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Roller Shutters | Steel Doors | Roll Formed Sections | Motor and Components

Steel Doors and Frames Installation Maintenance Guide Supplied by Paramount 26 LTD

Steel Doors and Frame Installation Maintenance Guide
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Preliminary Checks & Storage

Contents

1.0 Preliminary Checks

I M P O R T A N T

This product was carefully packed in our factory. Upon acceptance by the Carrier, he has assumed responsibility for its safe arrival.

Shortages or visible damage to container or its contents MUST be reported to the Carrier IMMEDIATELY upon receipt of shipment. Concealed loss or damaged should be notified within 3 days of receipt, and written confirmation receieved by Paramount 26 within 7 days (excluding weekends).

2.0 Storage

It is recommended that all doors and frames are stored according to accompanying (Sketch 1) in order to prevent rust and damage. If this cannot be achieved, doors maybe stacked horizontally using spacing/protection and support as for delivery pallet.

It is important to avoid laying door leaves on a uneven surface or placing any weights on them as this may cause deformation to the lower doors. Extra care should be taken, and support should be given to the middle of long and/or heavy door leaves to avoid twisting or bowing.

3.0 Assembly and Installation

3.0.1 General

After checking all components for damage and quantitles (using parts list) select correct frame member markings from Paramount 26 Marking Schedule for the appropriate opening reference, ensuring all components are compatible (i.e LH Hinge Jamb with LH Strike Jamb).

As the frames are not designed for transporting in an assembled condition, assembly MUST be carried out adjacent to the opening.

3.0.2 Bolted Frame (Refer to Sketch 2)

Position head member against jambs ensuring correct alignment and secure using M8 x 20 long plated hexagon head screws together with nuts, spring, and flat washers. Where fixed transom members are specified, these should be positioned and secured using the same fixings.

Where removable transom members are specified, position fixing brackets on jambs and fix with self-tapping screws. Slide transom over brackets and fix with CSK head machine screws, - Refers to parts list reference size of fixings.

3.0.3 Slot and Tag Construction

Position head member tags through slots punched in jambs and secure by ‘twisting over’ tags from back of jamb profile.

3.1 Installation

Erection and Installation of the frame should be conducted according, to the following instructions and tolrances (sketches 5 and 6 refer). Check the floor finishes are true and level within the door arc, so as not to obstruct the opening.

When frames are to be installed into a cavity wall, the cavity must be closed with material suitable to achieve a secure frame anchorage. The construction of the structural opening must be suitable for the performance of the door set. Special attention is to be given to high performance door sets where fire ratings or acoustic rating are required as this could severely affect the overall weight of the door set. (If in any doubt as to the suitability of the wall construction, please contact our Technical Department for advice).

3.1.1 General Assembly Instructions

Position assembled frame within opening by means of bracing as detailed or similar. Shim under jambs in order to correctly position frame against FFL or equalise on adjustable floor anchors where specified. Using diagonal measurements (see Sketch 5), ensure squareness and using a sprit level ensure plumb alignment and twist are within tolerances speified. Adjust as necessary.

A temporary timber base spreader is recommended to ensure the correct dimension between frame rebates, but in order to prevent ‘jamb bow’ the contractors should provide a 2nd auxiliary spreader (Sketch 5) at the mid point especially when frames are ‘built in’ or backfilled.

In the event of welded frame assemblies being specified, these are supplied complete with temporary metal ties in order to prevent shipping/transport damage. If the frames finish at FFL these must be removed at time of installation.

According to the type of frame fixing (refer to details) required, refer to the relevant section for correct procedure. Where a 2nd fix application is required a shim detail is suggested to 'take up' gap between frame and existing opening.

The maximum shim gap for Security Doors is 10mm.

3.1.2 Existing Masonry Wall Opening - Woodscrew and Plug

a) Brace, position, level etc; as 3.1.1
b) Mark all positions of fixings on wall
c) Remove frame and drill wall to appropriate specified size.
d) Fit masonry plugs into wall.
e) Reposition frame back into opening and re-align as 3.1.1
f) Lightly screw woodscrews into plugs; shim behind frame ensuring correct width.
g) Slowly tighten screws continually checking plumb, square etc; finally ensure frames are not deformed as tightened.
h) Caulk or grout between frame and wall.

In the case of some fire rated frames; head members are also screw fixed and frames should be pressure grouted as specified.

3.1.3 Existing Masonry Wall Opening - Ankerbolts

a) Brace, position, and level as 3.1.1
b) Drill appropriate holes through holes in frame.
c) Fit Ankerbolts/Screw through front of frame locating into back plate.
d) Slowly tighten machine screw continually checking plumb, square etc.
e) Fit grommet provided.
f) Caulk or grout between frame and wall.

In the case of some fire rated frames; head members are also screw fixed and frames should be pressure grouted as specified.

3.1.4 Existing Masonry Wall Opening - Machine Screws

a) Brace, position, level etc; as 3.1.1
b) Mark all positions of fixings on steelwork
c) Remove frame and drill and tap (if necessary) for appropriate size of fixing.
d) Fit jamb spacer brackets into back of frame. (If applicable).
e) Re-position frame back into opening and re-align as 3.1.1.
f) Shim behind frame ensuring correct width.
g) Slowly tighten screws continually checking plumb, square etc.
h) Caulk or grout between frame and steelwork.

3.2 Adjustments

BEFORE the Contractor commences finishing work, which may inhibit adjustment, installers shall:

Check that clear openings between jambs are constant within ± 1mm from top to bottom of opening at BOTH faces of frame (not moved or twisted in tightening). (See Sketch 6).

Fit hardware to suppliers' instructions and check for correct operation and even leaf/frame gaps. Note – In some instances, fixings supplied by Paramount 26 will supersede ironmongery suppliers' fixings and/or instructions. Adjust, as necessary.

3.3 Protection

To minimise site damage, we recommend that the Contractor remove and store all leaves, re-fixing as late as possible in the contract. If this is impossible, for security or other reasons, remove and store hardware not required for security.

4.0 Fitting Hardware

4.1 General

Cut-outs in doors and frames are provided for all mortice hardware and suitable threaded reinforcements and fasteners supplied.

Surface applied hardware is not prepared for (i.e. closers) due to the variation of fixing positions. However, where required both doors and frames will be locally reinforced.

