, only one fuel appliance is to be used for each chimney system unless otherwise specified in the instruction guides.

It is essential that all Schiedel Chimney Systems are constructed in accordance with the requirements of this Certificate and the manufacturer's instructions.

#### DESIGN, MANUFACTURE & MARKETING:

The Schiedel Chimney Systems are designed, manufactured and marketed by:

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## 1.1 ASSESSMENT

In the opinion of the Irish Agrément Board (IAB), the Schiedel Chimney Systems if used in accordance with this Certificate can meet the requirements of the Building Regulations 1997 to 2007, as indicated in Section 1.2 of this Irish Agrément Certificate.

## 1.2 BUILDING REGULATIONS 1997 to 2007 REQUIREMENT:

### Part D – Materials and Workmanship

**D3** – The Schiedel Chimney Systems as certified in this Certificate, are comprised of proper materials fit for their intended use (see Part 4 of this Certificate).

**D1** – The Schiedel Chimney Systems meet the requirements for workmanship.

### Part A - Structure

#### A1 – Loading

The systems have adequate strength and stability and can satisfy the Regulation provided they are correctly installed and supported and the maximum height restrictions are observed as shown in Table 3 (see Parts 2 and 3 of this Certificate).

### Part B – Fire Safety

#### B3 (1) – Internal Fire Spread (Structure)

The Schiedel Chimney Systems will retain their stability for a reasonable period in the event of fire.

#### B3 (2, 3) – Internal Fire Spread (Structure)

The Schiedel Chimney Systems do not breach the party wall, and used in accordance with this Certificate will inhibit the spread of fire and smoke within the building.

### Part C – Site Preparation and Resistance to Moisture

#### C4 – Resistance to Weather and Ground Moisture

The Schiedel Chimney Systems are composed of durable materials and when built in accordance with this Certificate using conventional flashing dpc methods, will meet the requirements of this Regulation. The chimneys must be protected from contact with the ground by a traditional damp proof system.

### Part E – Sound

#### E1 – Airborne Sound (Walls)

Party walls and compartment walls incorporating the Schiedel Chimney Systems are constructed to meet the airborne sound requirements of this Regulation (ref. Fig 3). As the chimney systems do not breach the walls that they are tied to, the sound insulation values of the walls are not reduced.

### Part J – Heat Producing Appliances

#### J1 – Air Supply

The Schiedel Chimney Systems meet this requirement, however attention is drawn to the need to locate air ducts to obviate draughts within the room the chimney is located. For appliances that require combustion air from outside the dwelling the Schiedel Air System should be

installed. All installations should refer to the conditions set out in section 3.7 of this Certificate.

### J2 – Discharge of Products of Combustion

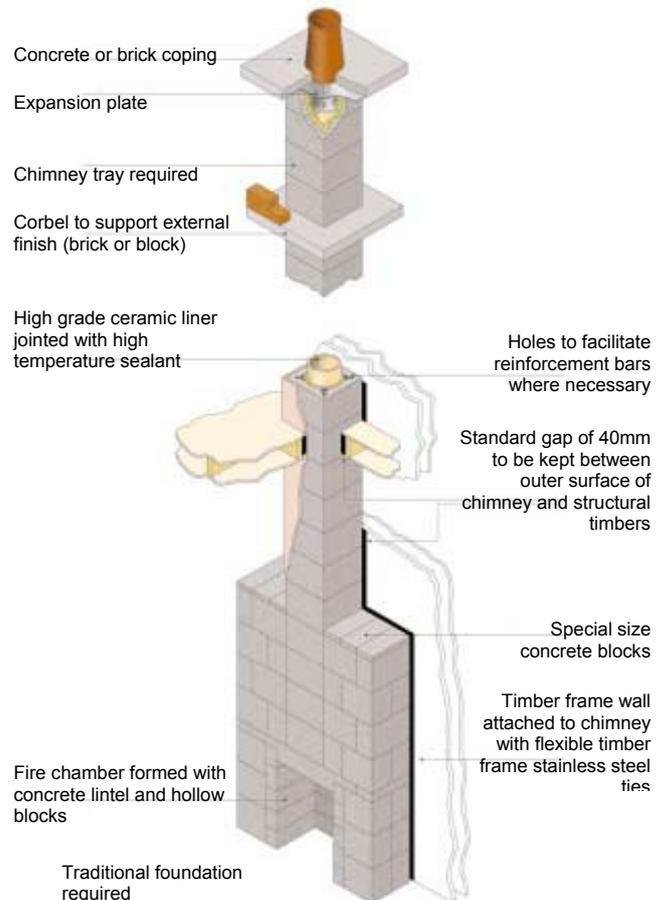
The Schiedel Chimney Systems have adequate provision for the discharge of the products of combustion to the outside air, as the flues, flue pipes and chimney of the chimney system have been assessed as being of:

- Sufficient size.
- Contain openings only necessary for inspection, cleaning and efficient working of the appliance.
- Are lined with suitable materials.
- Are constructed at roof level so as to discharge in a safe manner.

Where chimney stacks are constructed at roof level so as to assist in the discharge of products of combustion, the heights of the chimney stack should be in accordance with Section 4.3 of this Certificate.

### J3 – Protection of Building

When used in accordance with Part 4 of this Certificate, the Schiedel Chimney Systems meet the requirements of this Regulation.



**Fig 1: Open Fire Internal Chimney System (Timber)**

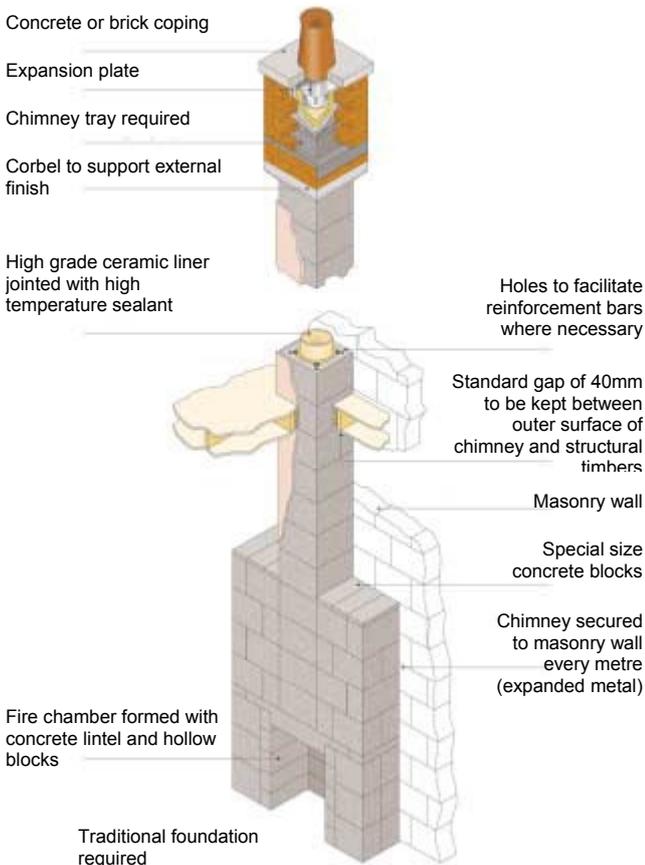
**2.1 PRODUCT DESCRIPTION**

The Schiedel Chimney Systems are factory-made insulated chimneys that are available in several options. Each chimney is delivered to site on pallets containing all the materials required to construct a chimney from base to chimney pot, apart from the fire back which is not provided with the system. The Schiedel Chimney Systems available are as follows:

**1. Schiedel Open Fire Internal Chimney System**

This is a single chimney system for use in timber and steel frame construction along with traditional masonry construction. All components to the chimney stack from floor to chimney pot are included in the chimney pack. The standard chimney breast is 1640mm wide but this can be reduced to 1220mm. The Schiedel Open Fire Internal Chimney System can accommodate both open fire and room sealed appliances.

The system is suitable for all types of fuels such as gas, oil and solid fuel, which includes wood and peat. Figures 1 and 2 show the Schiedel Open Fire Internal Chimney System installed in timber frame and masonry construction respectively.



**Fig 2: Open Fire Internal Chimney System (Masonry)**

**2. Schiedel Back to Back (Party Wall) Chimney System**

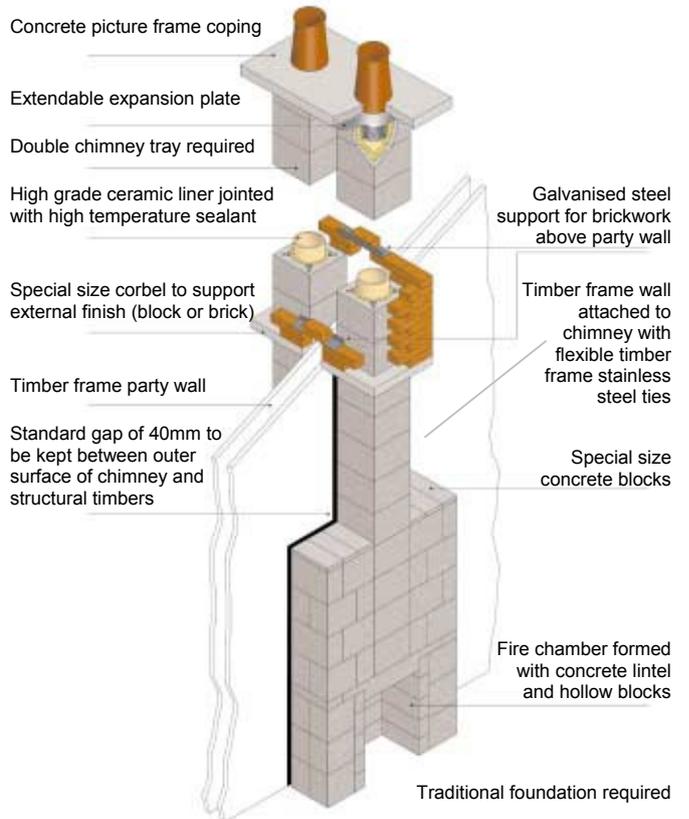
This solution facilitates the construction of back to back chimneys on both sides of a party wall. The system is available in two options, one for timber and steel frame constructions, and one for traditional masonry construction. The flues from each chimney can be combined into one chimneystack at roof level. Figure 3 shows the Back to Back Chimney System used in timber frame construction.

**3. Schiedel Open Fire External Chimney System**

This system provides for the building of the chimney on an external wall. The system fundamentally works on the same principles as the Schiedel Open Fire Internal System. Figure 12 shows how the system is installed.

**4. Schiedel Air System (Closed Appliances)**

The Schiedel Air System is suitable for use with all central heating boilers, pellet burners and stoves and inserts. The system has the added benefits of providing back ventilation, which makes it suitable for use with condensing boilers. The back ventilation and the specially made air shaft in the system provides optimum air conditions within the chimney. Figures 4 & 5 show these systems installed.



**Fig 3: Back to Back Chimney System**

### 5. Schiedel Chimney Incorporating Bends

The Schiedel bend kits allow the chimney flue to be offset. There are two types of bend kits:

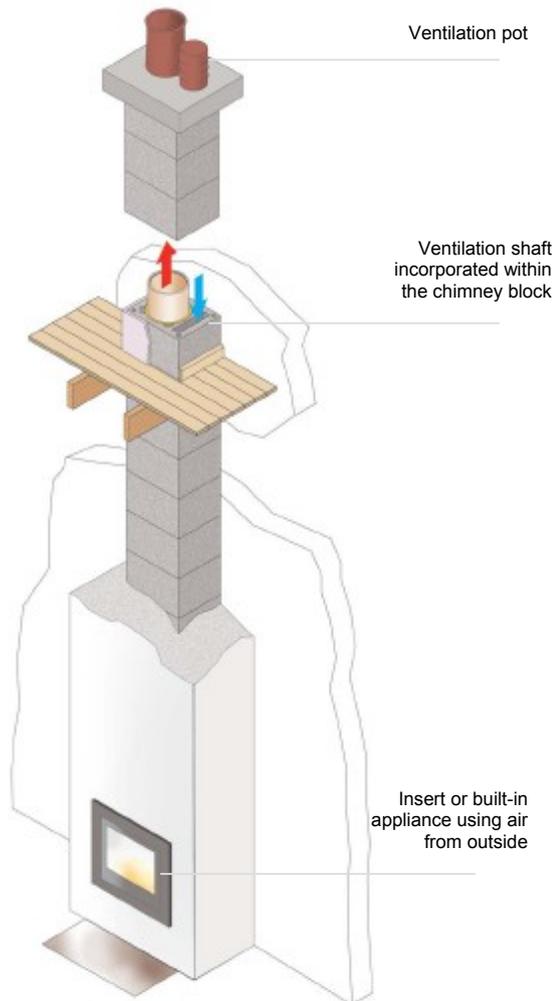
- The Chimney Breast Bend Kit for use within the chimney breast. The standard offset is 200mm.
- The Standard Bend Kit which can be used anywhere in the house and allows the chimney to be offset as much as necessary.

Figure 6 shows a schematic of the bend kit installed.

Note: Bend kits are not available with the prefabricated chimney system.

