(24)

Your Reference :
Our Reference : CI/IP/MPB
Please ask for : M P Brock
Dialling No : 831857
Date : 27th May 1993

City of Coventry

HOUSING AND ENVIRONMENTAL SERVICES DIRECTORATE

Director Howard T. Farrand
Providing Housing, Environmental and Client Agency Services

Michael Green
City Environment Officer
Broadgate House
Broadgate
Coventry, CV1 1NH

Telephone : 0203 83 3333
Fax : 0203 83 1831

THE ENVIRONMENTAL PROTECTION ACT 1990

The Environmental Protection (Prescribed Processes and Substances) Regulations 1991, SI 472.

The Environmental Protection (Application, Appeals and Registers) Regulations 1991, SI 507.

Authorisation No: 025
Application Received: 25th April 1992

Notice is hereby given that under the Environmental Protection Act 1990 Coventry City Council (hereafter called the Authority) gives authorisation to:

Arden Windows Ltd
Beacon Works
Bond Street
WEST BROMWICH
West Midlands
B70 7D2

Register in England No: 2440469

To manufacture timber based products as described on Page 2 at:

Arden Windows Ltd
Burnsall Road
Coventry

Subject to the conditions specified on the attached pages, Nos 1 to 4, and within the process boundary as indicated on Plan No. 1.

Signed.....[redacted]... Dated..27th... day of...May........1993
City Environment Officer

1. DESCRIPTION OF PROCESS

1.1 This authorisation is for the manufacture of timber windows, as described in the Prescribed Processes and Substances Regulations 1991, SI472, Section 6.7 Part B paragraph (ii) within the process boundary outlined in red on the attached Plans Numbered 1 and 2 and specifically relates to the processes outlined below.

1.2 The delivery and storage in racks of hard and soft woods in the area marked "storage" on the Plan Numbered 2.

1.3 The cutting of timber to specific sizes employing two cross cut saws and two resaws, each with local extract ventilation to the Nordfab dust arrestment plant, marked A on the Plan numbered 1.

1.4 The planing, moulding, profiling, drilling and jointing of cut timbers employing two planers, one moulder, two spindle moulders, two tenoners and one multiflex, each with local extract ventilation to the Nordfab dust arrestment plant marked A on the Plan numbered 1.

1.5 The sanding of windows, doors and profiles using the drum sander with local extract ventilation to the Air Plants 2500DB dust arrestment plant, marked B on the Plan numbered 1 or by hand.

1.6 The staining or priming of products by dipping or brush application.

1.7 Any change to the above descriptions must not take place without the prior consent from this Authority.

2. EMISSION LIMITS AND CONTROLS

2.1 All emissions to air other than steam or water vapour shall be colourless and free from persistent mist.

2.2 All emissions to air shall be free from offensive odour outside the process boundary, as perceived by the local Authority Inspector.

2.3 There shall be no emissions of particulate matter noticeable beyond the process boundary.

2.4 The introduction of dilution air to achieve the emission concentration limits in this authorisation is not permitted. Exhaust flow rates should be consistent with the efficient capture of emissions.

3. MONITORING SAMPLING AND MEASUREMENT OF EMISSIONS

3.1 A visual assessment of wood dust being emitted from the Nordfab and Air Plants wood dust extraction equipment shall be carried out from the position marked x on Plan 1, at least once a day, whilst these machines are in operation.

3.2 An olfactory assessment of emissions from the painting and staining process shall be carried out at least once a day from the position marked Y on Plan 1, whilst these processes are being undertaken.

3.3 The results of all monitoring to comply with 3.1 and 3.2 shall be recorded in a log book which shall include details of: date, time, wind strength and direction, the name of the of observer and an assessment of the emissions. This log book shall be retained, on site, for a minimum of four years.

3.4 Any adverse results from the monitoring required in 3.1 and 3.2 shall be followed up immediately by the investigation of the cause of the emission and any corrective action taken, with this also being recorded in the log book.

3.5 A detailed inventory of all organic solvent used in the wood staining and coating processes shall be kept. This shall include cleaning solvent usage, diluent solvent usage and solvents contained within coatings used. This inventory shall be forwarded to the local Authority at least once every six months.

4. MATERIALS HANDLING

4.1 Within six months of this authorisation being issued, arisings of wood waste shall only be stored in the enclosed area marked C on Plan 2, or in a totally enclosed skip. This shall only be opened for the minimum period practicable.

4.2 Arisings of wood waste shall only be loaded onto vehicles and removed from the site in enclosed containers.

4.3 Wood dust and wood chip collected from the Nordfab wood dust extraction equipment shall only be stored in the wood chip store marked D on Plan 1.

4.4 Wood dust collected from the Air Plants extraction equipment shall only be stored in sealed containers.

4.5 The storage of containers which contain or have previously contained volatile organic compounds or other odorous substances, shall be sealed to reduce the emissions of volatile organic compounds to atmosphere.

5. VENTS AND PROCESS EXHAUSTS

5.1 The local exhaust ventilation system for the planing, moulding and profiling machines, must only be vented to atmosphere through the Air Plants dust extraction system marked on the Plan numbered 1.

5.2 The local exhaust ventilation for the drum sander shall only be vented to atmosphere through the Air Plants dust arrestment equipment marked on the Plan numbered 1.

6. GENERAL OPERATIONS

6.1 Any mechanical malfunction or spillage of material shall be attended to and remedied as soon as possible. Any incident likely to give rise to atmospheric emissions shall be noted in detail in the process log book as described in 3.3.

6.2 Any incident likely to give rise to emissions which may have an impact on neighbouring residents shall be reported immediately to this Authority.

6.3 A copy of this authorisation shall be displayed so it can be conveniently read by persons having duties which are or maybe affected by this authorisation.

6.4 The operator shall supply, to this Authority, on demand and without charge, a copy of all or part of the monitoring records kept in accordance with this authorisation.

7. UPGRADING OF THE PROCESS

7.1 No later than twelve months from the date of this authorisation, a programme for upgrading the process shall be submitted to this Authority. The upgrading programme shall have regard to the Secretary of State's Guidance:

Manufacture of timber & wood based products PG 6/2 (91).

SUPPLEMENTARY NOTES

THESE NOTES ARE NOT PART OF THE AUTHORISATION

1. Your attention is drawn to your obligation under Section 7(2) of the Environmental Protection Act 1990 to ensure that the best available techniques, not entailing excessive cost (BATNEEC) for:

   A) preventing the release of prescribed substances into the air or where that is not practicable by such means, for reducing the release into the air of such substances to the minimum and for rendering harmless any such substances that are so released

   and

   B) for rendering harmless any other substances which might cause harm if released into the air.

2. The authority for contact purposes should be taken to mean the head of the Pollution Control Section, Tel 831810 during office hours, 832222 outside office hours.

3. You will note that condition 7.1 of the authorisation requires you to submit a schedule of works for approval by this Authority, within twelve months of the issue date. This schedule must describe the procedures and improvements that you intend to implement in order to meet the requirements of the relevant guidance note referenced within the authorisation. From observations and inspections of the process I would recommend that the following topics are specifically included.

   a) The results of non-continuous emission sampling to show that emissions from the dust arrestment equipment will meet the limit stated in the relevant Process Guidance Note.

   b) The proposed frequency of further non-continuous emission sampling, taking into account the results of the initial monitoring exercise.

   c) Methods for reducing the amount of volatile organic compounds used in the staining and painting of timber based products.

   d) All other aspects contained within the Secretary of State's Guidance - Manufacture of Timber and Wood Based Products. PG 6/2 (91).

Question 1.
Either Name and address of applicant*

Arden-Cavecroft Joinery Ltd.
Burnsall Rd.
Coventry.
CV5 6BU.