Self-Tappers for fixing of surface applied hardware will not be supplied, but the following are recommended for use:

Closers:

CSK Hd type 'B' self-tapping screws (No 10) - to blades taptite screws to frames size to be determined.

Lever Handles, Escutcheons Etc

CSK Hd type 'A' self-tapping screws - size to be determined.

4.2 In conjunction with hardware schedule and Packing /Parts List, collect all hardware and fasteners required to opening reference. Before fitting hardware, carefully read manufacturers fitting instructions and determine the correct procedure and position.

4.3 Panic bars, bolts and lever handle spindles will need to be cut to length to suit exact requirements.

4.4 Finally check correct operation and lubricate if necessary.

5.0 Site Finishing and Maintenance

After the installation of the door set, site painting should comply with the specification of the finish supplied by Paramount 26 to extend door set life and ensure finished product.

Minimum requirements for on-site application onto AL221E (RAL 7038) Primer.

a) Surface should be clean, dry, and free from contamination. Degreasing should be undertaken using a non-solvent-based degreaser by applying liberally using a lint-free cloth and wiped dry with a second lint-free cloth.
b) Apply protective masking to unaffected areas as required.
c) Abrade all areas mechanically or by hand with abrasive paper (P320 Grade) to ensure a suitably keyed surface. You must allow suitable preparation time for each doorset to achieve this. Wipe clean with a lint-free tac rag to remove any powdery deposits on substrate.
d) Apply a single coat of the required topcoat, matched to the required shade and gloss. You must conform to the requirements of the relevant Product Data Sheet for recommended application technique.
e) De-mask and clean down.
f) Present completed finished area for inspection and approval.

At all times, ensure the relevant Product and Material Safety Data Sheets have been consulted. You must be aware of the specific Health and Safety requirements for the application of lead containing and isocyanate coatings.

After Installation and/or final decoration it is imperative that all door leaves which may be in contact with moisture be fully sealed around the top edges with a proprietary clear silicone sealant to prevent moisture/water ingress.

We guarantee that our standard primer is fully stored in accordance with the manufacturers' instructions and therefore no problems are envisaged when subsequent on-site applications are made. Our reservation is that Cellulose based products should not be used for overcoating. At this point however, we must categorically state that we cannot accept responsibility for degradation, which might occur due to the application on site of an unsuitable overcoating material.

If any doubt occurs, then please request clarification.

Installation of Self-Adhesive Silicone Tear Drop Seal

Self-adhesive teardrop frame seals will have been supplied to complement all doors supplied.

The adhesive on teardrop seal will have the best adhesion if applied to a clean, dry frame between 10°c and 40°c. The surface should be clean, dry, and free of dust, grease, oil, or solvents. Paint must be dry. Some polyester powder coated finishes may inhibit adhesion. Light sanding of the frame may be required for better adhesion.

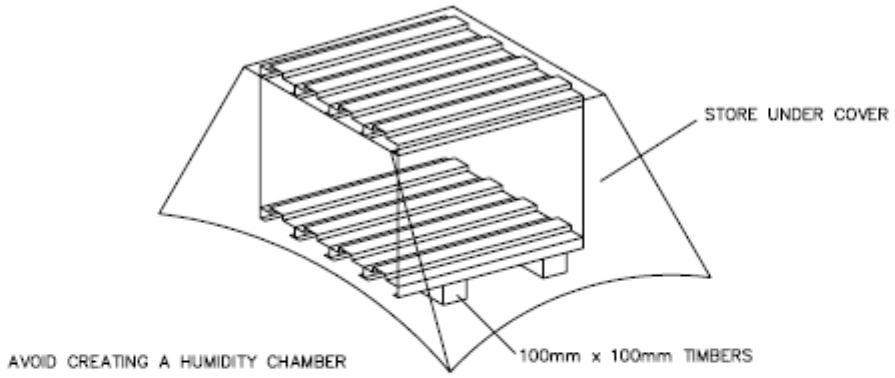
To install, carefully remove protective backing 300 to 600mm at a time, being careful not to get the adhesive dirty. With the rear flange pointing away from the stop, position the seal and press into place. Without stretching the seal carefully remove the paper backing and press each inch of seal into place to activate the entire adhesive on the frame. Adhere gasket in exact location on frame where it is to be located. **Do not** remove and refit.

DO NOT install as one complete length, cut the seal at corners where head and jambs meet. (See Sketch 7)