### 6. Schiedel Prefabricated Chimney System

The Schiedel Prefabricated Chimney is assembled in the factory in predetermined lengths. The first section consists of a precast fireplace unit. The second and third sections consist of the same lightweight concrete blocks, insulation and flue liners as other Schiedel Chimney Systems, but are joined together to form variable lengths of chimney sections, to a max of 4m. Each assembly is reinforced with steel rods and a series of special connectors and anchors which are tightened together on site. The different sections of the system can be hoisted in by crane and joined together giving fast and efficient construction. Figure 7 gives an indication of how the prefabricated system is installed.



**Fig 4: Air, Room Sealed Appliance Chimney System**

### 7. Schiedel Multi Chimney System

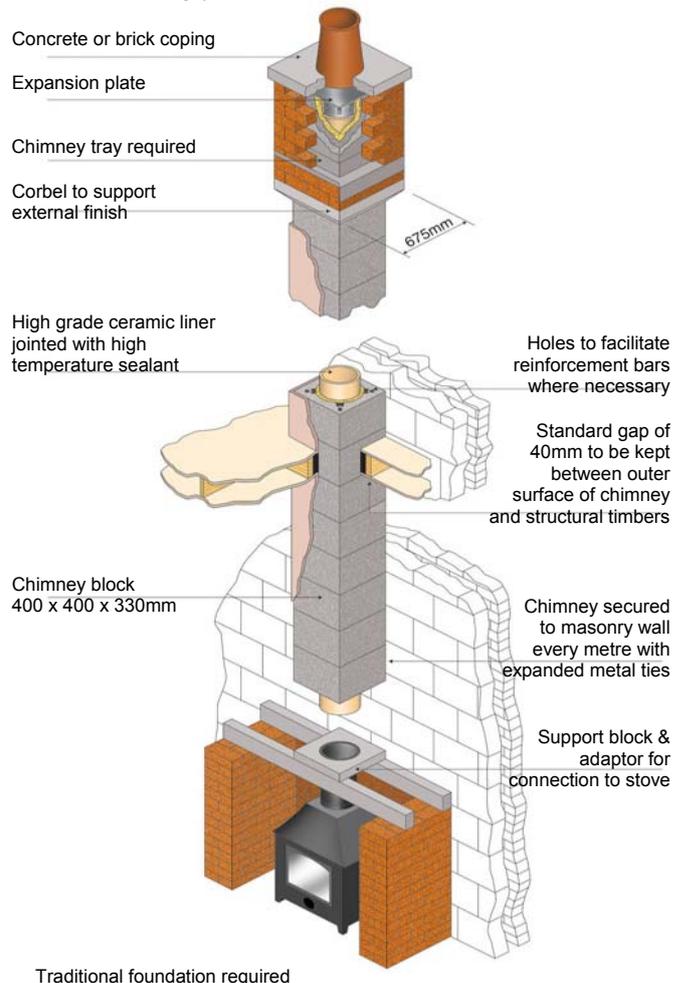
The concept of the multi chimney system is to allow up to 10 room sealed appliance to be connected to the one chimney. The profiled ceramic liners enable the chimney to work effectively at low temperatures. This is a concentric air-flue gas system whereby the waste gases are passed through the ceramic liner and combustion air is delivered through an outer concrete casing. Figure 8 shows the concept of this system.

#### 2.1.1 Typical List

A typical chimney system is composed of the following elements:

- Inner refractory clay flue liners manufactured to IS EN 1457:1999 (2006)
- Ceramic chimney pot
- Rockwool insulation 91.5kg/m<sup>3</sup>
- Outer lightweight chimney blocks
- Special ventilation outlets in outer chimney blocks for central heating installations
- Concrete corbels and capping
- Fire lintel (lightweight concrete)
- Hollow blocks (lightweight concrete)
- Lead dpc trays
- Stainless steel movement plate
- Stainless steel wall tie fixings
- High temperature ceramic sealant

Other ancillary products are listed in Table 2.



**Fig 5: Chimney System for Stove appliances**

Component	Size (mm)	Weight (kg)	Crushing Strength
Chimney Block Swift 20	400 x 400 x 330	23	11.3N/mm <sup>2</sup>
Chimney Block Swift 25	480 x 480 x 330	45	11.3N/mm <sup>2</sup>
Chimney Block Swift 30	550 x 550 x 330	62	11.3N/mm <sup>2</sup>
Chimney Block Air 16	460 x 320 x 330	30	13.7N/mm <sup>2</sup>
Chimney Block Air 18	500 x 360 x 330	35	13.7N/mm <sup>2</sup>
Ceramic Flue Liner 15	Ø 150 x 400	6.8	120kN
Ceramic Flue Liner 18	Ø 180 x 330	7.2	120kN
Ceramic Flue Liner 20	Ø 200 x 330	8.6	120kN
Ceramic Flue Liner 25	Ø 250 x 330	15.4	120kN
Ceramic Flue Liner 30	Ø 300 x 330	22.6	120kN
Hollow Block	400 x 195 x 330	19	7.8N/mm <sup>2</sup>
Concrete Block	400 x 200 x 100	17	7N/mm <sup>2</sup>
Lintel (Ext)	830 x 200 (Back) 830 x 350 (Front)	55 75	28.4kN
Lintel (Int)	1220 x 200 x 400	60	29.4kN
Coping (Large)	760 x 760 x 70	96	N/A
Coping (Small)	550 x 550 x 70	28	N/A
Coping (Picture Frame)	830 x 780 x 70	101	N/A
Corbel (Large)	675 x 675 x 100	88	30kN
Corbel (Cut)	675 x 535 x 100	62	16kN
Chimney Block Bend	210 x 110 x 400	12	N/A
Insulation	480 x 35 x 330	100kg/m <sup>3</sup>	N/A

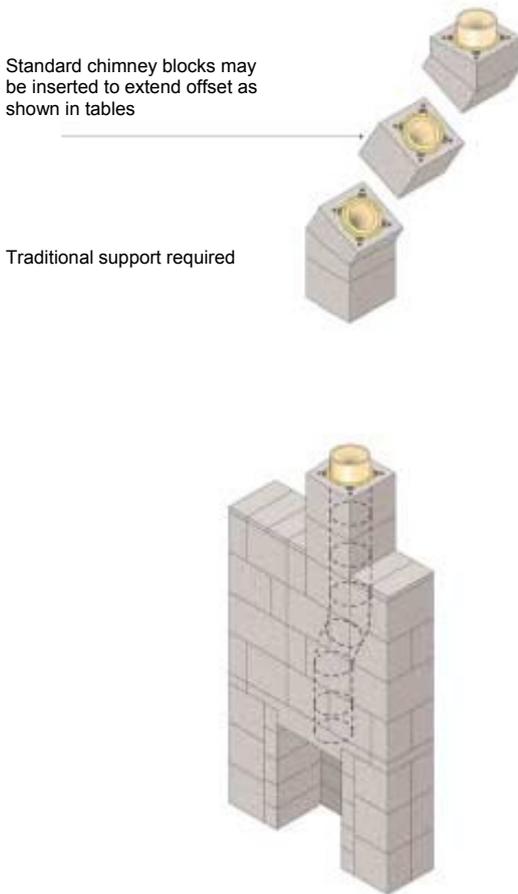
**Table 1: Nominal Characteristics of the Schiedel 3 Layer Insulated Chimney System**