OR Name, number and registered office of applicant company* (if applicable)

Registered Office:
Vicarage St., Nuneaton, CV11 4AZ.
No. 1700561.

* the person/company who will operate the process, not e.g. the the person/consultant who is writing the application on the operator's behalf.

Question 2.
Name and address of premises where process is or will be carried on (not applicable to mobile processes)

Arden-Cavecroft Joinery Ltd.
Burnsall Rd.
Coventry.
CV5 6BU.

Question 3.
Name and address for correspondence if different from 1.

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Question 4.
List of maps or plans enclosed with the application showing the location of the premises where the process is or will be carried on.

One: Location plan scale 1:1250.
Showing situation of premises in relation to Burnsall Rd. & Fletchamstead Highway.

Question 5.
List of attached documents, or actual details, comprising part of the application * *

a) Draft Quality Manual GQS09:1991.

b) i) Hard and soft wood raw materials.
ii) Various paints and stains.
(applied by brush only)

c) All timber cutting machines individually ducted for extraction of waste material via a "Nordfab" extraction unit to a 3000 cu.ft. chip store.
One Wadkin sander ducted to an "Airplants" filter bag extraction unit.

d) None - apart from when chip store is emptied by an approved woodflake merchant.
(D.I.Gillespie Ltd. of Market Drayton)

e) Monitoring by a third party specialist body.

f) Assurances from the suppliers of the filtration equipment and chipstore that their systems meet the requirements of the act.

* * a) Description of the prescribed processes.
b) List of prescribed substances (and any other substances which might cause harm if released into the air) used in connection with or resulting from the prescribed process.
c) Description of the techniques to be used for preventing releases into the air of such substances, for reducing such substances to a minimum and for rendering harmless any such substances that are released.
d) Details of any proposed release of such a substance into the air and an assessment of the environmental consequences.
e) Proposals for monitoring any release of such substances, the environmental consequences of any such release and the use of techniques for preventing releases.
f) The matters on which the applicant relies to establish that the objectives in section 7(2) of the Act will be achieved and that he will be able to comply with the condition implied by section 7(4) of the Act.

Fee enclosed: £900.00.....Cheques payable to:

Coventry City Council.

I hereby certify that all the information contained in this application is, to the best of my knowledge, correct.

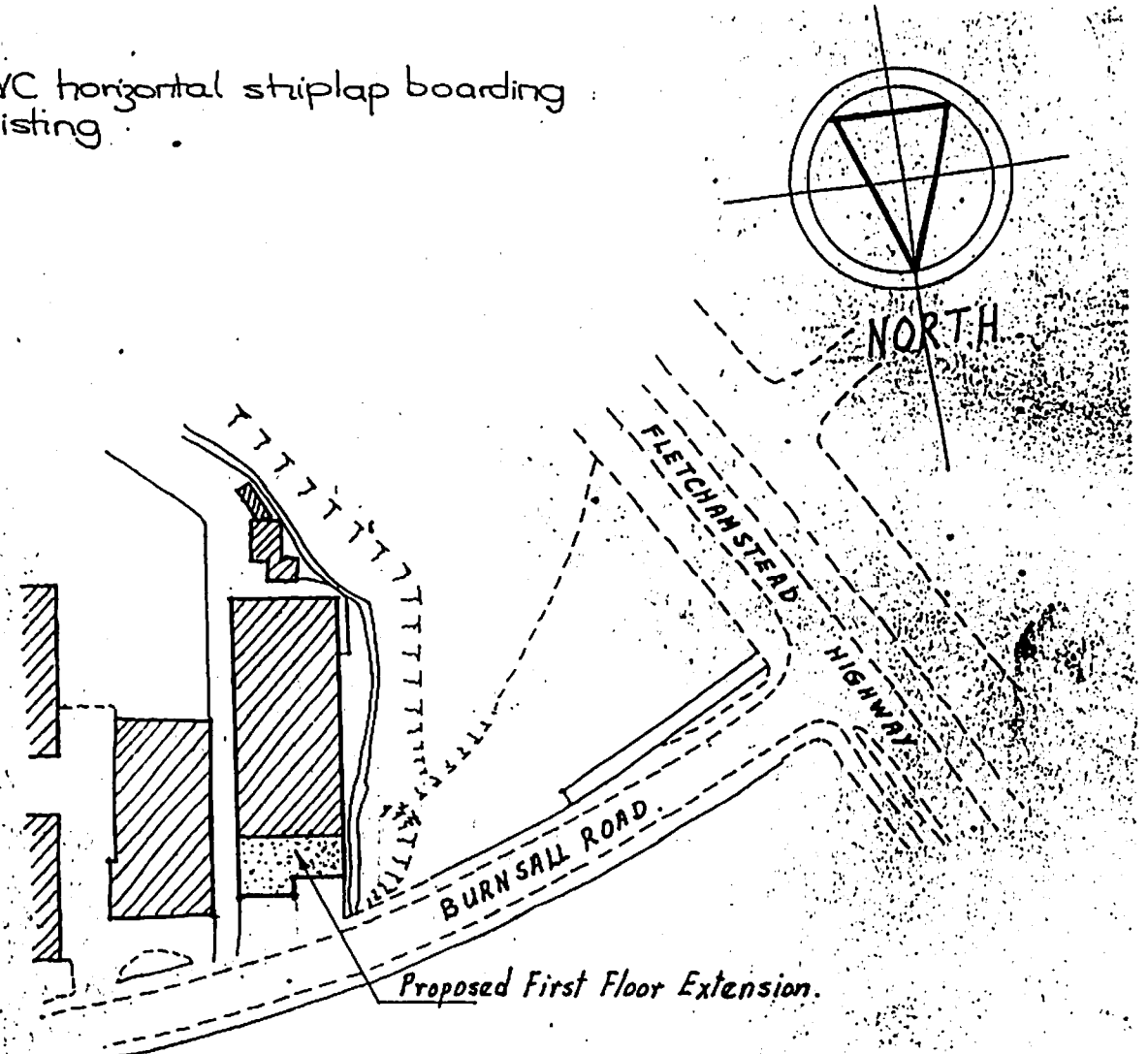
[redacted]

.....(signature)

A. J. ABERCROMBIE
COMPANY SECRETARY
.....(name in BLOCK CAPITALS and capacity in which signing)

8. 5. 1992.
.....(date)

