KINGSLEY PLASTICS LTD
Kingsley Plastics, The Airfield, Winkleigh, Devon. EX19 8SW
Tel: 01837 83154 Email: sales@kingsleyplastics.co.uk

GRP Enclosure Operation & Maintenance Schedule

INTRODUCTION / SCOPE

The entire range of Kingsley Plastics GRP Products are designed for absolute minimum maintenance during their life span, but the following is recommended to maximise the useful life of the enclosure. It is envisaged that very little maintenance will be required throughout the life of the unit. In the main, it will involve cleaning and accidental damage repair to the external surfaces, with periodic attention to fixings etc. Refer to the table below for maintenance inspection periods.

This operation and maintenance manual covers all our GRP (Glass Reinforced Plastics) composite housings, enclosures and Roadside Units, with the aim to assisting our clients and end users of our enclosures by providing useful information relating to the maintenance and repair of the enclosure's components.

Inspection Periods				
Feature	Monthly	Quarterly	Half Yearly	Annually
Locking Mechanism	●			
Hinges	●			
Door Seals	●			
Bunded Floor		●		
External Sealant		●		
Roof (Internal & External)			●	
Roof Capping Pieces			●	
Walls (Internal/External) and fixtures			●	
Doors and fixtures / fittings			●	
Base Fixings			●	
Ventilation Systems			●	
Guttering (if fitted)				●
Door Drip Strips (if fitted)				●

If the kiosk has been subject to extreme weather conditions, it is recommended that the unit is checked for damaged

1. CLEANING

Dependant on location, the surface of the enclosure may require cleaning to maintain the colour appearance.

Textured Units
Firstly, rinse the enclosure down with a hose to wash away any grit attached to the surface. Avoid applying jets to the doors joints and vents.
Clean the kiosk with a soft sponge using a mild detergent; avoid using a detergent that contains abrasives, bleach or other harsh chemicals as this will damage the external coat of the kiosk.
Use lukewarm water to wash the kiosk, then rinse with clean water.

Smooth Units

Although the surface of the enclosure is tough, without due care when cleaning scratches can be caused to the gel coat of the enclosure.

Firstly, rinse the enclosure down with a hose to wash away any grit attached to the surface. Avoid applying jets to the doors joints and vents. Inspect the surface at this point and repeat as necessary to prevent any residual grit becoming an abrasive when cleaning the kiosk.

Clean the kiosk with a soft sponge using a mild detergent; avoid using a detergent that contains abrasives, bleach or other harsh chemicals as this will damage the gel coat of the kiosk.

Use lukewarm water to wash the kiosk and have a second bucket with clean water to periodically rinse the sponge of contaminants and grit to prevent scratching the gel surface when washing.

Do not carry out cleaning in hot weather, applying water to the hot surface will cause localised cooling spots which can damage the gel coat.

Do not use hot water (+60°C) to wash the enclosure as this could damage the gel coat.

With time, the gel coat colour can fade but can be restored by polishing/buffing the surface after a thorough clean.

Machine buffing the surface of the gel coat should only be attempted by a competent person with the correct tools, using an incorrect grade polish or using a non-variable speed polisher (such as a grinder) will likely cause damage to gel coat.

2. GRP SURFACE INSPECTION

a. External roof and wall surface

Check the entire area of the roof and wall surface for any damage in accordance with recommended inspection periods at the front of this manual. This may be in a form of a dent, scratch or cracking to the external surface. Should there be any evidence of damage this should be further investigated.

This investigation consists of assessing the depth of the damage; ascertain any delamination between the external surface and the subsequent GRP layer and verifying that weathering damage has not happened within the damage area.

If any of these assessments cannot be ratified the damage should checked out further by a professional GRP contractor. Dependent on the damage 2 options are available.

i. A minor surface repair (See minor repair instructions at the end of the manual)

ii. A full panel / roof / wall repair (should only be completed by GRP Contractor)

b. Internal Surface

Check the entire internal area of the walls and roof surfaces for any in service or surface damage. This may be in a form of a dent, scratched or cracking. These should be checked out for damage to the structural fibres in the panel makeup. If this is the case a matt repair may be needed.

c. Roof Capping Strip

It is advisable to check the roof capping strip at the same time as the roof surface areas. Please check for cracks or damage to the capping pieces and that they are still securely fitted. Whilst checking this please inspect any sealant joints for signs of deterioration and clear and replace if necessary. This is part of the sealing arrangement for the roof joint and has a major bearing on the possibility of water ingress.