Component	Size (mm)	Weight (kg)	Specification
Expansion Plate	600 x 600 x 200	2.3	EN 11401
Damp Proof Tray (Ridge)	675 x 675 x 150	65	Code 5 Lead
Damp Proof Tray (Slope)	675 x 675 x 150	73	Code 5 Lead
Chimney Pots (Red, Black, Buff)	Ø 200 x 300	12.7	Ceramic
	Ø 200 x 375	14.5	Ceramic
	Ø 200 x 450	18.4	Ceramic
	Ø 200 x 600	26.3	Ceramic
1.5 GRC Prefabricated Stack	490 x 490 x 1500	97	Fibre Concrete
1.5 GRP Prefabricated Stack	430 x 430 x 1500	22	Fibre Concrete
Refractory Cement	1 Litre Cartridges		
Masonry Ties	Expanded metal wall tie or L-shaped stainless steel wall bracket		
Timber Frame Ties	Stainless Steel flexible wall tie		
Reinforcement Kit	Galvanised bars, grout and plastic stoppers		
Stabilising Kit	Galvanised bars and angle irons to brace chimney to truss		
Aluminium Bracket	Especially for Prefabricated Stack		
Damper	To close off chimney when not in use		
Inspection Door	For easy access to cleaning		

**Table 2: Ancillary Items**

Schiedel Chimney Stack	No reinforcement	Reinforcement	Guidance from Schiedel
Chimney with corbel	≥1.2m	1.2m to 1.5m	1.5m<
Chimney plain	N/A	Up to 1.5m	1.5m above

**Table 3: Maximum Heights of Chimney Stacks**



**Fig 6: Bend Kits**

### 2.1.2 Description of Schiedel Chimney Block

The lightweight precast chimney blocks are available in various sizes. Table 1 gives a list of the nominal characteristics of the block, while Table 2 gives a list of the ancillary items with the chimney system.

## 2.2 MANUFACTURE OF SYSTEM ELEMENTS

### 2.2.1 Clay Flue Liner

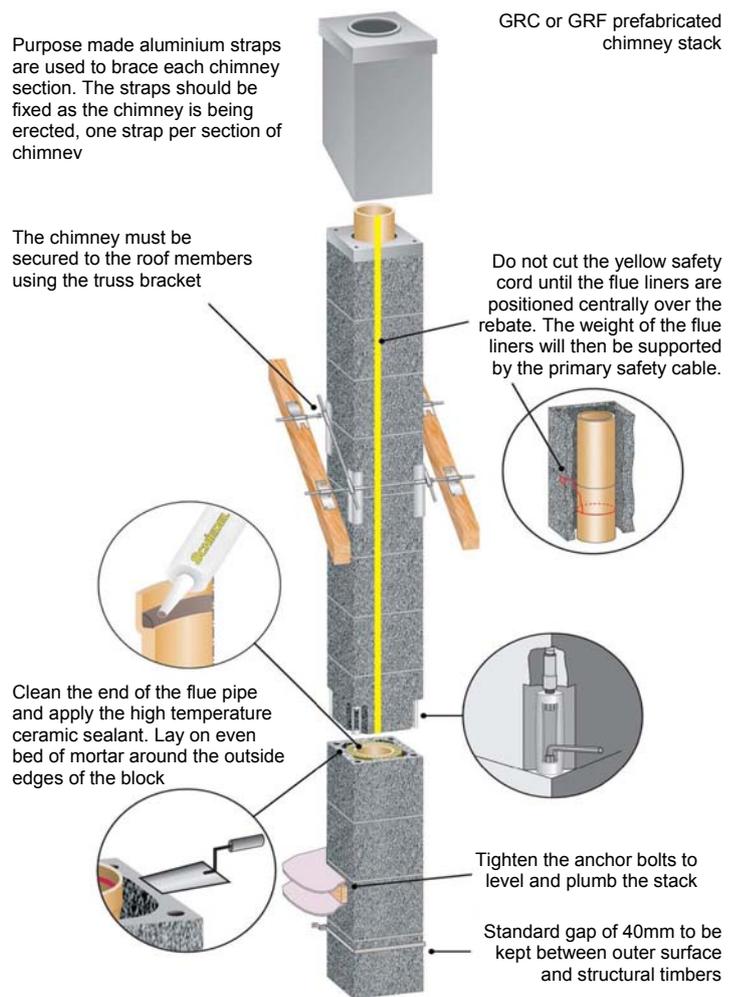
The inner clay liner is manufactured from a blend of suitable refractory clays, using normal heavy clay working machinery, i.e. grinding, blending, add water, de-airing and extruding, then through a drying process and finally through a kiln and fired to the required temperature. All flue liners are manufactured and tested to the requirements of IS EN 1457:1999 (2006).

### 2.2.2 Insulation

Mineral fibre insulation slabs or tubes with a nominal apparent density of 100kg/m<sup>3</sup> are supplied with each system. The insulation slabs or tubes are manufactured to comply with the Building Regulations 1997 to 2007.

### 2.2.3 Accessories

Chimney corbel and copings are manufactured from normal density mix. Other accessories, e.g. expansion plates, inspection doors, are manufactured to Irish Standards or equivalent European Standard. The steel used in these products has been assessed as being suitably corrosion resistant for use in chimneys. The high temperature sealant used in the joints between liners is a proprietary product specially manufactured for Schiedel. It is supplied in special disposable cartridges.



**Fig 7: Prefabricated Chimney System**

### 2.2.4 Fire Lintels

Fire lintels are made from expanded clay particles, size blended and bound with refractory cement.

### 2.2.5 Quality Control

Quality control on manufactured items includes checks on weight, dimensions, crushing strength and density. Schiedel Chimney Systems has a full in-house quality control system in operation.

## 2.3 DELIVERY, STORAGE AND MARKING

A Schiedel Chimney System is ordered by chimney height. Each chimney system (pack), with the exception of the prefabricated chimney, is delivered to site on a series of pallets and contains all the materials necessary to construct a chimney from the base to chimney pot. The pack for a standard chimney can be fitted on two pallets. Pallets should be stored on a firm level base until required. The pallets are shrink-wrapped and are labelled with a cardboard wrapper, which shows the manufacturer's name, flue size, chimney height, production batch number and the IAB identification mark incorporating the number of this Certificate, and contains instructions on storage and installation.