coloured uPVC horizontal shiplap boarding to match existing



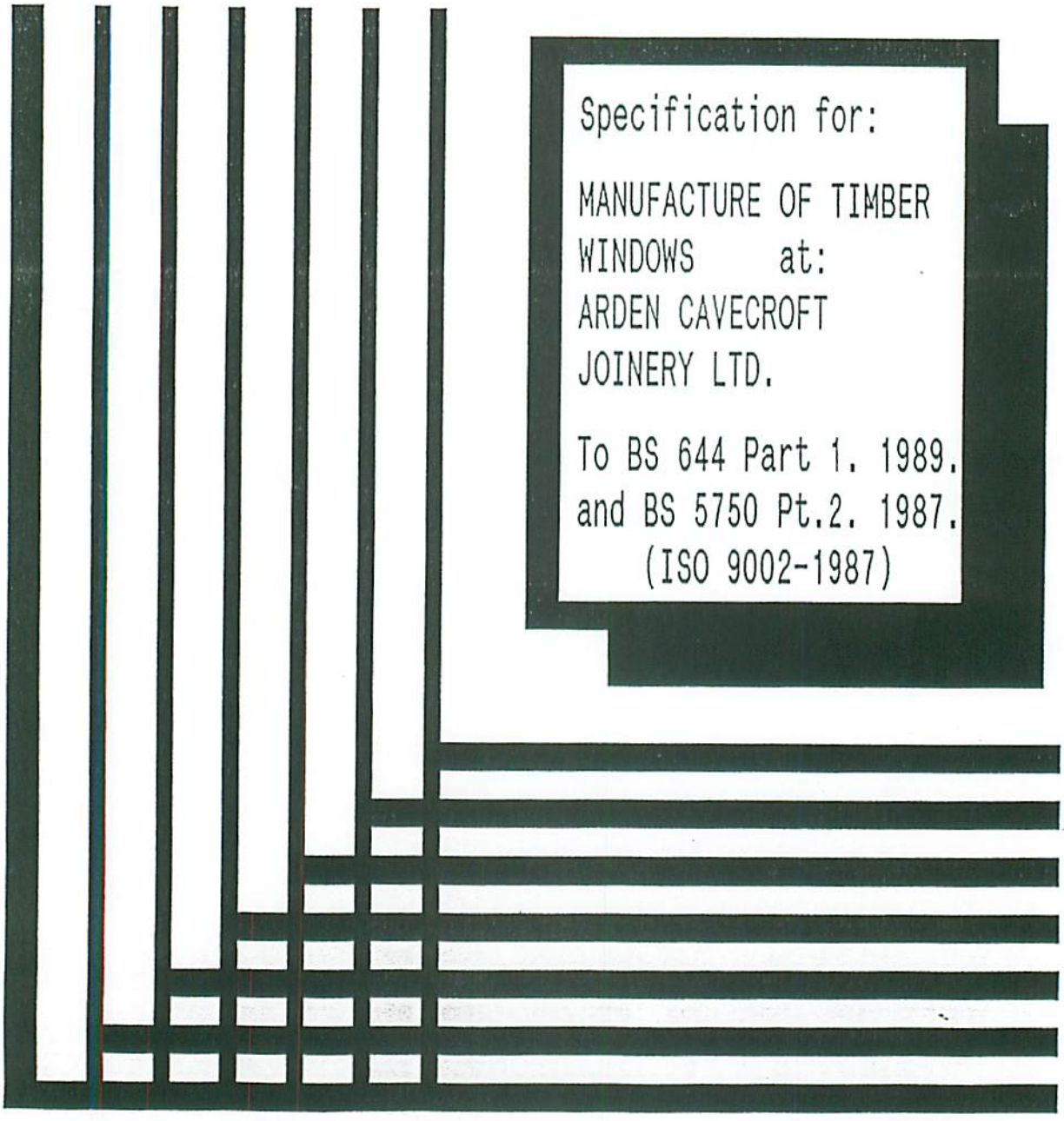
LOCATION PLAN. Scale. 1:1250.

GQS09:1991

ISSUE: 1
DATE: 10/10/91
ORIGINATOR: C.D.L.
AUTHORISED: [redacted]

Plastiseal plc.
GROUP QUALITY
STANDARD.

UNCONTROLLED DOCUMENT



1 Introduction.

This Group Quality Standard GQS09:1991 issue 1, documents the procedures, both commercial and technical that are required to control all activities affecting quality associated with the manufacture of both hardwood and softwood windows by Arden Cavecroft Joinery Ltd.

Arden Cavecroft Joinery Ltd. is a wholly owned subsidiary of Plastiseal PLC.

The only valid issue of this Group Quality Standard is the one containing the latest issue number of sections.

The monitoring of the systems pertinent to this standard is by Internal Audits which are reviewed, discussed and appropriate actions agreed at regular Management meetings that are fully minuted. (see section 12)

It is company policy to operate all procedures set out in this Group Quality Standard within the safety guidelines laid down in the company general policy on health and safety at work.

2 Organisation.

2.1 Quality Policy.

It is the policy of Plastiseal PLC and its wholly owned subsidiaries to supply and/or install products of consistent high quality to its customers.

In order to achieve and maintain this objective the Quality Assurance Manuals are based on the requirements of BS5750: Part 2 (ISO 9002) and any Quality Assessment Schedules, Quality System Supplements, and BSI Kitemark schemes which relate specifically to the company's range of products.

Where BS5750: Part 1, (ISO9001) certification has been achieved, Design Manuals OS100:1991 (uPVC) and OS200:1991 (Aluminium) are the appropriate reference documents.

The achievement of high quality and consistency calls for a systematic and disciplined approach by employees in all activities associated with a customers order according to the principles of quality assurance.

All employees will therefore be issued with a copy of this policy statement which represents the commitment of the Plastiseal PLC Group Board of Directors, and the total workforce of the subsidiary companies to the Group quality policy.

Signed. [redacted] J.Manttan. F.Inst.Dir.

(Joint Chairman and Chief Executive)

Plastiseal PLC.

Date.....10.10.91.....

2.2 Responsibility and Authority.

The Group Technical Director of Plastiseal PLC. has as main board director of the holding company an indirect, advisory responsibility for the quality of product or service, he does however have total responsibility for the contents of all quality manuals.

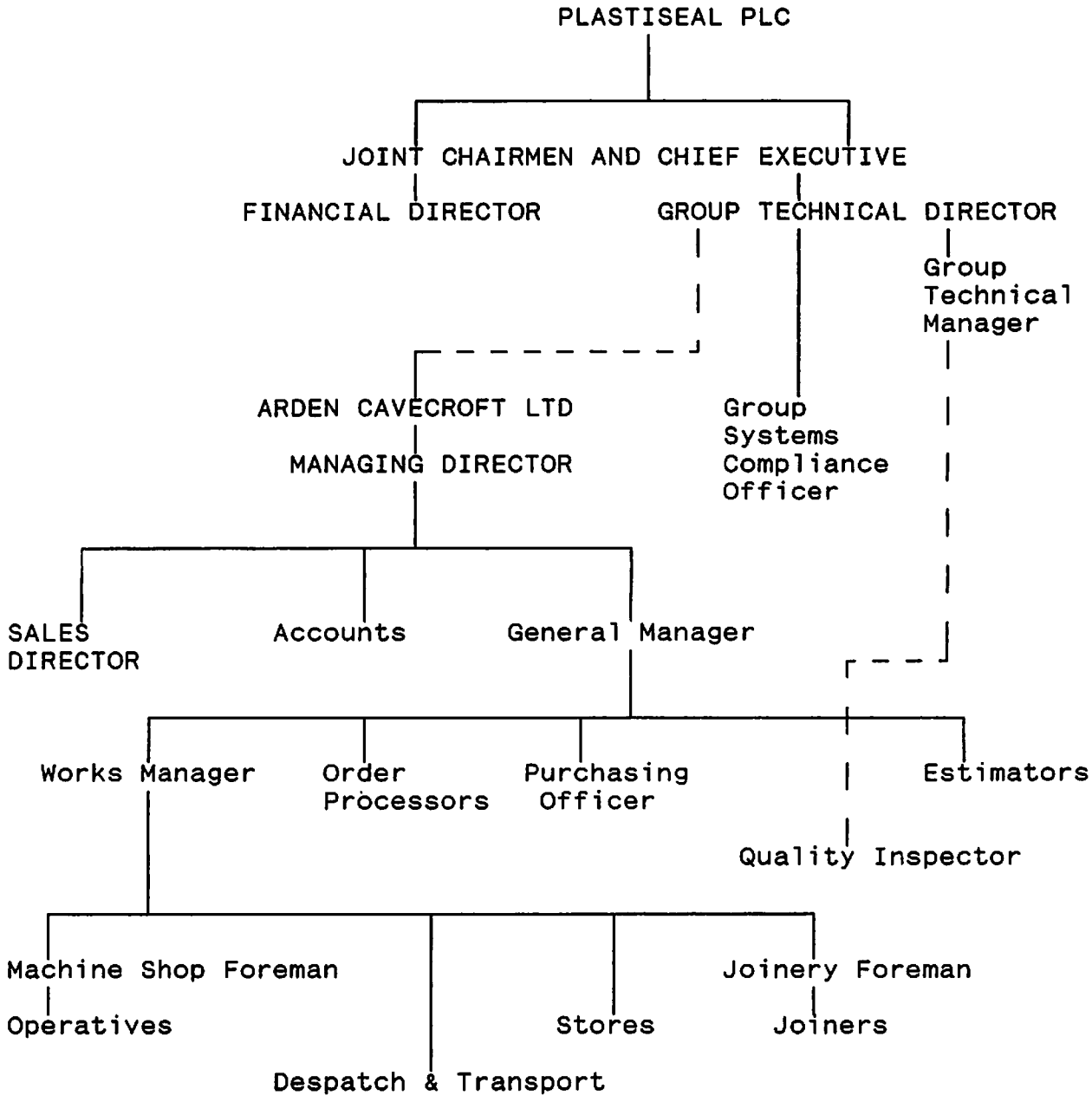
The person responsible for the implementation of the quality assurance programme for the Plastiseal PLC. group of companies on a day to day basis is the Group Systems Compliance Officer who reports to the Group Technical Director.