3. EXTERNAL FITTING OF EQUIPMENT

It is critical that no water ingress is allowed into the core material. The building is designed to have a full GRP layer and an external skin to provide the weather resistant external surface. If the external surface is penetrated to accommodate fixings or access for pipes or cables, careful consideration needs to be undertaken to ensure that the weather cannot enter into the core material.
Fixings - This is achieved mainly by applying sealant to the underside of the mating surface. Rubber washers also provide resistance. Careful assembly of the joint needs to be performed ensuring that all surfaces are level, sound, free of dirt or debris and that there is good contact between the washer and the surface.
The loading applied onto the fixing needs to be assessed to ensure that when in service, the pullout load does not distort the joint. It needs to be assessed that should the load apply a direct tensile/prying action that the result does not induce movement into the joint sufficient to create dislocation between the sealing material and the surface.
Do not install any equipment or fittings to the roof deck that prevents water from draining away from the roof surface.

Cable or Pipe – These issues should be highlighted at design stage to ensure that single skin areas are placed in the building so that when the holes are cut there is no chance of water ingress into the core material.
If these holes are retrofit after the installation and have exposed the core material, they MUST be sealed properly to ensure there is no chance of water ingress. Otherwise, this will invalidate any warranty offered on the kiosk.

4. DOORS (STANDARD, SR2 & SR3 rated)

Doors should be regularly checked for smooth operation, alignment, sealing and damage and repairs should only be carried out by a competent engineer.

One of the main causes of doors not working smoothly or being out of alignment is that the kiosk has not been installed squarely or is plumb on the base. Therefore, before any attempt to align doors is made please ensure the kiosk is square and plumb on the plinth.

If a door does go out of alignment it can be corrected by loosening the hinge bolts on the kiosk wall side, then apply wedges to square the door in the frame, then retighten the bolts and remove the wedges.

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4.1 HANDLES (2 & 3 WAY MECHANISMS)

These mechanisms are bolted to the opening door leaf and should require very little maintenance apart from regular cleaning / lubricating.

If these are damaged, then replacement mechanisms can be purchased from Kingsley Plastics Ltd

4.2 DOOR SHROUDS

Door shrouds are bolted to the doors and act as an additional security measure as an additional padlocking point and to protect padlocks or handles from vandalism.

They require very little maintenance apart from checking they are secured tightly to the doors and tightened if required.

If these are damaged, then a replacement can be purchased from Kingsley Plastics Ltd.

4.3 LOCKS

Yale Type

The lock is an integral part of the security of an enclosure where it is a standard construction or LPCB Security rated and tested enclosures. The continued operation of the lock is achieved by monitoring its operation and periodic checks on its effectiveness.
During checks the external access system should be operated and every moving part should be assessed for wear due to operation. This includes the handle, key and barrel operation.
The internal assessment would follow a similar process with the internal escape handle; lock barrel, tang and lock-case being assessed for wear undue movement or flexibility.
Periodically check the lock fixings for tightness and tighten if loose. This should be done with the appropriate tool to tighten the fixing. The tightness is achieved by turning the fixing until all slack is removed. Once achieved a further ¼ turn to achieve the correct compression and tightness of the fixing (Note on some locks if you overtighten the mechanism will not work).

Lubrication can be done via applying dry lubricant to the moving parts. This can be achieved by spraying using a fine nozzle into the keyhole, through the gaps between the tang and the frame and all hinging areas. It is imperative that the lubrication does find its way to the mating surface and is not applied just to the surfaces.

Yale Lock Shroud

This is bolted to the door and should require very little maintenance apart from checking they are secured tightly to the doors and tightened if required.

If these are damaged, then a replacement can be purchased from Kingsley Plastics Ltd.