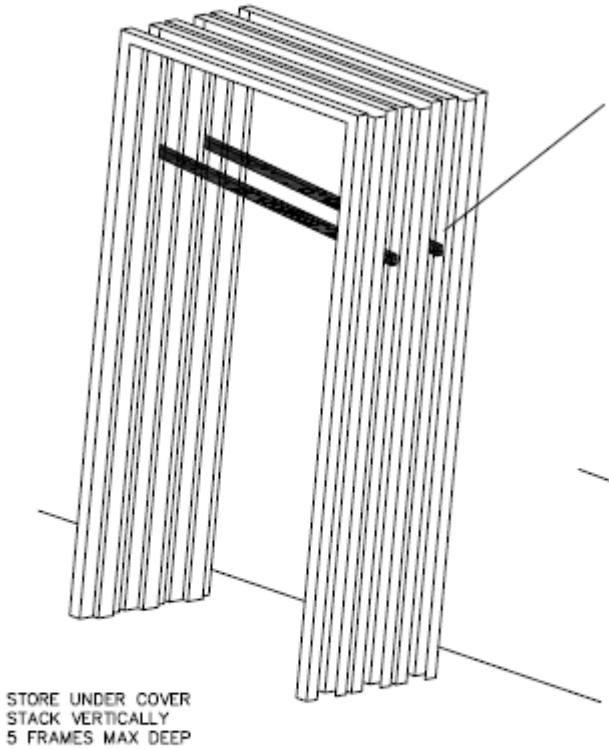
6.0 Sketches

Section: **Page number:**

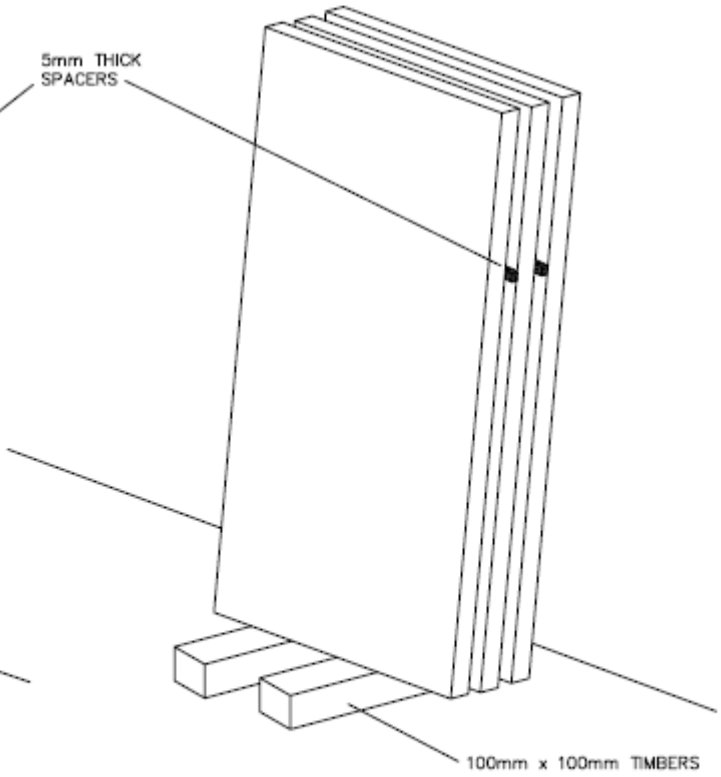
Sketch 1 - Site Storage of Door and Frames



KNOCK DOWN FRAMES

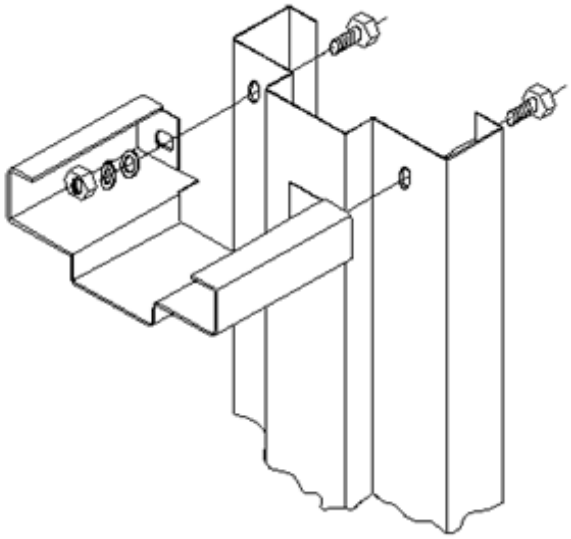


ASSEMBLED FRAMES
(WELDED)

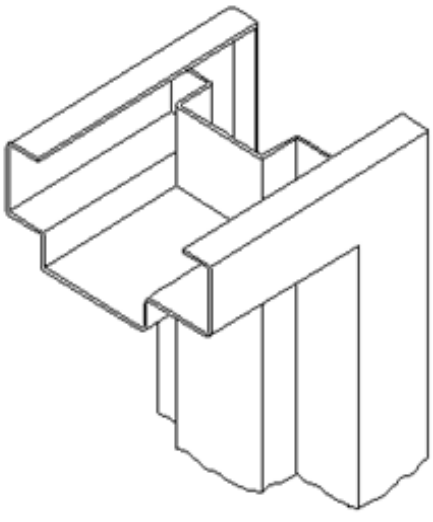


DOORS

Sketch 2 - Frame Assembly Methods

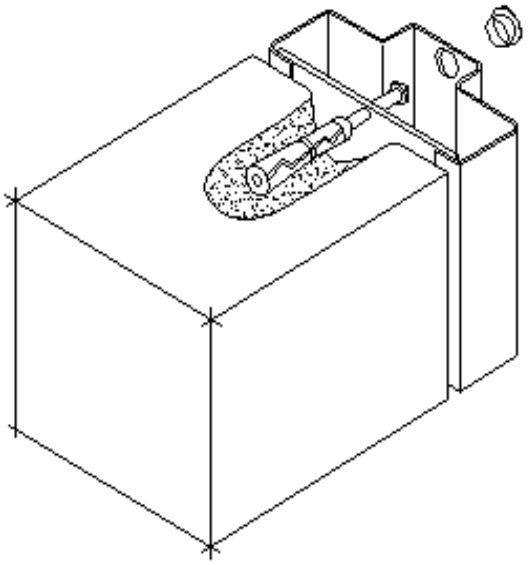


KNOCK DOWN BUTT JOINT

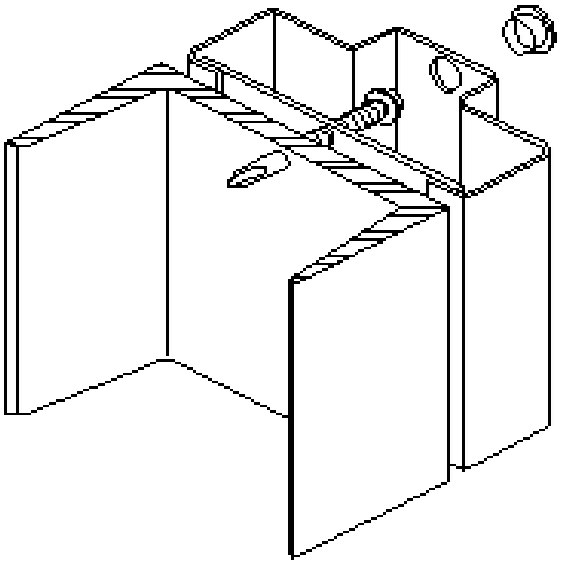


BUTT WELDED

Sketch 3 - Frame Fixing Methods (1)