The person responsible for controlling the key elements of the quality system and processes at Arden Cavecroft Joinery Ltd. is the Managing Director.

The management structure that covers the manufacturing facilities of Arden Cavecroft Joinery Ltd., and its relationship with the Plastiseal PLC. main board, in particular the Group Technical Director and staff is illustrated in Section 2.3 of this Group Quality Standard.

The specific duties and responsibilities of all quality associated personnel within Arden Windows Ltd. are described in Group Quality Standard GQS 06: 1991.

2.3 Organisation Chart.



2.4 Verification resources and personnel.

The manufacture of timber windows requires an on-going system of in-house inspection and quality control.

The responsibility for inspecting manufactured components, assemblies etc. lies with the individual operative. As all critical operations are performed by skilled craftsmen, it is considered unnecessary for additional independent inspection to be carried out except for final inspection prior to despatch.

Full details of the checking procedures and tolerances adopted for manufacture and assembly are shown in Section 8.

Procedures for goods inwards inspection are shown in section 9.

The verification of departmental procedures is by a system of Internal Quality Audits carried out by personnel independent of the department being audited. (See Section 12)

2.5 Management Representative.

The nominated persons who are responsible for ensuring that the requirements of BS5750 Part 2. are being implemented are, for:

Plastiseal PLC. The Group Systems Compliance Officer. and

Arden Cavecroft Joinery Ltd. The Works Manager.

2.6 Management Review.

The review of the Arden Cavecroft Joinery Ltd. quality system, considers elements appertaining specifically to the manufacture of timber windows and the requirements of BS644:Part 1. 1989 & BS5750 Part 2, 1987.

These reviews are carried out at regular intervals, at least four per annum, fully minuted, documented and actioned accordingly.

The reviews will cover such items as:

a) The quality system (manuals).
b) Internal Audits.
c) Quality reports, including:
    1) Non-conforming products and corrective actions.
    2) Customer complaints.

Persons attending review meetings may be chosen from Company Director, General manager, Works Manager, and the Group Systems Compliance Officer.

Copies of Management Review meeting minutes are submitted to the Group Technical Director.

3 Quality System.

3.1 General.

The Quality Management Systems and procedures pertinent to the manufacture of timber windows by Arden Windows Ltd. are detailed in this Group Quality Standard GQS09:1991, issue 1.

The quality records required in order to provide evidence that the system exists and is operating as intended are detailed in section 11 of this manual.

3.2 Window Systems.

The Quality System, production, assembly and inspection procedures referred to in this Group Quality Standard are in respect of windows manufactured from soft and hardwood timber sections which have undergone the necessary testing carried out by B.S.I.

3.3 Manufacture and installation relationship.

Most contracts and/or orders received by Arden Cavecroft Joinery Ltd. are for manufacture only of timber windows. If installation forms part of contracts/orders this work may be sub-contracted to another subsidiary company of Plastiseal PLC. namely Plastiseal (uPVC) Ltd. of Coventry.

Details of how the manufacturing and installation companies inter-act to suit the requirements of BS5750 are detailed in the installation manual GQS02:1991.

3.4 Contract File.

For each Commercial Contract/Order a file is created by the Commercial Department for which a unique Works/Job No. is designated.

This file shall include but not be limited to the following information:

a) Name and address of Client/Customer.
b) Copies of estimate/quotation.
c) Agreed delivery date.
d) Agreed variations to orders.
e) Order processing and works order instructions.
f) Contract Review Form.
g) File Contents List.

Contracts/Orders for installation will necessitate additional information as follows:

h) Location details of installation site.
i) Copy of manufacturing survey as and when required.
j) Agreed start and completion dates of installation.

Contract/Order files are included in Quality Records and as such are retained for five years.

3.5 Order Processing.

3.5.1 Outline.

Order processing procedures for products manufactured and produced by Arden Cavecroft Joinery Ltd. are common for all types of contracts/orders.

These procedures illustrate how orders are processed to enable customer requirements to be met, and a works order to be produced.

It is the responsibility of those involved in order processing to deal with orders promptly and efficiently so that order details can be converted into manufacturing data.

3.5.2 Details of procedure.

1) Orders received are date stamped, recorded in day book register and inserted in a newly created contract file by contracts assistant. (See Section 3.3)

2) Where installation is required:
After various elements have been checked (See Contract Review Section 4) a request/order for a manufacturing survey is made to the Installation Company and recorded on Contract Review Form.

3) Where installation is required:
On receipt of completed manufacturing survey from Installation Company the survey information is issued to Order Processing Department with signature of issuing authority and date, recorded on Contract Review Form.

4) It is accepted that all orders can be processed within the parameters of the window system computer programme. If however an exception to this rule occurs an element of manual processing may be necessary.

5) All data that is required to produce material identification, cutting lists, glass sizes, hardware and parts list is held within the computer.
Each unit style on the order is called up on the screen, where the data can be assessed, then printed on the works order.

6) Copies of the completed works order are taken for:

   a) Order Processing File.

   b) Final Accounts Department. (Invoice Document)

   The original is issued to the works (Works Manager) for production planning and manufacture (recorded on contract review form), used for recording manufacturing processes up to and including "Prior to despatch" and filed in despatch department after despatch of goods.

Details of all items to be despatched/delivered are issued direct to Despatch Department from Order processing.

Confirmation of items despatched is forwarded to Final Accounts.

4 Contract Review.

4.1 Contract Review Procedures.

Contract files created by the Commercial Department should include as a minimum requirement for contract review purposes, the following items:

a) Contract review form.

b) Survey report form (where installation is involved).

c) File contents form.

The Commercial Department is responsible for maintaining the Company contract files.

Before issuing to Order Processing the contract/order is examined by Commercial Personnel to ensure that:-

d) The requirements are clearly defined and documented.
e) Contractual requirements can be met.
f) There is no discrepancy between the price quoted and that stated on the order.

The contract review form shows evidence of these and other necessary review activities having taken place, together with all authorisations for proceeding to the manufacturing stage.

Any variation from the original quotation has to be resolved and customer's approval obtained before issuing to production.

If there is a conflict of conditions between quotation and order it must be reconciled, and customers agreement and approval obtained before proceeding with any installation work.

4.2 Contract Review Form.

CONTRACT REVIEW

CUSTOMER ..... ESTIMATE No .....

..... ORDER No.....

..... CONTRACT No.....

..... SURVEY O/R No.....

COMPLETION DATE REQUIRED BY .....

CUSTOMER CONTACT ..... TEL. NO. ..... FAX NO.....