When pallets are unwrapped, components should be carefully offloaded. They should be stored off the ground

and under cover in such a manner that they are protected from accidental damage and adverse effects of weather.

The system has the advantage of being able to deliver a full chimney to a specific building on pallets. This method of delivery allows for easy storage on site and avoids unnecessary breakage of flue liners and pots as is common with traditional-built chimneys on construction sites.

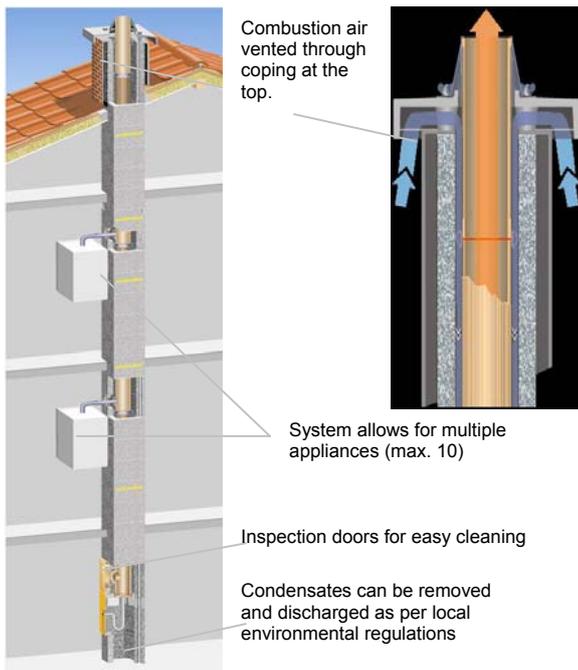
## 2.4 INSTALLATION PROCEDURE

### 2.4.1 General

Assembly of the Schiedel Chimney Systems is carried out in accordance with the requirements of this Certificate and the manufacturer's instructions. Installation on site is carried out by the main contractor. Installers of the system must be familiar with the system and at least one operative installing the system must have received formal training on the principals of installation. Schiedel Chimney Systems offer a full technical back-up service to installation operatives. Installation of the chimney does not present any undue difficulty either in terms of their accommodation within traditional or system built dwellings or their compatibility with accepted operational sequences. With the exception of the prefabricated chimney system, the weights of the chimney components are such that mechanical handling equipment is not normally required (see Table 1). The Schiedel Chimney System affords appreciable saving in construction time when compared with conventional masonry construction.

### 2.4.2 Foundation

The Schiedel Chimney Systems are constructed from lightweight concrete blocks and lintels. As these blocks are lighter than normal density blockwork, a conventional concrete foundation is adequate. Refer also to Section 3.3 of this Certificate.



**Fig 8: Multi System**

### 2.4.3 Constructional Hearths

A constructional hearth must be provided to all Schiedel Chimney Systems. The constructional hearth should be constructed in accordance with Section 2.18 and 2.19 of TGD to Part J of the Building Regulations 1997 to 2007. The installation of the constructional hearth is the responsibility of the main contractor.

### 2.4.4 GRC Prefabricated Chimney Stack

The Schiedel GRC Prefabricated Chimney Stack consists of a glass fibre reinforced concrete (GRC) sleeve which is fitted over the chimney system to negate the need for plastering.

### 2.4.5 Height of Chimney Stacks

Where it is required to clad the portion of an internal chimney above the roofline with brickwork, a corbel unit is incorporated in the construction just below the roofline. The opening in the roof must be suitably trimmed by timber fixed to the roof member. Figures 9 and 10 are two examples of finished chimney stacks.

Please note:

- The height of a chimney stack to a Schiedel Chimney System should be in accordance with Table 3.
- Where a chimney stack is built off a corbel, the stack should not exceed 1.2m above the roof line unless it is reinforced (see Table 3).
- For a Schiedel Chimney without a corbel, the chimney stack must always be reinforced (see Table 3).
- The chimney stacks in the Schiedel Chimney Systems meet the requirements in all areas of the Wind Zone Map of the TGD to Part A of the Building Regulations 1997 to 2007, when installed in accordance with this Certificate and the manufacturer's guidance.

Standard tapered pot (red)

Supplied concrete coping

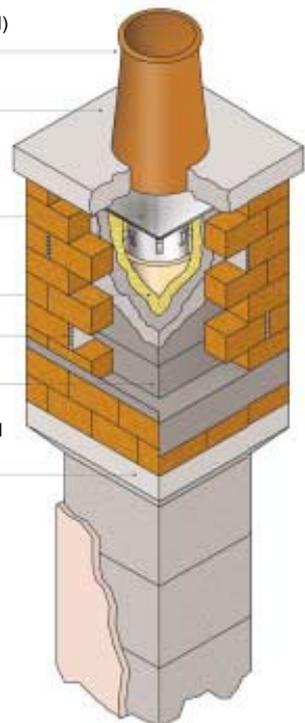
Stainless steel expansion plate to facilitate vertical expansion and rear ventilation

Preformed insulation (mineral wool)

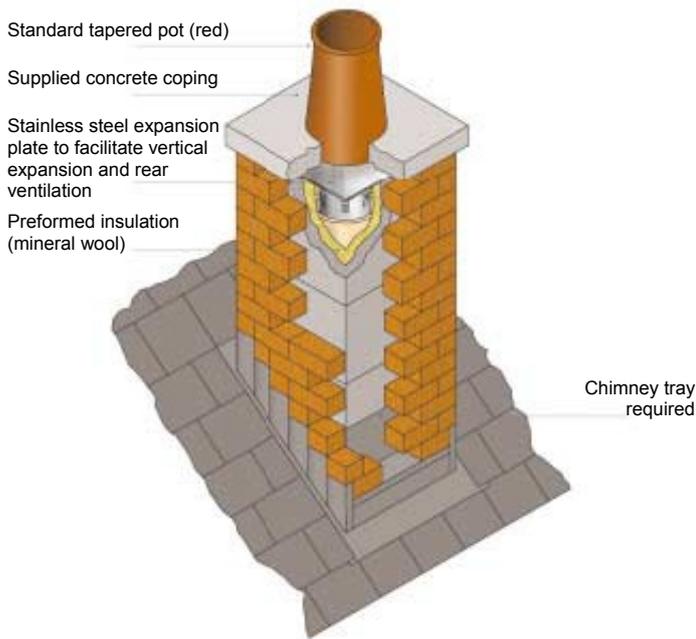
Wall weep required

Chimney tray required

Corbel to support external finish (block or brick)



**Fig 9: Chimney Stack**



**Fig 10: Stack Protruding Through Roof**

#### 2.4.6 Installation of Reinforcement

The reinforcement bars must start below the lateral support. Start by inserting the plastic stoppers into the holes on the underside of the first block with bars. Screw the bars together and insert equal lengths into two opposite holes in the chimney block. The liquid grout should be poured around the bars to ensure stability. Table 3 describes where and when reinforcement is required.