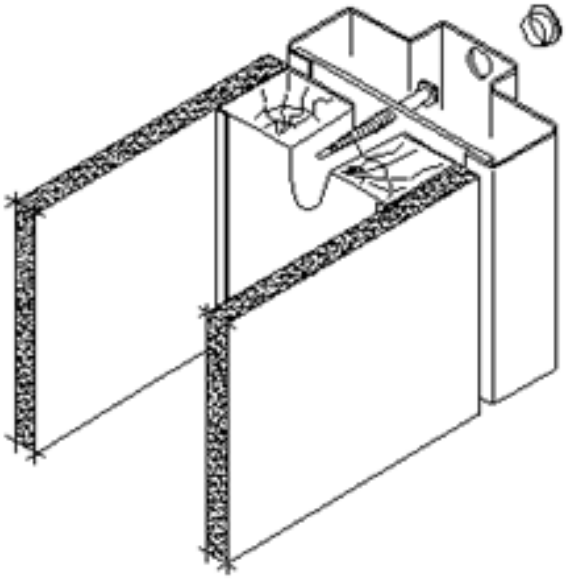


EXPANSION BOLT c/w PLUG



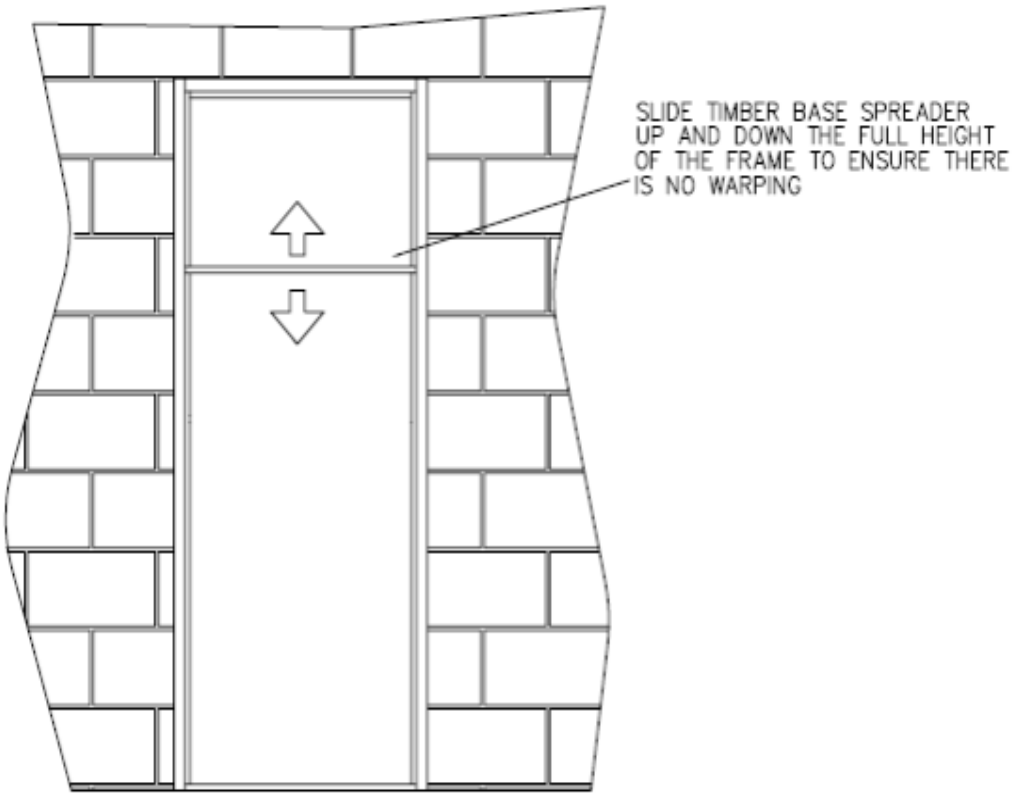
SELF DRILLING / TAPPING SCREW
INTO STEELWORK c/w PLUG

Sketch 3 - Frame Fixing Methods (2)