SITE DELIVERY INSTRUCTIONS, FULL ADDRESS, ACCESS DETAILS, ETC

.....

.....

..... MATLS. DUE ON SITE DATE .....

PROCESS AUTHORISATION (See over page for guide)

DEPT. / ELEMENT	DATE RECEIVED	DATE ISSUED	SIGNATURE
COMMERCIAL			
DESIGN / TECHNICAL			
ESTIMATE			
O/R RECEIVED & FILE CREATED			
SURVEY REQUEST			
SURVEY CHECK			
DESIGN / DETAIL			
O/R PROCESSING			

QUERIES ARISING FROM REVIEW (Continue over page if necessary)

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4.3 Certificate of Conformity.

The standard order acknowledgement to clients/customers contains written confirmation that the goods to be supplied against the order will, unless stated otherwise, be produced in compliance with the requirements of BS644 and BS5750.

5 Document Control.

5.1 Group Procedures.

Quality Manuals and Group Quality Standards are issued, controlled, and registered by the Technical Department of Plastiseal PLC.

Any BSI Standards or Specifications pertinent to the manufacture of timber windows, are controlled by the Technical Department of Plastiseal (uPVC) Ltd. In addition this company subscribes to the BSI "Plus" scheme which guarantees the automatic up-dating on a monthly basis of any amended standard held by the company.

5.2 Local Procedures.

Works Procedures & Instructions, Technical Instructions, Office Procedures etc. are held at various locations throughout the Arden Cavecroft Joinery Ltd. production facilities.

These controlled documents are the only procedural and specification documents to be used.

They are controlled by the Commercial Department where a register is kept of all such documents, their location and their status.

All such documents are subject to review and amendment as and when changes occur that effect materials, methods, product design, machinery, plant and personnel etc.

5.3 Amendments.

Controlled documents can only be authorised for amendment at: Group level by the Group Systems Compliance Officer and Local level by the Commercial Department; the procedure is:

Request for a change to any document may be made to the amending authority as above, who will review the change, and if accepted the document will be amended, signed, dated and distributed to all areas recorded in the register.

Documents will be re-issued after a practical number of changes have been made.

6 Purchasing.

6.1 General.

Procurement requirements throughout the Plastiseal PLC. Group of companies are based on GQS07:1990 but which may be amended for the day to day operation of individual purchasing departments.

The amended procedures for Arden Cavecroft Joinery Ltd. are detailed fully in Work Instruction No. 2 a copy of which is available to all purchasing personnel.

6.2 Approved Suppliers.

Components and materials that have a bearing on the quality of the product are purchased only from approved suppliers* , a list of which is issued to all purchasing personnel and those persons having authority to requisition goods.

The approved supplier's list is subject to periodic review in order to confirm status and suitability.

These suppliers are selected after undergoing strict appraisal by means of vendor assessment visits carried out by the Purchasing Officer and/or a quality representative, or as a result of a previous satisfactory trading and quality performance.

Vendor assessment ensures that the suppliers can meet the necessary specification, quality and delivery requirements that have been stipulated and agreed.

Specifications can also be confirmed by Certificates of Conformity as and when requested.

* If a client/customer specifies a product from a supplier not on the approved supplier's list then the following rule applies.

When it is necessary to purchase items from a non-approved supplier the order must be countersigned by a Company Director.

6.3 Verification of Purchased Products.

If contractually requested, the customer/client shall be given verification, either in written form, or visual examination, that purchased products conform to the required standards and specifications.

When these circumstances occur the normal procedure for goods inwards inspection is still carried out.

6.4 Purchaser Supplied Product.

Items supplied or especially requested by customer/client for inclusion in the finished product are stored and maintained in secure areas prior to being utilised.

Any losses, shortages, damage or suspect quality concerning these items are recorded and reported to the customer/client.

7 Product Identification and Traceability.

All timber windows supplied can be identified (where practicable) at a future date by means of the contract/job number which is marked on an adhesive label attached to a section of timber in a position that is not visible in normal use. (ie. beneath a glazing bead)

This will enable critical materials to be identified by cross referencing with the original contract file.

This label will also carry (when applicable) the:

Kitemark ref. ie. BS644: Part 1.1989.
Company name. Arden Windows Ltd.
Code for size and type of window.

8 Process Control.

8.1 Work Procedures.

Works Procedures comprise details of approved operating methods that ensure the maintenance of the required quality standards.

They can apply to both manufacturing and office/commercial facilities.

They detail in simple precise terms all the activities required to complete an operation for any production work station or office function.

They are considered to be "controlled documents" and therefore subject to the procedures stated in section 5.

They are usually introduced by the Technical or Quality Departments after consultation with the Works Manager and may be introduced/amended/deleted without reference to the Group Technical Director.

If established they may form part of this Group quality standard.

8.2 Technical Instructions.

Technical Instructions usually relate to product performance and/or specification and are for Management information only.

If established they may form part of this Group quality standard.

8.3 First Off Sample.

This is a system whereby a sample of a new design, style of window or a new component is used, which is adjudged may materially affect product quality, is submitted for testing via the Group Technical Director, for evaluation.

The prime purpose of a first off sample is to create an agreed quality standard.

Production is informed of the evaluation, and issued with amended works procedures as and where necessary..

8.4 Production Processes & Operator's Routine Inspections.

8.4.1 General.

Various basic machining and assembly operations are common in the production processes for timber windows and doors.

The machining operations are listed in sections 8.4.2 to 8.4.10, together with operators quality inspection checks.

Assembly operations are listed in section 8.5

Finishing operations are listed in section 8.6.

The Commercial Department of Arden Windows Ltd. will be responsible for the application and documentation of all specified process controls (Works Procedures) and for any maintenance and updating that these records may require.

The records shall be available for inspection by any third party assessor as and when required.

The guiding principle is that quality checks are carried out by production operatives, and because they are skilled craftsmen no further verification with regard to machined sizes or other quality parameters are considered necessary until final inspection prior to despatch..

All machining and assembly operations, the fitting of all furniture and gearing, are carried out in accordance with either the component supplier's instructions or approved Works Procedures.

Each production operative is responsible for ensuring that all machines and tools required are available and in good working order at the beginning of each shift; any faults or shortages should be reported to the Works Manager. They are also required to clean down the machine or equipment they have been working on at the end of their work period, and keep their general work areas tidy at all times.
In doing so, obeying all the normally accepted safety procedures that were made known to them during their training programme.

8.4.2 Timber Machining (general).

The essential features of successful timber machining are speed, accuracy and minimal waste. To achieve these objectives it is essential to ensure that the cutters are in good sharpened condition, and their relationship to the workpiece and machine bed accurately set.

The operator checks that the timber section to be machined agrees with the specification on the works order.

All timber sections to be machined are examined for evidence of damage, or poor finish to the exposed surfaces; any unsatisfactory sections are brought to the attention of the Works Manager for further inspection, and rejection if necessary.

The section is clamped securely (where machining processes require it) after checking that it is lying in the correct position on the machine bed.

It is essential that allowances are made to take account of the loss of dimensions which occur when machining.
(see section 8.4.3).
These allowances may be varied only when advised to alter them by the Works Manager.

Visual checks are carried out when machining, for marked or damaged surfaces, quality of saw cut, (burrs or heat marks will indicate the need for cutter sharpening or replacement). Any defects are brought to the attention of the Works Manager.

All cut sections are grouped together and identified by means of a label giving the contract number, and customer's name..

8.4.3 Machining allowances.

Allowances need to be made to cater for the natural inaccuracies that occur in both hard and soft timber, and the quality of surface finish required.

They apply to both length and cross section sizes.

Length allowances are automatically calculated on the "Windowmaker" computer programme and thus appear directly on the works order.