LPCB Security rated MICO TIDALL Locks

MAINTENACE SCHEDULE

The following schedule has been compiled to avoid premature Mico Locking failure.

POST INSTALLATION INSPECTION

We recommend this be carried out 1 month after installation. This inspection is to verify that the lock is functioning correctly and not making any irregular operations.

MONTHLY INSPECTION

We recommend this be carried out once a month. The inspection consists of:

Section 1

- Ensuring the Mico lock is checked for any erratic movement.
- The MICO lock should be checked over for any damage.
- The electrical connections should be checked over for any corrosion.
- The MICO unit should be lubricated with light oil.
- Any moving part that is visible on both the inside and outside of the door should to be sprayed with light oil.

i.e.

- Cylinders
- Lever Handles
- Thumb turn
- Push pad
- Push plate
- Top Bracket (Which is located at the top of the vertical box section)
- The internal mechanism (of the vertical box section) can be done by removing the 2 white caps and spraying light **oil** into both holes.
- All shoot bolts (Top, middle and bottom) should be lubricated with a **light film** of grease to ensure a smooth throw when bolts are fired.

- Recommended light oil: WD-40
- Recommended Grease: PFG-210 MULTI USE GREASE

High quality non-toxic grease – PFG-210 is completely resistant to both salt and fresh water. It is not affected by steam, acids, alkalis or aqueous solutions of most chemicals.

Features: **Superior resistance to water washout**
Non-melting
Non hardening

While the MICO lock is being maintained under section 1 it would be prudent to inspect all bolts and fixings for tightness. Please ensure all receivers are inspected for foreign objects to ensure the Mico lock gets maximum throw.
Once this achieved the Mico lock will maintain its smooth operation.

MICO LPCB Security Rated lock Schedule

It is advised that inspections are carried out monthly as detailed above. Annual inspections (or after 50,000 cycles – whichever is sooner) to be conducted by a MICO Trained Engineer are also advised can extend the manufacturer's lock warranty. A maintenance schedule is to be completed and safely stored (example below). This will be required to validate maintenance and warranty.

MICO

Maintenance Instructions

1. **It is recommended that the following routine maintenance checks be undertaken at monthly intervals:**

   Inspect and operate the panic/emergency device to ensure that all components are in a satisfactory working condition;
   Using a force gauge, measure and record the operating forces to release the exit device.

	DATE	DOOR REFERENCE	FORCE	INITIALS
1				
2				
3				
4				
5				

(Original Installer to record the operating forces in row 1)

Ensure that all keepers (sockets) are free from obstruction.

Check that all fixing screws and retaining pins are in place and tight, and that the equipment is correctly adjusted.

Lubricate cylinders (if applicable) with an appropriate manufacturers lubricant (not oil), available from Mico.

Lubricate the central mechanism via the lubrication access points with an appropriate manufacturers lubricant (not oil), available from Mico.

Ensure that the bolts are in line with the keeps (sockets).

Ensure the tripping mechanism is operating correctly and adjust if required.

Check periodically that no additional locking devices have been added to the door since its original installation.

Check periodically that all components of the system are still correct in accordance with the list of approved components originally supplied.

Check periodically that the operating element is correctly tightened and, using a force gauge, measure the operating forces to release the exit device. Check that the operating forces have not changed significantly from the operating forces recorded when originally installed.

2. **Annually or 50,000 cycles (whichever is sooner):**

   Mico trained engineer should service the equipment.

   Any item noted to have excessive wear should be replaced.

4.4 HINGES

The type of door hinge will depend on the specification of the building; details of how to maintain each type are detailed below:

STANDARD ST-STEEL & ST-STEEL SR3 HINGES

The pre-drilled holes for the hinge bolts are sealed to prevent any possible water ingress to the core material of the door. On painted doors, the door is painted before the hinges are assembled onto a bed of sealant on the door resulting in a corrosion resistant layer. Ensure each hinge bolt is tight to maintain a good seal of the hinge to the door, it is important that every bolt is checked and tightened to ensure all bolts are distributing the load of the door to the frame.

Periodically (see inspection periods) check tightness of all hinge nuts and tighten if required with a 13mm spanner. Assistance might be required to stop the bolt head from turning.