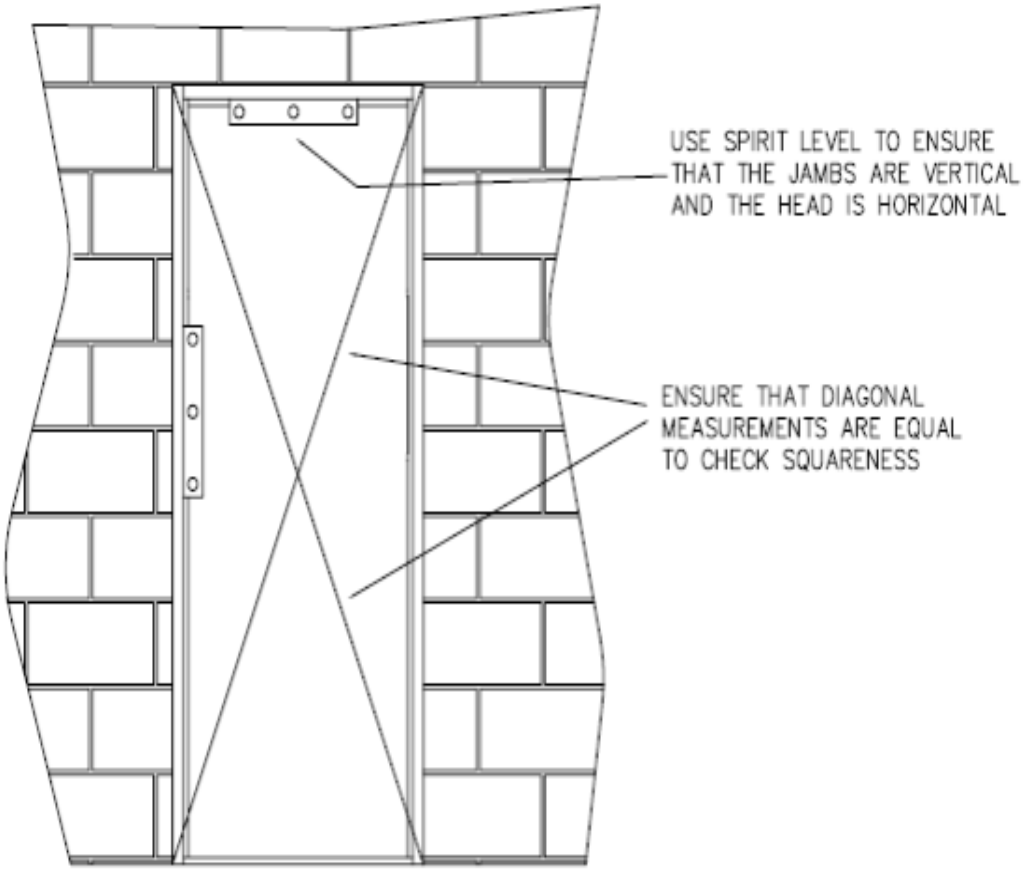


WOODSCREW c/w PLUG
INTO STUDWORK

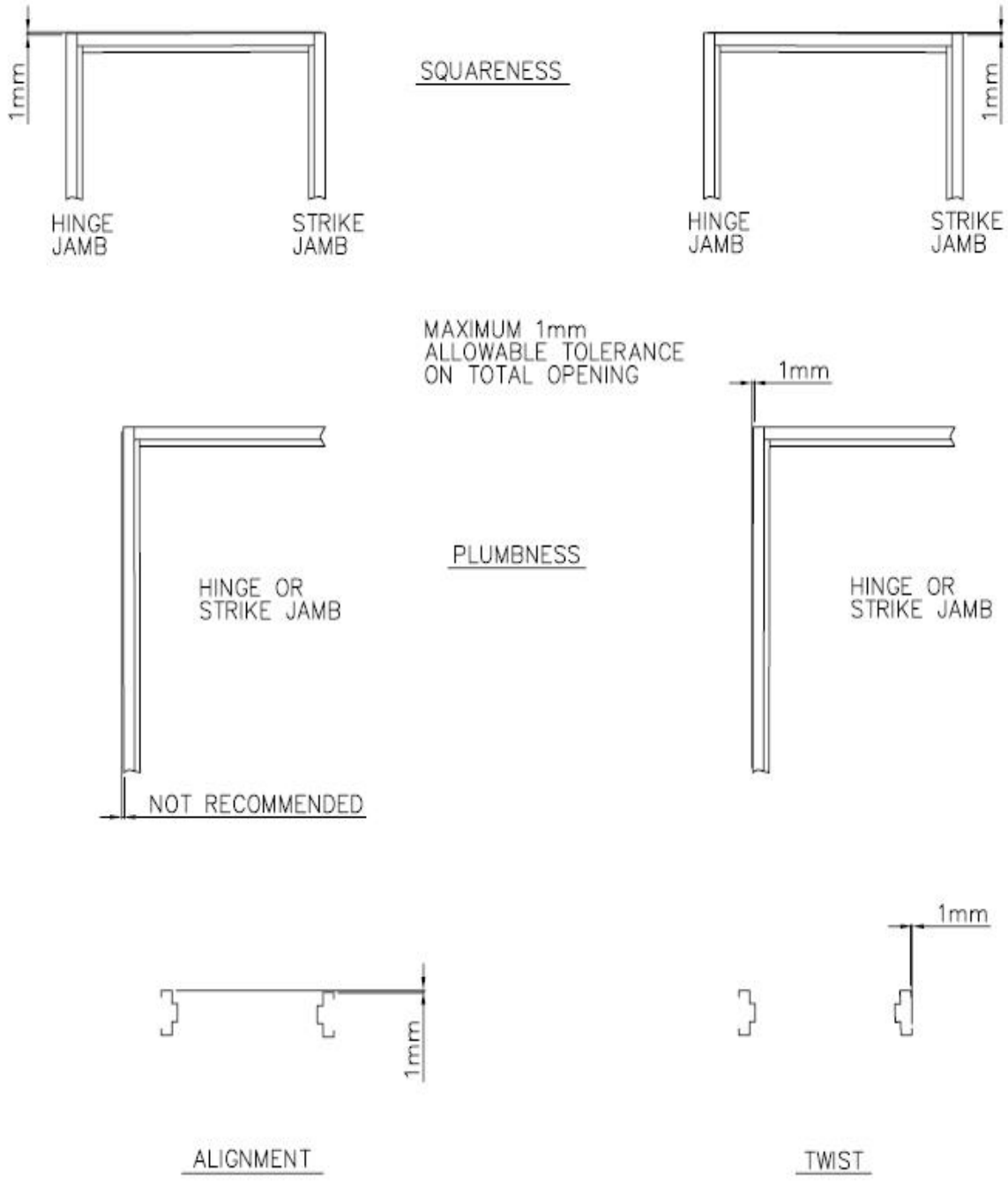
Sketch 5 - Checking of Squareness and Plumness



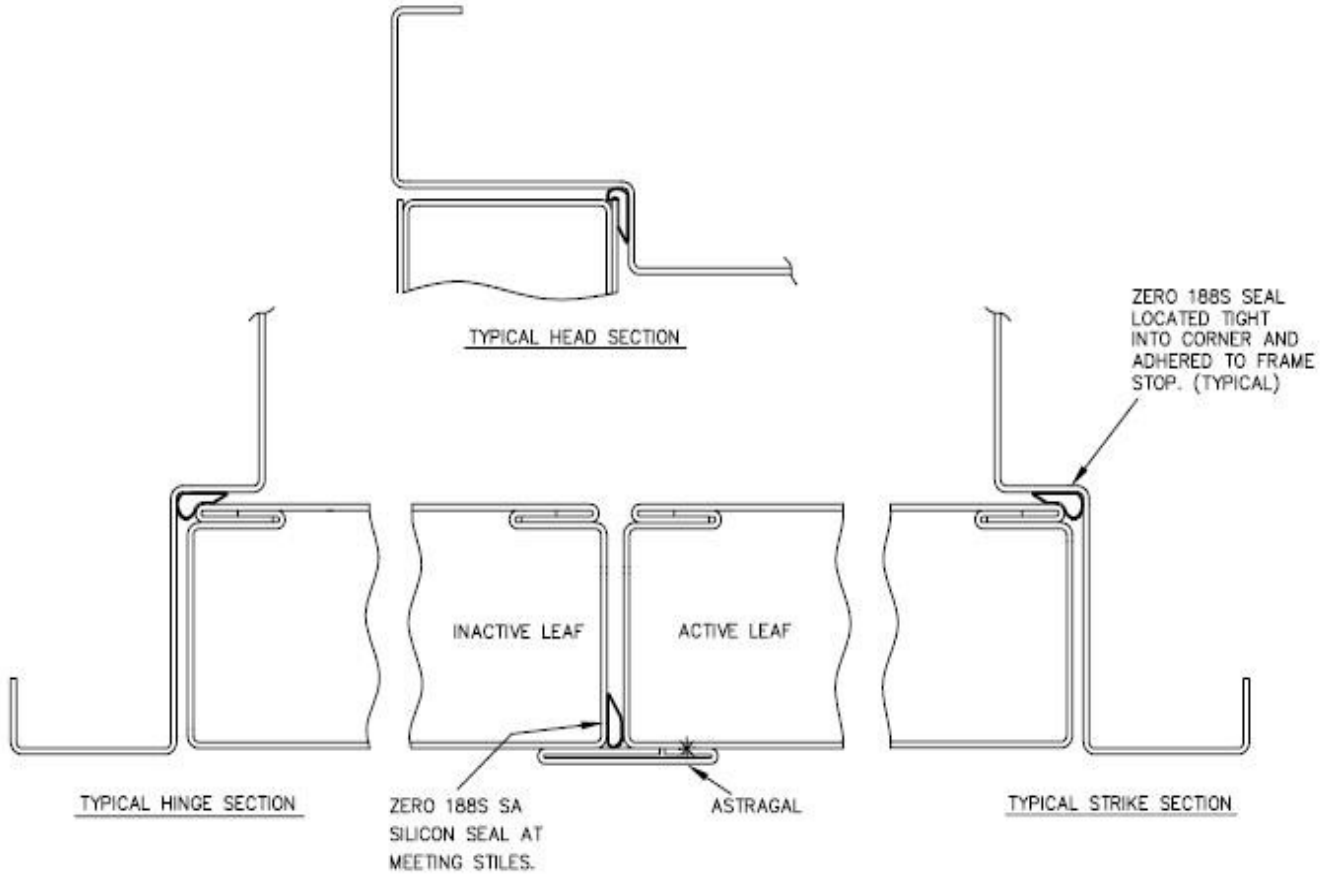
Maximum deviation on diagonals to be +/- 2mm