Cutting length allowances are, for:

Heads and cills.....Frame size + 127mm.
Jambs and mullions.....Frame size + 0mm.
Sash sections.....Sash size + 0mm.

Cutting cross section sizes:

Frame head.
Width.....Works Order size + 15mm.
Height.....Works Order size + 8mm.

Frame cill.
Width.....Works Order size + 15mm.
Height.....Works Order size + 8mm.

Frame jamb.
Width.....Works Order size + 15mm.
Height.....Works Order size + 8mm.

Sashes.
Width.....Works Order size + 15mm.
Height.....Works Order size + 9mm.

Finishing "clean up" cuts (Multiflex machine):

Cutters set to machine minimum amount to remove surface damage.

Nominally .3mm.

Cutting jambs/mullions (Multiflex machine):

Cutting list length is reduced by 43mm when cutting tenons.

8.4.4 Cutting timber sections to length.

Timber from stock is cut to required lengths on a Radial Arm Cross Cut Saw to dimensions stated on works order which incorporate the required machining allowances.

The clamping of the timber is by hand pressure only, this being the accepted practice for this operation in the woodworking industry.

The lengths are measured and marked using a Class 2 steel tape with which all operators are issued, and which are subject to calibration procedures.

8.4.5 Cutting timber sections to width..

Timber sections that have been cut to length are cut, as and when necessary for width on a Band Re-Saw to dimensions stated on the works order (which incorporate the required machining allowances) and the "section" chart adjacent to the machine.

The section being cut is drawn through the machine by an automatic rotary "feed" device.

The setting of the saw and the cut width of the section is measured with a calibrated Class 2 steel tape.

The operator checks first cut section (after setting) for size accuracy. Tolerance ± 2mm.

8.4.6 Moulding machine operations..

Moulding machine operations include machining:

a) All moulds/forms on heads and cills.

b) For reducing cross sectional area on all sections (P.A.R.).

c) Mortar groove in jambs.

d) Mould forms on beads (2 types - Classic & Straight)).

Each of the above operations require precise settings of various cutter combinations.

These are determined by the operator using information stated on the works orders and the works procedures that are adjacent to the machine.

The first section machined after setting, is checked for size and form accuracy by the operator against the operation sheets that are part of the works procedures.

After establishing that the cutters are correctly set, production machining can proceed with every tenth section being checked for consistency.

Each section machined is examined by a handler for blemishes, splits, areas not cleaned up, or any feature that is considered could be detrimental to the finished product quality.

Any section of doubtful quality is subject to examination by the machine operator and/or Works Manager as regards its suitability for further manufacturing processes.

8.4.7 Multiflex machine operations.

Multiflex machine operations include machining:

a) Mould forms on all sash sections.

b) Tenons and slots on all sash sections.

c) Tenon forms on jambs & mullions.

d) Stormproofing forms on assembled sashes.

e) "Espag" grooves on assembled sashes.

Each of the above operations require precise settings of various cutter combinations.
These are determined by the operator using information stated on the works orders and the works procedures that are adjacent to the machine.

The first section machined after setting is checked for size and form accuracy by the operator against the operation sheets that are part of the works procedures.

After establishing that the cutters are correctly set, production machining can proceed with every tenth section being checked for consistency.

Each section machined is examined by a handler for blemishes, splits, areas not cleaned up, or any feature that is considered could be detrimental to the finished product quality.

Any section of doubtful quality is subject to examination by the machine operator and/or Works Manager as regards its suitability for further manufacturing processes.

8.4.8 Mortice slots in heads & cills.

Mortice slots are produced by skilled joiners as follows:

Widths & Lengths of slots are as standard. The positions of slots are marked out by hand to dimensions given on works order.

Mortice slot sizes.....Width.12.5mm Length....Size as works o/r.
Depth of standard mortice slot.....30mm.
Tolerances are "size" for position and + 2mm for depth.

Slots are machined on a "Morticer" machine using a mortice drill and chisel bit.
Depth of mortice slot is controlled by fixed/adjustable end stop on "Morticer" machine.

The mortice machine is also used to produce ventilator slots in sash sections (see section 8.4.9).

8.4.9 Ventilator slots in heads & vent sections.

Ventilator slots are produced as follows:

In head sections the slot is machined using a Hand held electric router, the position and length of slot being determined by use of a "marking out" jig template.

In sash sections because of the angled position of the vent, the slot is machined on the mortice machine (see section 8.4.8).

The positions and lengths of slot to suit each type of ventilator are stated in the relevant works procedure which is available at the appropriate work station.

8.4.10 Vertical Spindle Moulder operations.

This machine is used for two specific operations:

a) Forming internal arch profile in fixed lights and sashes.
   The curve profile is determined by the use of a fixed template the contour of which is used as a guide for a hand held follower to which the timber section is attached.

   The correct curve is produced automatically after the fixed template and stated cutter have been accurately set.

   Details of settings are given in the relevant works procedure.

b) Machining slots in heads and cills to accept the friction stay hinges.
   The size and position of slots is determined by use of a marking out jig and a cutter of the correct size.

   Details of settings and cutter size are given in the relevant works procedure.

8.5 Assembly operations.

8.5.1 General.

The assembly of timber windows necessitate operations requiring a high level of skill.

It involves various techniques that rely mainly on the manual ability and efficiency of the operator.

Traditional woodworking techniques are used for assembling window frames and sashes, e.g. joints are morticed and tenoned, glued and nailed.

The fixing of hinges, stays, handles and locks etc. by screws into timber requires the use of both normal, and cordless electric screwdrivers.

Simple drill jigs are utilised for certain operations.

Weatherseal gaskets are fitted by hand.

8.5.2 Frame and vent joint assembly.

8.5.2.1 Frame method.

The procedure for assembling pre-machined frame sections is as follows.

Frames consist of a head and cill section spaced apart by vertical members, jambs and mullions, these vertical sections can also be separated by transoms which run horizontally.

Mullions always run between the Head & Cill of a window.

Transoms always run between mullions and jambs.

Tenons are produced automatically on the "Multiflex" machine.

Mortice slots are machined by a Joiner using a "Morticer" machine

Glue is applied to the tenons, all sections assembled by hand and the whole assembly is placed in a "Powerclamp" machine which applies pressure to all joints and allows the Joiner to drive nails through the tenons in situ thus securing all joints whilst glue is setting.

Operator must ensure that all excess/surplus adhesive is removed from frame joints before hardening.

8.5.2.2 Vent method.

The procedure for assembling pre-machined vent sections is as follows.

Vents consist of two vertical sections (stiles) which run the full height, and are separated by two horizontal sections (rails).

Rails always have tenons, and stiles have the mating slots.

The clamping, gluing and nailing operations are carried out as for frames. (see section 8.5.2.1).

Operator must ensure that all excess/surplus adhesive is removed from vent joints before hardening.

8.5.3 Fittings and hardware assembly.

The fitting of gaskets, friction stays, handles, strikers, butt hinges, peg stays, and vent stops etc. is carried out precisely to the assembly instructions detailed (if available) in the suppliers manual, or the relevant works procedures at the appropriate work station.

It is essential that these instructions are followed implicitly and strictly adhered to.

Operators routine inspection checks.

Check every fifth vent for:

1) Correct operation.

2) All fittings having the correct number of screws.

3) Multiple vents being aligned within 1.5mm (top edge).

4) Gasket not visible from outside when closed.

5) Correct "cover" of vent on frame, 7.5mm ± 1mm.

6) If not satisfactory advise Works manager..

8.5.4 Beading, Fixed light and vent.

This operation is of the utmost importance to the overall quality of the finished product.

Glazing beads must be fitted accurately, therefore great care must be exercised.

Cut the glazing beads to suit by marking out each bead length individually, and using a mitre saw to ensure a precise fit.