The hinge pin is a key part of the hinge in its continued operation. It has been designed to accommodate the hinged door panel and is sized accordingly. To ease the operation liquid grease or oil (WD40 or similar) can be applied at the joint between the fixed and hinged section of the hinge.

Cleaning the hinges would be done in the same manner as the building taking care that the soap is compatible with a stainless-steel finish. All edges and surfaces would need to be cleaned via a detailed brush and soap/water mixture taking care not to damage the material surfaces.

REVEAL FIXED BUTT HINGES

Reveal fix butt hinges are supplied ready lubricated by the manufacturer to ensure smooth operation of hinge leaves when fitted to doors. In some cases, after installation there will be signs to varying degrees of clear oil seepage. If left for a period and particularly in high usage areas the oil will combine with atmospheric dust and

darken in colour. To avoid the mixture of dust and oil acting as a grinding paste, which accelerates wear; it is recommended that the product be cleaned periodically. After a periodic time, this will reduce, and the operation of the hinge will continue.
How often the product is cleaned is based on the environment in which it is fitted combined with the assessment of the onsite maintenance officer. It is also advised that the product is lubricated at 25,000 cycle intervals to maintain optimum efficiency of the hinge. However, a simple monthly cleaning programme will be sufficient for all low usage areas, this will ensure your products lifespan is maximised and visually acceptable to the environment in which is fitted.

4.5 SPRING SHOOT BOLTS

Check operation periodically. Spraying with lubricant or penetrating oil, while operating the handle can loosen stiff shoot bolts.

4.6 DOOR STAY SYSTEMS

TRACK SYSTEM

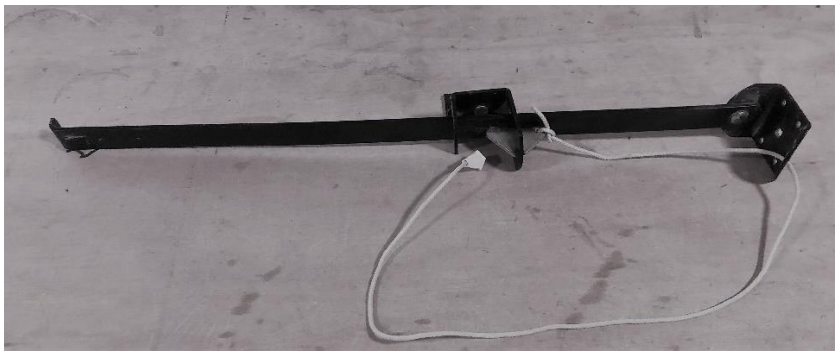
Door stays are not designed to withstand an uncontrolled opening (i.e. letting the wind catch the door leaf), the momentum as a result of this is extensive and can damage the locating lug and the door stay itself. It is the responsibility of the operator to understand the operation of the door stay. The doors should be unlocked and opened in a controlled arc until the door stay mechanism lands into the retaining hole. Only when the door stay has located can the doors be let go and the operator to leave the door.

Maintenance
Check tightness of the locating bolts on door stay runners. Runners should be kept clean and free of debris to ensure safe and smooth operation.

Removal
The door stay arm can be removed from its runner should the door be required to open greater than 90 degrees. To do so, remove the split pin with pliers and remove the washer. Take the runner out of the locating bracket and temporarily secure to the door to prevent it swinging freely.
Special consideration needs to be given to in windy locations with the door being allowed to swing freely in the wind. Alternative stay options would need to be enacted to ensure that the door, wall or hinges are not damaged.
Re-fitting is a reversal of removal procedure, but it is good practise to replace the split pin

If these are damaged, then a replacement can be purchased from Kingsley Plastics Ltd.

ASSEMBLY SYSTEM



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Maintenance
Check tightness of the locating bolts on door stay runners. Runners should be kept clean and free of debris to ensure safe and smooth operation. Cord to be checked and changed for like material if showing signs of wear.

If these are damaged, then a replacement can be purchased from Kingsley Plastics Ltd.

HOOK & EYE / BALL & SOCKET
The hook and eyes are surface fixed to external surfaces of the building. These fixings are critical to the operation of the hook and eye and must be checked periodically to ensure longevity of operation.