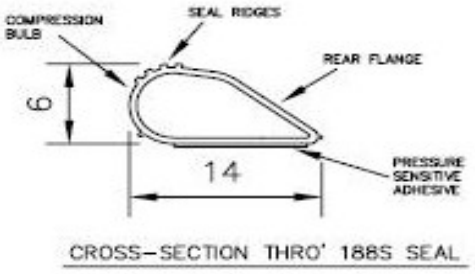
Sketch 6 - Installation Tolerances



Sketch 7 - Zero 188S Technical Data and Fitting Instuctions



APPLICATIONS



- Acoustics, Air Leakage, Draught, Insulation and Smoke.

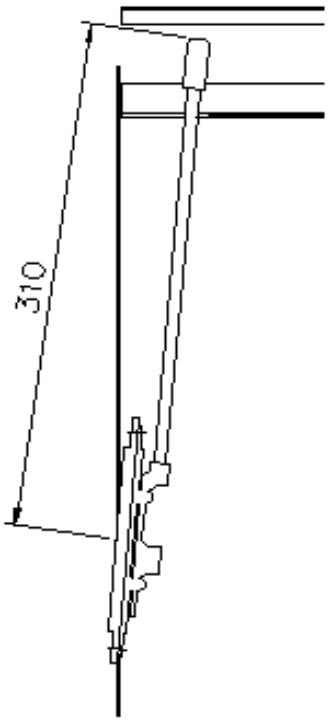
SPECIFICATION

- Extruded from premuim grade solid silicone compound
- Available in the standard colour black.
- Self-adhesive, site applied
- Non-toxic, self-extinguishing
- Good resistance to acid, oil, petro, animal/vegtable oils and water absorption
- very low compression set
- Stays flexible below -35 degress C and resilient above 200 degrees C
- Exellent resistance to ultraviolet rays, sunlight ageing, oxidation, ozone, heat ageing, heat, cold and flame

TESTING

- Smoke passage and air leakage performance fully meets requirements of relavant parts of BS 5588 and Approved Document B of the Building Regulations when tested in accordance with BS 476 part 31.1
- Acoustically tested to BS 2750 in various doorset arrangements and nos of runs to achieve STC ratings up to 53 dB, weighted SRI and Rw Index ratings up to 52 dB.
- Air leakage tested @ 76.49 Pascals air pressures = 25 MPH = 40Km/hr. Using a standard steel door and frame with an AT564 threshold the air leakage rate was measured at only 0.21 CMH/LMC.

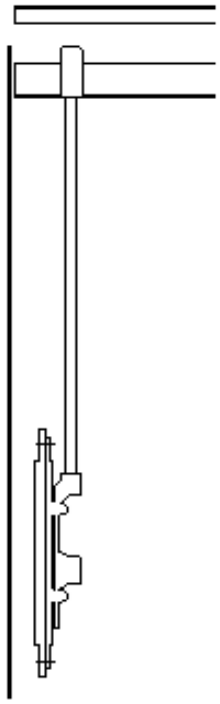
Sketch 8 - Fitting of Z001.1/S Flush Bolt