Lightly tack the bead sections into place.

Operators routine inspection checks:

That the correct bead form (Classic or Straight) has been fitted as stated on works order.

8.5.5 Vent/frame gasket fitting.

The correct form of gasket is stated on the works order.

The gasket is fitted in four sections, and retained using the lip and groove provided.

Gaskets must not be stretched or pulled.

Operators routine inspection checks:

By virtue of the work carried out at this operation the operative is able to carry out close inspection of both frames and vents. He should report any sub standard quality to the Works Manager.

8.6 Finishing Operations.

8.6.1 Sanding.

All face surfaces of frames and vents are sanded prior to priming.

Vents are sanded on a belt sander machine, and
Frames are sanded with a hand held electric sander.

8.6.2 Staining.

Unless otherwise stated, all frames and sashes receive one coat of primer - colour as customers requirements.

Care must be taken to ensure that any stain marks appearing on fittings or gearing are removed before leaving finishing area..

8.7 Despatch checking procedure & Final Inspection.

This is the last opportunity, prior to delivery to customer or installation company for goods to be checked by company personnel.

Each item of manufacture is inspected prior to despatch for:

1) Acceptable appearance.

2) Conformity with delivery copy of works order (including sizes) Tolerance on overall sizes, height & width ± 2mm.

3) Correct operation & closure/locking of all opening lights.

4) Protective covering in place (where applicable).

5) Confirmation that despatch documentation is correct.

6) Identification & Kitemark information in place. See 7, & 9.3.

If not satisfactory advise Foreman and Quality Controller.

After inspection the despatcher signs the works order in the box provided to show that the items checked comply with the customers requirements.

8.8 Operators quality checks.

To verify that operator's quality checks have been carried out, the operator signs the works order sheet against the "box" describing his particular activity after completing the said operations for the order.

8.9 Special production tooling & equipment.

Jigs, fixtures, templates and gauges used in the production of timber windows are subject to the following controls:

i) Each item is clearly marked with an identification number, and brief details of operation and/or component with which it is used.

ii) A register of all such equipment is kept giving details of i) above, location, frequency and dates of inspection for "wear and tear", and condition.

iii) The register is under the control of the Works Manager.

9 Inspection and testing.

9.1 Receiving inspection and testing.

9.1.1 Guidelines.

All incoming materials or products are inspected or verified as conforming to the purchase order requirements before use or further processing.

Discretion is exercised by the Works Manager when inspection/test procedures show the purchased product is outside the agreed, required or recommended limits.

Several considerations apply simultaneously viz: the need to prevent continued use of sub-standard materials and to segregate those products which are of suspect quality.

Goods inwards receipt notes are completed for each delivery/product.

Any goods of doubtful quality are marked with a rejection label that states the nature of non-conformity, and segregated in a clearly defined quarantine area to await a decision on their future use.

If they are considered unusable they must be returned to the supplier using the systems laid out in the purchase procedures.

Before purchased goods are accepted into stock they must be marked as and when appropriate to enable correct stock rotation to be applied.

A goods inwards inspection record sheet for each component or material purchased that can effect the quality of the finished product must also be completed and filed.

Note: Where certificates of conformity are supplied it is not usually necessary to carry out a "goods inwards" inspection. However, if the supplier is thought to be abusing the certificate scheme or is suspected of/known to have quality problems, inspection may be requested by the Senior Quality Controller. Certificates of Conformity must arrive with or before the goods and NOT after delivery.

9.2 In-process inspection and testing.

As all of the manufacturing operations that affect quality are performed by skilled craftsmen, it is considered unnecessary for additional in-process inspection procedures to be carried out excepting for final inspection prior to despatch. (see 8.4.1).

9.3 Final inspection and testing.

All manufactured goods are inspected prior to despatch as stated in section 8.7.

9.4 Inspection and test records.

Documented records are maintained for all the following inspection activities:

a) Goods Inwards.

b) Final Inspection.

c) Special Processes.

d) Calibration.

e) Non-conforming products, corrective actions and re-makes.

9.5 Inspection, measuring and test equipment.

9.5.1 Calibration.

Only items of equipment whose measurement accuracy is deemed to be important with respect to maintaining product quality are considered in this section of this group quality standard.

All equipment is checked at regular intervals by the methods listed below to ensure results of quality control testing will remain accurate. The frequency of checks is as indicated and a full record is kept on file for audit/reviews and inspection purposes.

Persons responsible for calibration are the Works Manager and Managing Director.

All inspection and measuring equipment carries a unique number. Records show location and the date of each calibration.

9.5.2 Inspection equipment.

INSPECTION EQUIPMENT	PURPOSE	CALIBRATION TIMETABLE
3 Metre tape	Dimension check	Quarterly.
Vernier gauge	Tolerance check	Annually.

9.5.3 Detailed calibration methods.

9.5.3.1 Vernier gauge.

Check for accuracy by means of engineering slip gauges held by the Plastiseal (uPVC) Ltd. Senior Quality Inspector.

The slip gauges conform in every respect to the requirements stated in BS 4311 for grade 2. (Certificated 14/11/1986)

Any discrepancy in excess of 0.15mm report to Works Manager for further investigation and replacement if necessary.

If accurate mark date of next check on calibration index card.

9.5.3.2 Production metal tapes.

Standard metal tapes are used for checking various critical dimensions during and after manufacture of timber windows and doors.

They are calibrated against a Class 1 engineers steel rule which will be calibrated by a "NAMAS" test house at five yearly intervals.

Measurement inaccuracies arise because a tape has been broken or the "hook end" rivets are loose (the circular rivet holes have become elongated).

The Works Manager checks ALL tapes used in the factory at monthly intervals, and if a discrepancy of more than .5mm is discovered will arrange for replacements to be issued, all details of which are recorded.

9.6 Inspection and test status.

All items in the manufacturing processes are considered to be of acceptable quality unless they have been segregated and marked as non-conforming in a quarantine area. (see 9.7).

13.2 Woodworking Machinists, Joiners, & Finishers.

Training Record of:_____

Date assessed.

Activity.												
Health & Safety Procedures.												
5750 awareness programme.												
Product Knowledge.												
Timber Identification.												
Radial Arm Cross cut saw.												
Band Re-saw.												
Moulding Machine.												
Multiflex Machine.												
Morticer Machine.												
Routing Machine.												
Assembly, & fit hardware.												
Staining, finishing etc.												
Despatch procedures.												
Assessors Signature.												

9.7 Control of non-conforming product.

Non-conforming products either manufactured or purchased that have been found to be outside the stated tolerances and/or specifications are segregated to quarantine areas to await a decision about further action.

The rejected materials are clearly identified by a red sticker which states the reason for rejection.

The Works Manager only, has the authority to decide whether or not any concessions are granted, however, consultations with the Managing Director should be considered where contractual or commercial requirements could be affected.

The following guidelines only, may be considered in deciding the disposition of non-conforming materials or products.

a) Can they be re-worked to meet the specified requirements.

b) Can they be accepted in any condition by concession.

c) Can they be re-graded, or dismantled for future or alternative applications.

If any of these conditions cannot be met, the suspect material will either be returned to the supplier using the reject note system (see section 6.1) or scrapped to prevent its use in the production process.

If the customer accepts material under condition b), the description of non-conformity accepted is recorded.

All re-worked and repaired materials are re-inspected/tested in accordance with normal quality control procedures.

If it proves impossible to rework partly manufactured/finished goods, the window furniture should be stripped and re-used if possible. Likewise it may be prove possible to salvage some of the timber sections.

9.8 Corrective action.

9.8.1 General..

Details of all materials or products subject to corrective action or accepted by concession are recorded by the Works Manager and are subject to periodic review during the management review meetings.