If these are damaged, then a replacement can be purchased from Kingsley Plastics Ltd.

AT NO POINT SHOULD THE DOORS BE LEFT TO SWING IN THE WIND. THE DOORS SHOULD BE UNLOCKED AND OPENED IN A CONTROLLED ARC UNTIL THE DOOR STAY MECHANISM LANDS INTO THE RETAINING HOLE.
ONLY WHEN THE DOOR STAY HAS LOCATED CAN THE DOORS BE LET GO AND THE OPERATOR TO LEAVE THE DOOR.

4.7 DOOR SEALS

To prolong the lifetime of the door seal, apply a light smearing of petroleum jelly (Vaseline) to the door seals. This prevents the seals drying out and maintains a good seal for the doors to seal against.
Depending on the operating conditions, the door seals may require replacement at regular intervals. New seals can be purchased from Kingsley Plastics Ltd.

4.8 REMOVABLE DOOR THRESHOLD (IF INSTALLED)

The door threshold is an integral part of the sealing arrangement around the door. It is fixed at two locations, one at each end. The bolts are fixed to the door frame to ensure a good stable backing for the mating surface between the threshold and the door. This is imperative for water ingress mitigation.

DOOR THRESHOLD REMOVAL AND RE-INSTALLING

The door threshold is released by removing the bolts at each end. The door threshold may also be sealed down with sealant. The sealant will provide an element of resistance when trying to remove the threshold. This can be overcome by cutting the sealant with a Stanley knife. Please note that to ease the threshold removal disconnect the door retention system to allow the door to hinge back flat to the walls and ensure they cannot swing open.

To re-install the threshold, it is simply a case of applying a silicon sealant under the threshold, putting it back in place and re-bolting. If you have disconnected the door retaining mechanism, ensure this is properly re-connected. If there is any sign of corrosion, it is recommended to replace the retaining bolts.

MAINTENANCE

The door threshold needs to be inspected regularly to ascertain if any damage has occurred to it. The most upper surface (door tread) is manufactured from a corrosion resistant material such as (stainless steel, aluminium) and will therefore not require any surface treatment. However, the door sill is a fabricated section fully painted. Should damage occur to the surface a localised paint repair would reduce any corrosion. The seal applied to the perimeter of the door sill will need to be checked periodically (see inspection periods) to ensure that there is no deformation/ degradation of connection.

4.9 SR4 SECURITY DOORS

These are a specialist item and are purchased from an Approved Supplier, a separate O & M manual for the doors will be supplied with the delivery. If you require an electronic copy, please contact Kingsley Plastics Ltd and we will send it to you.

5. WALL AND ROOF JOINTS

Check all roof and wall joints at regular intervals and tighten the fixings if required. In an unlikely event a fixing is loose and will not tighten, an assessment on the reason behind the loosening will need to be undertaken.

The external wall joints will have a bead of sealant as a secondary sealing arrangement. This bead of sealant must be checked periodically to ensure no degradation. If there is any crack or gap, this seal should be cut away and re applied using a tube gun and sealant tube to the correct grade and colour.

Any other protruding items may have a bead of sealant between the wall and the item. This sealant must be checked for degradation and detachment off mating surfaces.

6. REMOVABLE PANELS / TRANSOMS

Periodic check all mating surface, bolts, flanges and gaskets ensuring that no damage has occurred. If the panel has been removed the washers need to be checked for damage and replaced if necessary. Any damage found on washers will allow water into the core material. All bolts must be tightened to ensure washer is compressed sufficiently to create a seal onto the wall panel. Bolts to be checked for damage and changed if required.

On transoms of less than 25 kg the handles can be used for lifting the panel into position. Sufficient access needs to be appropriately setup to accommodate the manual removal of these panels. This can be done by either tower, podiums, MEWP, cherry picker etc. The safe operation of the access device is under the site Health and Safety coordinator.
Handles on panels greater than 25 kg are to be used for guiding panels into place only, not for lifting. Lifting operation and handling the removable panel with the aid of lifting equipment is critical for safe dis-assembly, re assembly. The safe system of works to conduct this process will need to be confirmed by the site health and safety coordinator.
The handles have sealing washers between the handle and the panel to ensure no leakage into core material. If damaged this washer must be replaced.
On removal of the panel, it may be stored vertically or horizontally. However, the whole panel must be in the same plane. Panel cannot be stored with a twist in its supporting structure. Additionally, blocks should be laid at equal positions to support the panel off the floor. This minimises the inside becoming soiled.