STEP 1

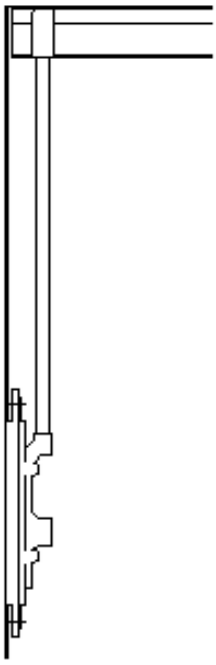
REMOVE TOP AND
BOTTOM INFILL CHANNEL

ADJUST FLUSH BOLT
EXTENSION ROD TO
LENGTH SHOWN AND
TIGHTEN LOCK NUT
BEFORE INSERTING
INTO DOOR



STEP 2

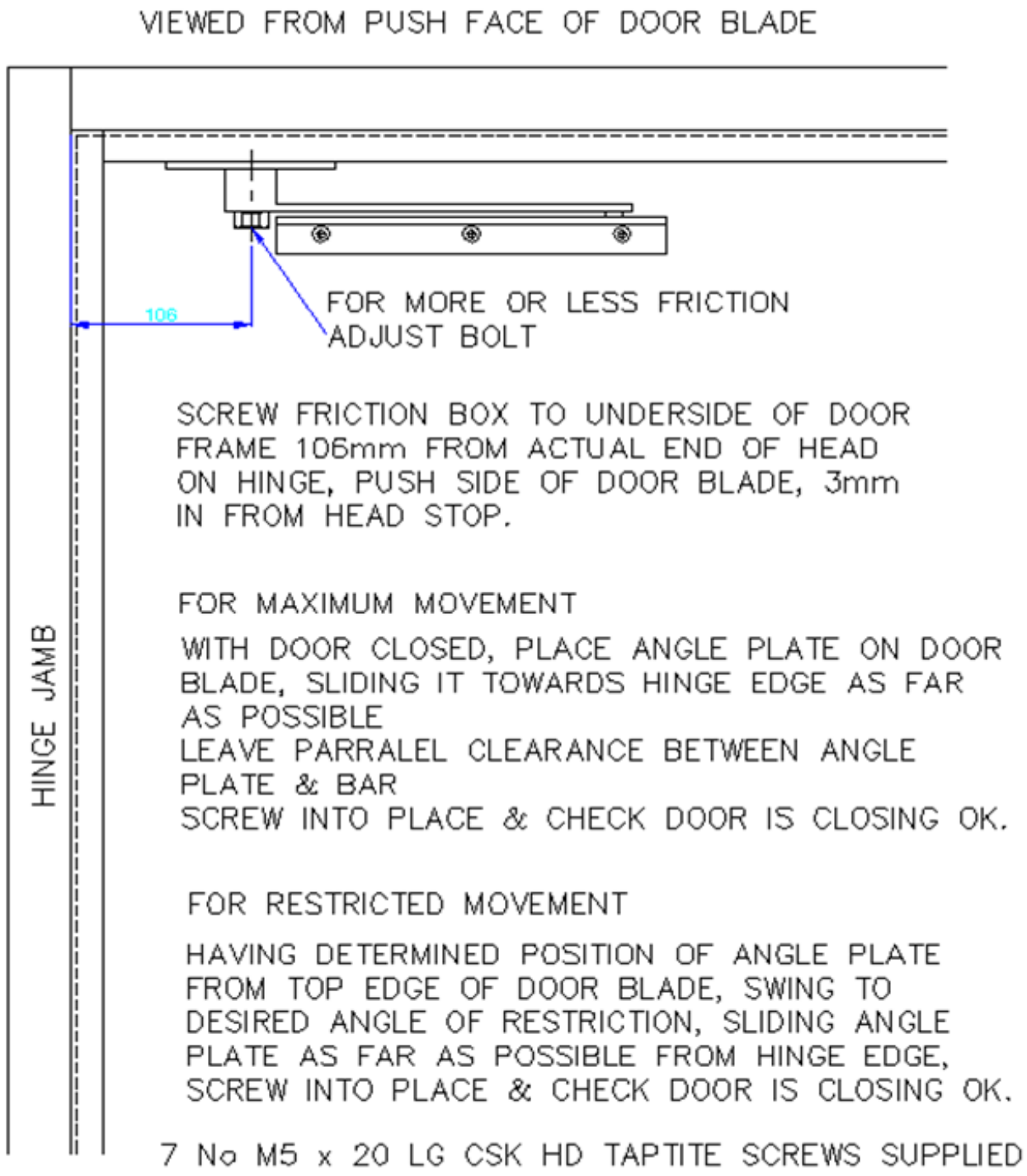
PUSH FLUSH BOLT BODY
THROUGH OPENING IN
SIDE OF BLADE.



STEP 3

FASTEN WITH TWO CSK
HD SCREWS
RE-FIT TOP AND BOTTOM
INFILL CHANNELS

Sketch 9 - Fixing Instructions for Z105-Z Friction Stay



Recommended Drill Size For Taptites

Screw Size	Material Thick (mm)	Drill Size (mm)
M3	0.5 - 2.0	2.7
M3.5	0.5 - 2.0	3.1
M4	0.5 - 2.0	3.6
M5	1.5 - 3.5	4.5
M6	1.5 - 3.5	5.4
M8	1.5 - 3.5	7.3

Recommended Drill Size For Self Tap Screw

Screw Size	Material Thick (mm)	Drill Size (mm)
No 4	1.2 - 1.6	2.4
No 6	1.2 - 1.6	2.9
No 8	1.2	3.2
No 8	1.6	3.4
No 10	1.2	3.6
No 10	1.6	3.8
No 10	2.0	3.9
No 12	1.2	4.3
No 12	1.6	4.5
No 12	2.0	4.6
No 14	1.2	4.8
No 14	1.6	5.2
No 14	2.0	5.4

General Maintenance Guide

Section:	Page Number:

Introduction:

Paramount 26 have prepared this maintenance guide to assist with the maintenance of the doorset and fittings. Regular maintenance will prevent unnecessary wear and tear. Doorsets and furniture can fail or be damaged through lack of maintenance, so it is important that attention is paid to the need for regular inspections, with adjustment and cleaning as necessary.

Inspection:

Inspect doorsets and ironmongery at frequent (monthly is generally appropriate) intervals during the first six months, and at three-month intervals thereafter. This applies particularly to fire doors. Inspection and maintenance do not require the attendance of specialist personnel for listed tasks, unless otherwise stated.

Maintenance:

Extract From BS 7532 - 1990

C.10 Maintenance

Loosening of hinges is usually caused by poor alignment or by incorrect choice of screws. Loose screws should be tightened, if possible, the problem should be eliminated by re-aligning the hinges or by replacing the screws with a more suitable type.

Hinges are usually supplied dry by manufacturers because there are objections to oily hinges by fitters who find it difficult to avoid transferring oily marks to doors and windows.
In the great majority of cases oiling immediately after installation and from time to time during service significantly reduces wear. The exceptions are special situations, such as very dusty locations in which a mixture of oil and grit can act as a grinding paste which accelerates wear, or public toilet rooms which may be regularly hosed down or washed with detergent solutions which remove the oil. For such locations specialist dry film lubricants may be used.

Whilst squeaking of hinges is a sign of lack of lubrication, if it occurs frequently misalignment should be suspected.

Hinges - Stainless Steel:

Paramount 26 door sets are fitted with stainless steel hinges equipped with pre-lubricated low maintenance bearings. This note applies to all types of stainless hinges within our usual supply.

Brush any accumulated dirt away from the butt of the hinge using lint free cloth and check hinge fixing screws for tightness using a screwdriver.

Lubricate internal doorsets with a little 3-in-1 or similar light machine oil.

On external doorsets, apply a liberal amount of petroleum jelly around each bearing point for lubrication and to prevent water ingress. We recommend this to be cleaned off and re-applied at 3 monthly intervals or once a month if the doorset has been installed in a coastal location.

Open doors every three months, even if maintenance is delayed. This will help ensure that the door will operate correctly if used for emergency escape.