Where the chimney block has a rendered finish, i.e. where no corbel has been used, then reinforcement is always required. The chimney rendering and flashing is carried out as normal.

#### 2.4.7 Bends and Chimneys

The Schiedel Chimney System offers two options for bends in chimneys: Breast Bend Kit and Standard Bend Kit, however the latter is more generally used. The Chimney Breast Bend Kit shown in Figure 12 is an example of the standard bend kits available. Chimneys should be vertical where possible but where bends are unavoidable, the angle of the bend should be no greater than 45° to the vertical for oil-burning appliances and 37.5° to the vertical for solid fuel appliances. There should be no more than two bends in the length of the chimney.

Where a Schiedel Swift Chimney System is completely installed it should be allowed to cure for a minimum of four to five days before the appliance is used.

#### 2.4.8 Plastering of Chimneys

Chimneys exposed externally throughout their length must be either clad in brickwork or rendered blockwork. The internally exposed faces of the Schiedel Chimney blocks can be plastered on the exposed faces or boxed in with plasterboard and skim-coated.

The chimney breast to all chimney systems must be dry-lined or plastered. The plasterboard sheets used in the

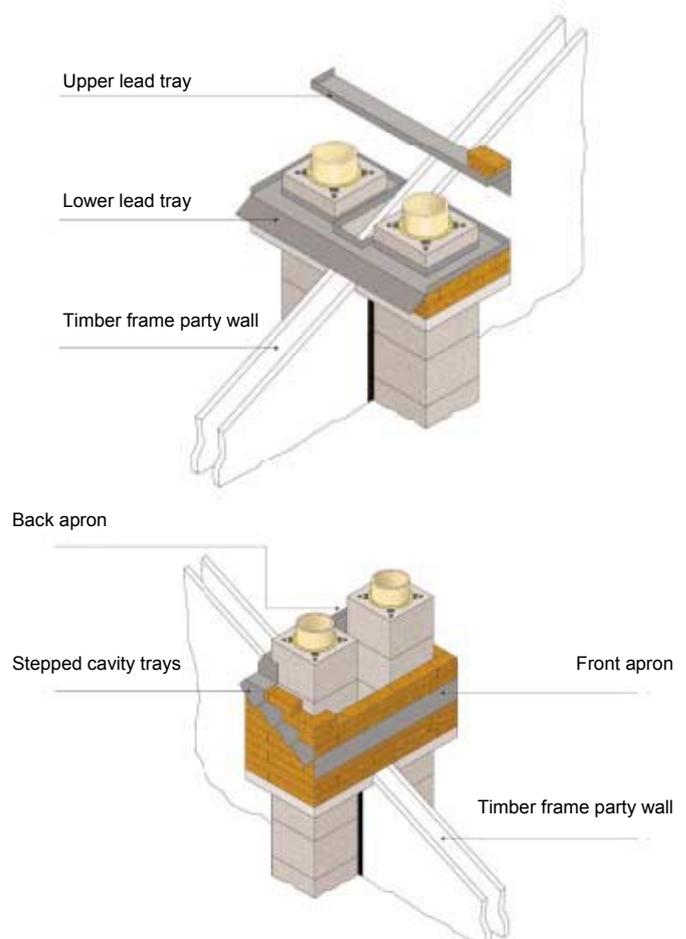
dry-lining are fixed to the chimney breast using dabs of drywall adhesive at not greater than 600mm centres. For the chimney breast design required, there is also the option of studding out to the sides and slabbing as can be done for a traditional chimney. A 50mm wide dry wall adhesive ribbon must be applied along all edges of the dry-lining, e.g. around openings. Fire stopping at the junction of ceiling and chimney is achieved by using a continuous fillet of dry wall adhesive. Where the chimney faces of a Schiedel Chimney System are left exposed in an uninhabited attic, it is not necessary to plaster the surfaces, however it is preferable that all exposed chimney blockwork are rendered.

#### 2.4.9 Inspection

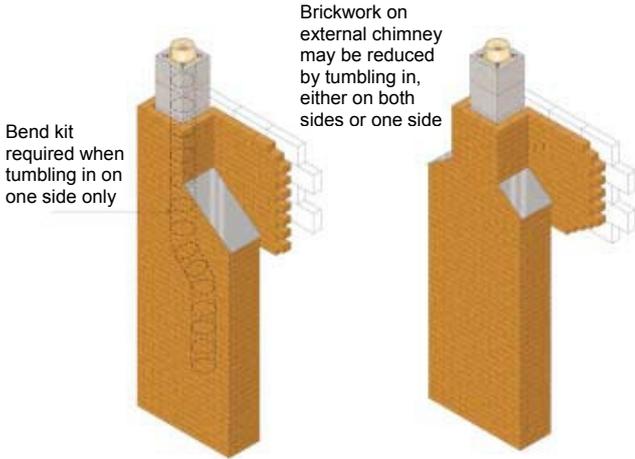
Once a Schiedel Chimney System has been installed, the following should be inspected:

- All joints in blockwork have been checked
- All fire stops and spacers are properly located and secured in accordance with this Certificate and the manufacturer's installation instructions.

The fitting of terminal and roof flashing above the corbel should be inspected before scaffolding is removed.



**Fig 11: Cavity Tray Detail**



**Figure 12: Brickwork for External Chimney System**

Type of Fuel	Type of Appliance	Rated Output	Schiedel Chimney	Remarks
Solid	Open fire Roomheater	45kW	200mm diameter pipe	Coal Smokeless fuel
	Independent boiler	45kW	200mm diameter pipe	Coal Smokeless fuel
	Closed Appliance	45kW	Not less than the outlet diameter of the appliance	The flue size will be specified by appliance manufacturer
Oil	Closed room heater Central heating boiler Warm air convector Water heater	20kW for 120mm of flue and 45kW for 200mm of flue	120mm or 200mm diameter pipe	The flue size will be specified by appliance manufacturer
Gas	Fire Central heating boiler Warm air convector Water heater	20kW for 120mm of flue and 60kW for 200mm of flue	120mm or 200mm diameter pipe	The flue size will be specified by appliance manufacturer
(1) These are minimum sizes. The actual size must not be smaller than the outlet diameter of the appliance.				
(2) Larger sized chimneys can be used above oil and gas applications, provided they are lined with the appropriate and correctly sized liner.				