The door and transom seals must be checked prior to re-fitting the panel onto building. This is due to the prolonged compression on the seals may cause a deep compression on the seal. This deep compression may not return to create a good seal once refitted. (See door seals below)

7. FIXING DOWN BOLTS

Periodically check the tightness of all anchor bolts securing the kiosk to its base and tighten if required. The anchor bolts will have a corrosion resistant finish however it is good practice to check bolts for corrosion. Refer to a structural engineer should there be excessive corrosion to ascertain whether the corrosion has a detrimental effect on the fixing's capacity. To rectify the issue the fixing surface could be rust treated and painted with a bituminous or weather resistant paint or the fixings could be replaced with like sized anchors. The external sealant should be checked for degradation and release from both floor and wall connection. Should this happen the sealant should be cut away and a new bead of sealant put in its place. The sealant must have good adhesion between its mating surfaces. No air bubbles should be visible within the bead of sealant.

8. EXPLOSION RELIEVING BRACKETS

The bracket is manufactured from 2 separate parts, one sliding inside the other. The base section is connected to the wall panels and the sliding section is connected to the roof.
Note – the retaining nut on the bottom of the threaded bar should NOT be tighten to the "C" bracket. It is a retaining nut and should be at the bottom of the threaded bar.

Periodically check the tightness of all fixing bolts attributed to the explosion relieving brackets. If some bolts are loose, check for hole expansion. If no hole expansion is visible tighten the bolts. If expansion is noticed, then a GRP contractor should be notified.

Check the base section for any deterioration i.e. finish degradation, rusting, cracking etc. If deterioration is found advise the supplier as soon as possible.
Check the sliding section for damage/deterioration. If the roof had been activated, then careful attention needs to be attributed to the sliding mechanism to ensure that no damage has been caused.

If the explosion relieving brackets have been activated, then careful attention needs to be considered on the bracket. This bracket will need to be closely scrutinized to ascertain if the material has been damaged during the operation. Under normal circumstances the sliding mechanism should be able to return to its original location. Should there be any debris or damage to the bracket may affect its operation resulting in an uneven lift.
Careful observation of the slider and base bracket will need to be checked to make sure that no resistance is experienced during operation.

9. STEEL BASE

The steel base is a strong load bearing floor that can carry substantial loading. The steel base would be designed to the loading characteristics as presented during the sales and design process. The equipment layout, size, shape and bearing points would all be considered during the design. The base is designed specific to these loadings and should any additional loads be realized or included post project completion; a further structural assessment would need to be conducted.

Although the base is manufactured to accommodate the loadings it transfers this load through via beam capacity methods into the supporting system below. The most recognized form and engineered system to support the base would be via a flat concrete slab. This ensures that the load translated from the cross-members into the perimeter beam is transferred into the ground in the most efficient way. Should a full concrete slab not be accounted for individual concrete stubs could be utilized. The reoccurrence and repetitiveness of these concrete stubs is critical to the design of the base and requires careful consideration during design and should not be adjusted/moved post design freeze/approval.

The base is bolted to the building via M10 or M12 bolts dependent on the structural loading implied. These bolts should be regularly checked for tightness and tightened if loose. They provide the compressive load to hold the wall to the base. It pulls the wall to the base profile and ensures that the sealing system in the joint if effective. IF the bolts have loosened for any reason, an assessment of the possible reasons needs to be ascertained and the risk of a reoccurrence mitigated.

Although the steel base is a strong component it is limited in its capacity if not supported correctly. Should the building be temporarily stored, as a minimum it should be supported on a level surface +/-5mm over the entire length of the building. Should this not be available then intermediate supports is acceptable if the maximum span between supports is less than 2m. The supporting members must be of sufficient capacity to accommodate the expected loads. They must provide a level surface across all the supporting pads to ensure that no individual area is excessively loaded.