Overhead Door Closers:

Inspect each closer for oil leakage. Repair of door closers is a specialist task and should be referred to Paramount 26 for the first year and to specialist personnel or the manufacturer thereafter. The door should close without undue slamming, but firmly enough to engage latches where fitted. Adjust closing force (final 130 of swing) as necessary to achieve this if the closer has the facility. Check the tightness of all fixings using an appropriate screwdriver. Grease the lever arm pivots if necessary, using a proprietary product such as Castrolease.

Locks and Latches:

Inspect all locks and latches for proper operation. If necessary, adjust the strike plates to ensure the smooth closing of the door and correct action of the latch bolt. Lubrication of the latch bolt, using a light machine oil sparingly applied, will help ensure this. After establishing the reason for the incorrect position, correct any misalignment of latch bolts and the strike plate by filing if necessary, treating any exposed edges with a rust inhibitor. If in doubt refer to Paramount 26 or the manufacturer, as repair of locks generally requires specialist attention.

A small coating of petroleum jelly should be applied to the lock snibs in coastal locations and be cleaned off and replaced at monthly intervals to resist corrosion.

Oval and Euro - Profile Cylinders:

Cylinders must NOT be lubricated using a spray lubricant like WD40. Such fluids can attract dust that may hinder smooth operation. Maintain cylinders with a periodic application of powdered graphite into the keyway and around the turn. This is available from most quality locksmiths. Repair of locks is a specialist task and should be referred to Paramount 26 during the first year and to a locksmith thereafter.

A small coating of petroleum jelly should be applied to the face of the cylinder in coastal locations and be cleaned off and replaced at monthly intervals to resist corrosion.

Lever Handles:

Check all lever handle fixings for tightness. Loose handle furniture can cause interference with the operation of the lock and, at the same time, damage the bearing surface of the furniture. Rose covers must be removed with great care to avoid distortion of the rose cap.

Pull Handles:

Pull handles should be inspected to ensure that the fixings are positive with grub screws, where used, firmly in position. All looseness of the handle will damage the door face and cause the handle to become unstable and fail in service.

Emergency Exit Devices:

It is essential to check that emergency exit devices operate correctly. These are usually fitted to final exit external doors. In many instances it is the door that needs adjustment to ensure the correct function of the device. Check functioning of unit as part of periodic fire safety test procedures. At quarterly intervals, lubricate all pivot points and shoots where guides retain them. Check all fixing-screws are tight and shoots engage properly into keep plates etc.

Flush Bolts:

Lever action and knob slide flush bolts should be checked for smooth operation as they are often subject to abuse. Damage may be caused to the item itself, to its fixings or to the door leaf. Any damage sustained should be rectified immediately to avoid further problems, and to ensure compliance with any fire prevention requirements when fitted to fire doors. Due to exposure of the lower bolt to higher levels of dust and debris, regular cleaning and lubrication will be required. The floor socket must always be kept clear of accumulated dirt and debris to prevent damage to the bolt mechanism.

Zero Friction Stays:

Check the tightness of all fixings, using the appropriate screwdriver, and adjust the screw collar for friction as necessary. DO NOT lubricate.

Ancillary Items:

These should be checked to ensure that they are correctly fixed and do not interfere with the correct operation of other ironmongery or the door leaf, frame, or adjacent structure.

Care of Finishes:

Surface deposits, such as dust, are the main causes of corrosion of metals in service especially when installed in a damp atmosphere. In marine areas and similarly aggressive environmental conditions, the deposits will be mainly atmospheric salts. It is extremely important that care is taken to maintain finishes since incorrect cleaning ruins lacquered or polished surfaces.

Doorset Finishes:

PPC and Stainless-Steel doors and frames should be cleaned every three months using warm water only, and then dried with soft, clean cloth. (Refer to Paramount 26 for methods for the removal of stubborn stains). This will remove harmful deposits and help to maintain the finish. (Liquids containing solvents must not be used).

For on-site rectification of damaged areas – minimum requirements

a) Surface should be clean, dry, and free from contamination. Degreasing should be undertaken using a non-solvent-based degreaser by applying liberally using a lint free cloth and wiped dry with a second clean lint free cloth.
b) Apply protective masking to unaffected areas as required.
c) Mechanically abrade to sound substrate (180 Grit). Drilled holes to be countersunk and butt joints to be tapered on the side to be filled.
d) Abrade areas that require filling (120 Grit).
e) Prepared surface should be clean, dry and free from any contamination. Degrease using a non-solvent-based degreaser and wipe clean with lint free cloth as previously stated.
f) Mix the components of the filling media as specified in the manufacturers instructions and apply directly to the substrate. Ensure the filler is thoroughly worked in to remove any air and finish to the required shape and profile. Allow to fully cure as per manufacturer recommendations. It is the applicator's responsibility to determine the suitability of the filler used.
g) Abrade all areas mechanically or by hand with abrasive paper (P180-P240 Grade) to ensure a suitably keyed surface. You must allow suitable preparation time for each door to achieve this. Remove powdery deposits and wipe clean with a lint free tac rag.
h) Apply a single coat of the recommended topcoat, matched to the required shade and gloss. You must conform to the requirements of the relevant Product Data Sheet for recommended application technique.
i) De-mask and clean down.
j) Present completed finished area for inspection and approval.

At all times ensure the relevant Product and Material Safety Data Sheets have been consulted. You must be aware of the specific Health and Safety requirements of lead containing and isocyanate coatings

Ironmongery:

Regular dusting with a dry soft cloth, interspersed with occasional washing with warm soapy water and light application of a good quality nonacid based wax polish will be sufficient to keep any finish in its original condition for some months. DO NOT USE silicone-based polishes, cellulose based thinners, or chemical based sprays. External fittings will require more attention due to their greater exposure to atmospheric deposits.

Under no circumstances should any proprietary brands of aerosol spray, metal polishes or cleaners containing abrasive powders, or abrasive cloths and pads be used for cleaning electro-plated or lacquered finishes.

Stainless Steel:

Supplied in satin finish, stainless steel should be cleaned regularly using warm soapy water and dried with a soft, clean cloth to maintain its pristine condition and remove any unsightly deposits. Avoid acid and chloride-based cleaning products and abrasive materials. Chlorides will cause oxidisation of the material.

Anodised Aluminium (SAA):

All items should be cleaned regularly using a soft dry cloth or warm soapy water for obstinate deposits. The occasional application of wax polish will enhance the appearance.