**Table 4: Schiedel Chimney Sizes Recommended for Various Types of Appliance**

### 3.1 GENERAL

Schiedel chimneys, when installed in accordance with this Certificate, will perform in a safe and satisfactory manner when used internally or externally in domestic housing or commercial/industrial buildings. The chimney systems can be used in conjunction with gas, oil or solid fuel burning appliances, as described in Section 4 of this Certificate. The term 'solid fuel' relates to those fuels listed in Appendix A of BS 1846-1:1994 *Glossary of terms relating to solid fuel burning equipment – Domestic appliances*.

### 3.2 DESIGN REQUIREMENTS

Schiedel have designed several chimney systems which can be adapted to suit open fire IAB room sealed heating appliances that might be installed during the lifetime of the dwelling. The size and formation of fire openings must be in accordance with BS 1251:1987 *Specification for open fireplace components* and BS 8303-1:1994 *Installation of domestic heating and cooking appliances curing solid mineral fuels – Specification for the design of installation*. Appliances must allow access to the chimney for cleaning.

The design of the chimney must be in accordance with normal good practice. For example, the chimney must be terminated so as to prevent discharge gases from re-entering the building, or entering any other adjacent building. The structure to which the chimney system is attached must be in accordance with the relevant Codes of Practice. **With the exception of the Multi system, only one appliance or open fire per chimney is to be used.**

The Schiedel block units comply with the general recommendations for materials for flue block chimneys contained in BS 6461-1:1984 *Installation of chimneys and flues for domestic appliances burning solid fuel (including wood and peat) – Code of practice for masonry chimneys and flue pipes*.

Completed chimneys should be left to cure for 4 to 5 days before the appliance is used.

### 3.3 FOUNDATION

Where a chimney is built up from foundation level, it must be supported on a concrete foundation designed in accordance with normal good practice. This foundation must reach a frost-free depth i.e. approximately 1m below ground level if the chimney system is installed externally or approximately 400mm below floor level if the chimney is internal.

### 3.4 CONNECTION TO STRUCTURE

The chimney units should not be bonded into the building structure, but external chimneys must be tied to the structure at not more than three block unit intervals and at the point of departure from the roofline, using the specified stainless steel ties. Consideration must be given to the effects on the adjacent structure of the loads imposed by the chimney fixings. Internal chimneys must

be tied to the structure using the specified stainless steel wall ties at three unit intervals; the necessary support must be provided during and after construction by the intermediate floors and by the timber trimming at roof level.

### 3.5 FLOOR DETAIL

Where the chimney system passes through concrete floors, a sliding joint must be made using mineral wool or similar non-combustible material. Bonding between the chimneys and the floor or structure must be avoided. A minimum clearance of 40mm must be maintained between the outer surface of the chimney block and timber structural members such as joists and rafters. After the units have been positioned, the gap must be filled with mineral wool having a minimum density of 25 – 30kg/m<sup>2</sup>.

### 3.6 CAVITY WALLS

When an external chimney is erected the design and installation of the flue connection to the appliance must be in accordance with BS 6461-1:1984. Particular care must be taken to comply with the weather details for the connection flue where it passes through the cavity wall. Details of cavity trays are shown in Figures 11 and 12.

### 3.7 AIR SUPPLY

Heat producing appliances are required to be provided with an adequate supply of air for combustion of fuel and for efficient operation of the chimney or flue. For this reason a Schiedel Chimney System must be located where the chimney has adequate air supply (ventilation). The chimney system can be used with solid fuel, oil and gas burning appliances. For appliances that require combustion air from outside the dwelling, the Schiedel Air System can be installed.

The following are the ventilation requirements for the respected fuels.

#### (i) Air Supply for Solid Fuel Burning Appliances with output rating not more than 45kW

The ventilation requirements must comply with Table 2.1, Diagram 3.2 and Diagram 4.3 of Section 2, 3 and 4 respectively of TGD to Part J of the Building Regulations 1997 to 2007.

#### (ii) Air Supply for Individually Fuelled (Non-Fan Assisted) Gas Burning Appliances with Rated Input up to 60kW and for Gas Burning Cooking Appliances

The performance requirements for air supply should comply with Clause 3.4 and 3.5 of TGD to Part J of the Building Regulations 1997 to 2007.

#### (iii) Oil Burning Appliances with a Rated Output up to 45kW

The ventilation requirements should comply with Clause 4.1 of TGD to Part J of the Building Regulations 1997 to 2007.

**(iv) Air Supply for Room Sealed Appliances**

The ventilation requirements must comply with Table 2.1, Diagram 3.2 and Diagram 4.3 of Section 2, 3 and 4 respectively of TGD to Part J of the Building Regulations 1997 to 2007.

#### 4.1 DOMESTIC APPLIANCES

Schiedel Chimney Systems are suitable for use with solid fuel (coal, wood logs, chips and pellets), oil and gas burning appliances. Before installing a chimney system, the following guidance should be given on the respected fuel-burning appliance.

##### 4.1.1 Solid Fuel Burning Appliance

Guidance should be either sought from Schiedel Chimney Systems or a chartered heating engineer experienced in the use of solid fuel appliances to ensure that the correct size of flue and ventilation is selected in each case.

##### 4.1.2 Oil Burning Appliance

Advice on the correct size of chimney flue should be provided by the appliance manufacturer or registered boiler installer.

##### 4.1.3 Gas Burning Appliance

Guidance for the installation of gas burning appliances is available from Bord Gáis.

Sizes for the Schiedel Chimneys suitable for use with open fires and appliances for domestic use are shown in Table 4.

#### 4.2 STRENGTH AND STABILITY

The chimney components are sufficiently strong to withstand normal site handling and accidental impacts associated with normal conditions of use. Stability of the externally or internally installed chimney is adequate with the lateral restraint provided by the interlocking units. In addition further restraint is provided for external chimneys by the stainless steel ties used every meter. For internal chimneys expanded metal ties are used for additional restraint. Where the chimneystack projects above the roof it will remain stable under the action of normal wind forces provided the stack heights do not exceed the limits given in Table 3. Where the chimneystack is brick-clad, this cladding must be supported on the appropriate corbel supplied by Schiedel Chimney Systems. If brick cladding is required from foundation level it can be considered self-supporting.

When the Schiedel Chimney Systems are correctly installed in a properly design chimney, they will not collapse or cause danger to a building's occupants in the event of an accidental chimney fire caused by soot burnout or gaseous explosions of the kind which may occur through malfunctioning of the heating appliance.

#### 4.3 HEIGHT OF CHIMNEYS

The maximum permissible chimney height above the roofline must comply with Table 3 of this Certificate.