The steel base has an environmental corrosion resistant applied layer on its external surface. This could either be a galvanized finish or a painted finish.

10. VENTILATION

The ventilation is critical to the operation of the building as a fully functioning enclosure. The ventilation has been designed to remove the heat loads within the enclosure and/or the provided parameters during design. The free area of each vent, fan, mesh, louvre has a bearing on the effectiveness of the ventilation system resulting in possible overheating of the enclosed equipment.

To ensure that this scenario does not present itself, the ventilation equipment should be assessed for any obstruction. The obstruction should be removed as soon as possible taking care that all risks of entrapment / decapitation are mitigated by ensuring the fan is isolated or disconnected to ensure that it does not fire up during operation, movable blade louvres are fixed open and do not close during maintenance.

It is also advised that the area around ventilation externally and internally 300mm away from the vent extremities are cleared from any obstruction. This ensures that the flow is not impeded unduly resulting in a higher-pressure difference and lower effective ventilation flow rate. This area is further increased on enclosures with ventilation systems based on wind driven flow rate. The access of the vents to the wind flow is imperative to generate a volumetric flow rate through the building. The restriction of the wind in the vicinity of the enclosure would severely reduce the effectiveness of the system.

An annual inspection after the winter period is recommended to clear any fallen debris. This inspection regularity should be lessened if the building is in a particularly dusty environment or obstructive material laden area such as industrialized area.

The vents or cowls have been fixed onto the walls via bolts, screws or in some cases rivets. It is expected that very little maintenance would be required on these fixings however periodic checking of fixing tightness would be beneficial to ensure longevity of vent/wall mating surface seal.

The vents / cowls are perimeter sealed with exterior sealant. These sealant joints should be inspection during the assessment and if deemed damaged should be cleaned out and new sealant applied.

11. FANS

The fans will be operated by thermostats and/or contactors and could operate at any time. The nature of the equipment has a vibration in the main body and motor that can transfer to the fixing flange. It is expected that the fixings attaching the equipment to the wall would not loosen however periodic assessment of the fixing for tightness is advised.
It is our recommendation that the fans are inspected periodically to ensure that the airways are free from obstructions and no dust or foreign matter has collected and blocked the elements.
It is envisaged that no maintenance is done to the fan units as they are sealed for life bearings. It is envisaged that the fans once isolated should be spun by hand and allowed to rotate. The blades should rotate freely with very limited rotational resistance. Minimal to no noise should be evident from the fan bearings. If this is the case remedial work will need to be enacted by changing the whole unit.

12. ANCILLARY ITEMS

All ancillary items should be assessed for effectiveness of operation and fixing arrangement.

GRAVITY LOUVRES
Gravity louvres require little to no maintenance. The free area needs to be assessed for obstructions and cleaned if necessary. The fixings need to be assessed for tightness and tightened if required.

ACOUSTIC BOXES
It is our recommendation that the silencers are inspected periodically to ensure that the airways are free from obstructions and no dust or foreign matter has collected and blocked flow.

CAT FLAPS
Please be aware if a cat flap is fitted to an enclosure or door it must remain locked to maintain the security rating. Failure to do this invalidates the certification of kiosk or door.

GAS STRUTS
The gas struts are designed for the cover capacity. All fixings of the unit / hatch will need to be checked and tightened if required.

WARNING

Gas struts are expanding cylinders under high gas pressure. If they are not removed when in the fully out position, they may cause an accident. Please be careful when maintaining this product. Any damage should be referred to a GRP Contractor.
The gas struts have high pressure gas within their tube which would not be pierced. These will need to check for adequate aid in opening the clam cover.
In the unlikely event of a gas strut leaking the high-pressure gas these units can be re gassed. These will need to be sent back to the manufactures. Details of the manufacturers have been fitted to the gas struts.
The connection of the gas struts to the Unistrut needs to the checked for distortion and/or deterioration. Deterioration in this area may result in failure of the fixing which in turn will damage the gas strut. Grease can be applied to the moving part areas to ensure continued use.
All fixings between the Unistrut and the clam cover should be checked for tightness. These should be tightened if loose. The sealing washer on the outside surface of any bolts fixing the Unistrut should be checked for deterioration and should be replaced if damaged.
Please note that when clam is closed the gas struts are under pressure which in turn puts all Unistrut connected to it under pressure.