All re-worked and repaired materials are re-inspected/tested in accordance with normal verification procedures.

The analysis and review of all corrective actions is in accordance with the procedures stated in section 9.7.

9.8.2 Customer complaints.

All customer complaints concerning quality of product from whatever source are directed to the Commercial Department.

The procedure for processing customer complaints is as follows:

1) Customer complaints are processed by the Commercial Department; they are logged chronologically in a complaints register.

2) Detailed complaint forms are completed and issued after assessment by either Commercial or Production Departments, for implementation of appropriate action by a service engineer.

3) Details of customer complaints and any corrective action carried out by service engineers are recorded, analysed and issued for review by the Management of Arden Cavecroft Joinery Ltd.

4) These analyses are reviewed, and actions agreed to prevent recurrence of problems, by authorised personnel under the Management Review procedures.

10 Handling, storage, packaging and delivery.

10.1 Handling & storage of timber products.

Hardwood and softwood materials have surfaces that can easily be damaged.
Contact with sharp, hard, or abrasive objects should be avoided if at all possible.

a) Timber sections should be neatly stacked on the specially constructed storage racks which are adjacent to the Radial Arm cross cut saw.

b) Ideally they should be stored undercover and protected from the elements.

c) They should be stacked and marked to enable correct identification and stock rotation to be easily maintained.

d) After assembly of the window, or after glazing, when the unit has significantly increased in weight, great care should be exercised when moving it.

e) Frames ready for despatch must be stored as near vertical as possible.

f) Completed products awaiting delivery must be clearly segregated and defined according to contract/order number.

10.2 Packaging & delivery.

Products are loaded into delivery vehicles using fully detailed despatch notes for reference, copies of which accompany the consignment.

It may be necessary to provide protection for finished windows and doors to prevent damage during transit.

When contractual requirements request protective packaging the procedures outline in Works procedure No.3 will be adhered to.

11 Quality Records.

Quality records maintained by Arden Cavecroft Joinery Ltd. including Contract/order files, Internal Audits, Calibration details, Goods inwards, Analyses of corrective actions, concessions, Management and contract reviews, product test data etc. are retained for five years in secure storage areas and are readily retrievable.

12 Internal Quality Audits.

12.1 Auditing The Quality System.

Internal Audits covering all elements of the Quality System relevant to BS5750 Parts 2 are planned, programmed and evaluated by the Group Systems Compliance Officer.

They are carried out on a regular basis by either departmental heads or the Systems Compliance Officer in order to determine whether the various elements within the management systems are effective in achieving stated quality objectives.

As the Systems Compliance Officer has completed a BSI auditor training course he is deemed to be competent to oversee the training of nominated internal auditors throughout the group.

12.2 Audit Content

Internal audits are planned to cover departments whose work is considered essential to the ultimate quality of the product.

Each department is examined to ensure that all the appropriate clauses of BS5750 are being complied with.

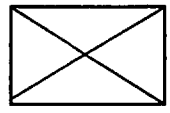
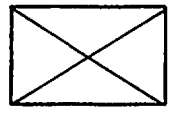
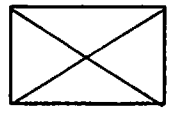
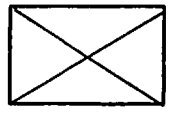
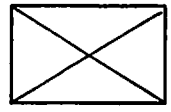
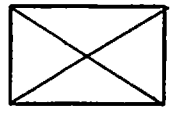
The personnel carrying out audits of quality system elements are always independent of the specific activities or areas being audited.

12.3 Reporting and Follow up of Audits.

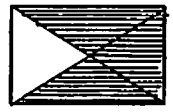
Audit findings, conclusions and recommendations are submitted in written form for consideration by the company management. The following items are raised in order that they may be discussed and acted upon during Management Review meetings as outlined in Section 2.6 of this manual:

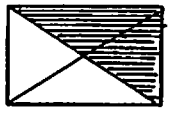
a) Specific examples of non-compliance or deficiencies, with possible reasons for such deficiencies, where evident.
b) Appropriate corrective actions or recommendations whenever practical.
c) The implementation and effectiveness of corrective actions suggested in previous audits.

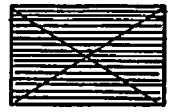
12.4 Typical Internal Audit Programme.

DEPARTMENT.	PROGRESS.	DATE.	AUDITOR.
1) Production/Stores.		JANUARY	General Manager.
2) Purchasing.		MARCH	Works manager.
3) Order Processing.		MAY	Group Systems Compliance Officer.
4) Contracts.		JULY	Group Systems Compliance Officer.
5) Inspection and Calibration.		SEPTEMBER	Managing Director.
6) Handling, Storage, Packaging, Delivery.		NOVEMBER	Sales Director.

 Audit carried out & reported.

 Non-compliances stated to be corrected.

 Non-compliances agreed.

 Audit closed out by follow up.

13 Training.

13.1 General.

Although it is the policy of Arden Cavecroft Joinery Ltd. to employ skilled craftsmen, training is still considered to be of paramount importance.

All training schemes are based on an analysis of the skills required to produce a high quality product at all stages of processing, manufacture and inspection.

Provision for the job instruction and subsequent learning under supervision in the working situation are built into all work operations in such a way that they become complementary and regarded as such by existing job holders.

The responsibility for individual training programmes rests with the Works Manager (production) and Managing Director (commercial)

Additional training will be given as and when process and manufacturing methods are improved, updated or revised.

Typical training charts are shown on the following pages, reference 13.2, & 13.3.

13.3 Office personnel.

Training Record of:_____

Activity.	Date assessed.											
Health & Safety Procedures.												
5750 awareness programme.												
Reception and Telephones.												
External and Internal Post.												
Office Machinery												
Filing Systems.												
Office Procedures.												
Computer System.(Uses)												
VDU 'Hands On' Experience.												
Processing on Computer.												
Supervisors Signature.												

14 Servicing.

Servicing as a regular practice does not form part of manufacture and/or installation contracts, however a "Rectification liability clause" covering periods from between six and twelve months is normal.
The procedures for compliance with this clause are covered by the customer complaints section of this standard. (see section 9.8.2)

15 Statistical Techniques.

Basic forms of statistical analysis are applied only to the areas of non-conforming products, customer complaints and corrective actions. (See section 9.8.1)

16 Health and safety.

The Health and Safety at Works Act 1974 requires each company to prepare, and when appropriate to revise, a written statement of general policy with respect to the health and safety at work of its employees, and the organisation and arrangements in force for carrying out the policy, and to bring the policy statement to the notice of all employees.

A copy of this statement is given to all employees with their contract of employment.

A copy of the full Health and Safety Policy Document is available in the main office..

17 Amendments.

Amendments issued since publication.

Amd No.	Date of issue.	Text affected.	Signature

Revisions of standards and specifications;-

They are revised, when necessary, by the issue of amendment slips or of revised editions.

Only copies stamped "Controlled document" will be automatically updated; if it is stamped "Uncontrolled document" you must check that it is of the latest issue.

18 List of Copy Holders.

COMPANY	COPYHOLDER	ISSUE	SIGNATURE	DATE
Plastiseal PLC.	Dr.W.G.Horton.	1		
Plastiseal PLC.	C.D.Lillie.	1		
Plastiseal PLC.	C.Card.	1		
Plastiseal PLC.	G.Bench.	1		
Arden Cavecroft Ltd.	Managing Dir.	1		
Arden Cavecroft Ltd.	Sales Director.	1		
Arden Cavecroft Ltd.	General Manager.	1		
Arden Cavecroft Ltd.	Works Manager.	1		
Arden Cavecroft Ltd.	M/C Shop Manager.	1		
Arden Cavecroft Ltd.	B.S.I. Copy.	1		