In addition to Table 3, the height of the chimneystack above the roofline for a particular installation must be in accordance with the Building Regulations 1997 to 2007.

#### 4.4 PROXIMITY OF COMBUSTIBLE MATERIAL

The requirement of J3 of the Building Regulations 1997 to 2007 can be met by ensuring that hearths, fireplaces, chimneys and flue pipes are:

- Of sufficient size (ref Table 4);
- Constructed of suitable materials (ref Section 2 and 3 of this Certificate);
- Suitably isolated from any adjacent combustible material (ref 4.4.1 of this Certificate).

##### 4.4.1 Isolation from Combustible Material

Arrangements for spacing and packing between the chimney and any structural timber have been assessed as being adequate to prevent excessive drying out of the timber of the occurrence of any fire hazard. The spacing must be maintained throughout the chimney height but the requirement does not apply to skirting boards or floorboards: direct contact between these and the face of the chimney is permissible.

Fig 1, 2 and 3 illustrate examples of how a standard gap of 40mm is kept between outer surface of chimney and structural timbers.

It is generally unnecessary to box in the chimney, except to maintain the specified 40mm clearance between the chimney and any loose combustible material, e.g. in an airing cupboard or insulated roof space.

#### 4.5 DURABILITY

The materials used in Schiedel Chimney Systems are durable in terms of their resistance both to natural weathering and flue conditions. Provided the chimney is correctly used, e.g. the chimney size is matched to the type and rating of the heating appliance, and the appliance is maintained in good working order and not misused, the chimneys will have a minimum life of 30 years with an expected life of 60 years.

#### 4.6 INSPECTION, CLEANING AND MAINTENANCE

The Schiedel Chimney Systems are designed to allow access for inspection, cleaning and maintenance. The chimney can be swept throughout its length without difficulty or without causing damage to any part of the chimney once proper sweeping equipment is used. On the Schiedel Open Fire System cleaning is achieved by passing the brush head from the firebox to the flue through the appliance, therefore no separate access to the chimney is required. The Schiedel Central Heating System comes with an inspection door and preformed inspection pipe to allow for easy cleaning and maintenance.

The frequency of chimney sweeping will depend on many factors, i.e. type of fuel and quantity used and method of operation of appliance. The interval of inspection and cleaning will be determined by user experience but under no circumstances should this be less frequent than once a year.

#### **4.7 TESTS AND ASSESSMENTS WERE CARRIED OUT TO DETERMINE THE FOLLOWING:**

Tests by Ceram Building Technology were examined to determine:

- Effect of thermal shock at 1000°C.
- Adequacy of thermal insulation.
- Effect of sweeping leakage rate before and after thermal tests.

#### **4.8 OTHER INVESTIGATIONS**

- (i) An examination was made of existing data to determine:
  - relevance of Ceram Building Technology test results to Irish usage
  - structural stability
  - durability
- (ii) A computer analysis was carried out to investigate the thermal behaviour of the chimney.
- (iii) Visits were carried out to existing sites to assess practicability of installation and performance in use.
- (iv) Reports of visits to the factory were examined and an assessment made of the adequacy of quality control procedures. Details were obtained of the quality and composition of the materials used.
- (v) Visits to sites in progress were carried out to assess the practicability of installation.
- (vi) No failure of the product in use has been reported to the IAB.
- (vii) On site smoke test has been carried out.

**5.1** National Standards Authority of Ireland ("NSAI") following consultation with the Irish Agrément Board ("IAB") has assessed the performance and method of installation of the product/process and the quality of the materials used in its manufacture and certifies the product/process to be fit for the use for which it is certified provided that it is manufactured, installed, used and maintained in accordance with the descriptions and specifications set out in this Certificate and in accordance with the manufacturer's instructions and usual trade practice. This Certificate shall remain valid for five years from date of issue so long as:

- (a) the specification of the product is unchanged.
- (b) the Building Regulations 1997 to 2007 and any other regulation or standard applicable to the product/process, its use or installation remains unchanged.
- (c) the product continues to be assessed for the quality of its manufacture and marking by NSAI.
- (d) no new information becomes available which in the opinion of the NSAI, would preclude the granting of the Certificate.
- (e) the product or process continues to be manufactured, installed, used and maintained in accordance with the description, specifications and safety recommendations set out in this certificate.
- (f) the registration and/or surveillance fees due to IAB are paid.

**5.2** The IAB mark and certification number may only be used on or in relation to product/processes in respect of which a valid Certificate exists. If the Certificate becomes invalid the Certificate holder must not use the IAB mark and certification number, and must remove them from the products already marked.

**5.3** In granting Certification, the NSAI makes no representation as to;

- (a) the absence or presence of patent rights subsisting in the product/process; or
- (b) the legal right of the Certificate holder to market, install or maintain the product/process; or
- (c) whether individual products have been manufactured or installed by the Certificate holder in accordance with the descriptions and specifications set out in this Certificate.

**5.4** This Certificate does not comprise installation instructions and does not replace the manufacturer's directions or any professional or trade advice relating to use and installation which may be appropriate.

**5.5** Any recommendations contained in this Certificate relating to the safe use of the certified product/process are preconditions to the validity of the Certificate. However the NSAI does not certify that the manufacture or installation of the certified product or process in accordance with the descriptions and specifications set out in this Certificate will satisfy the requirements of the Safety, Health and Welfare at Work Act 2005, or of any other current or future common law duty of care owed by the manufacturer or by the Certificate holder.

**5.6** The NSAI is not responsible to any person or body for loss or damage including personal injury arising as a direct or indirect result of the use of this product or process.

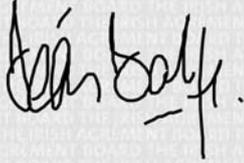
**5.7** Where reference is made in this Certificate to any Act of the Oireachtas, Regulation made thereunder, Statutory Instrument, Code of Practice, National Standards, manufacturer's instructions, or similar publication, it shall be construed as reference to such publication in the form in which it is in force at the date of this Certification.

## The Irish Agrément Board

This Certificate No. **01/0121** is accordingly granted by the NSAI to **Schiedel Chimney Systems** on behalf of The Irish Agrément Board.

Date of Issue: **April 2001**

Signed



**Seán Balfe**  
Director of the Irish Agrément Board

Readers may check that the status of this Certificate has not changed by contacting the Irish Agrément Board, NSAI, Glasnevin, Dublin 9, Ireland. Telephone: (01) 807 3800. Fax: (01) 807 3842. [www.n Sai.ie](http://www.n Sai.ie)

**Revisions: September 2007**

- Inclusion of the Schiedel Prefabricated Chimney and Chimney Stack.