HOLD OPEN STAY AND LOCKING ARM
The hold open stay and locking arm is a simple piece of engineering requiring little maintenance. It is advisable that a little lubrication is positioned on the sliding and hinge mechanisms.
The connection of the hold open stay to the mounting bracket needs to be checked for distortion and/or deterioration. Deterioration in this area may result in failure of the fixing which in turn will damage the stay which may result in failure. Grease can be applied to the moving part areas to ensure continued use.
All fixings between the mounting bracket and the clam cover should be checked for tightness. These should be tightened if loose. The sealing washer on the outside surface of any bolts fixing the bracket should be checked for deterioration and should be replaced if damaged.

DOOR DRIP STRIP
Door frames incorporating a drip strip should be checked for debris (small leaves and dirt) and cleaned out with a blunt object. The drip is connected to the wall via screws and should be inspected for any degradation.

RAINWATER GUTTERING
Check for any debris. Remove if there is any obstruction. Flush area with water to ensure water flow is unobstructed. If necessary, disassemble the bends if obstruction is in a difficult location. Re assemble where necessary ensuring that any screws removed for disassemble has been refitted and sealed to ensure that there is no core material exposed.

13. INTERNAL LININGS

PVC SHEETING
The melamine is fixed to the walls via screws through PVC caps. The area is wipeable with a damp cloth. High pressure hoses should not be used on the melamine lining within the dry room.
The melamine should be checked for any damage that would cause deformation/deterioration of the panel. Any damage should be removed and replaced with like materials.

VARNISHED BACKBOARDS
The varnished backboards are fixed to the walls with screws and should require little or no maintenance. If damaged replace with a similar material ensuring that the fixing screws do not penetrate the external surface.

NOTICE BOARDS
These are fixed to the kiosk with screws and should require little or no maintenance. If damaged replace with a similar material ensuring that the fixing screws do not penetrate the external surface.

14. BUND WALLS AND FLOOR

The Bund Floor is constructed from high grade timber with structural ply which is fully encapsulated in GRP. The structural integrity of the Bund Floor is imperative to the longevity of GRP bund structure.
The supporting structure under the bund must be checked regularly (see Inspection Periods) to verify that it has not deformed under the load imposed by the building or otherwise. This ensures that the bund floor continues to be supported correctly for the duration of its life. The Supporting Structure should be checked for any movement, deformation and/or cracking as any such movement, deformation and/or cracking will induce additional stress to the Bund Floor causing damage to it and to the Bund.

The Bund Floor is an integral part of the chemical storage tank contained within the Bund. Should there be a breach of the chemical storage tank the Bund Floor has been lined with a chemical resistant resin / gelcoat to contain such leakage. The continuity of the Resin / Gelcoat is vital to the Bund integrity in case of any breach to the chemical storage tank. Care must be taken to ensure that no foreign objects are transferred onto the area within the Bund as these may cause damage. The Bund Floor and all the walls of the Bund should be regularly checked (see inspection periods) for any damage. Should any damage to the Resin / Gelcoat be detected this should immediately be reported and confirmed in writing to the appropriate GRP contractor.

The capacity of the Bund has been specifically designed to contain the advised volume of chemical storage tank. No additional material other than the chemical storage tank and/or transfer pipe work should be allowed within the Bund. If in breach of this instruction any additional material or ancillary equipment is placed in the Bund causing the overall volume holding capacity of the Bund to be reduced, then the Bund wall heights may be breached causing leakage.

During a tank breach the bund walls have been designed to accommodate the liquid within the bund volume. The designed period of containment is subject to the chemical contained and its ferocity in attack. All bunds have a maximum time frame of 48 hrs containment at which point it is expected that the chemical would be removed. Once most of the liquid is removed the surface of the bund will need to be washed down and this liquid removed as well. The chemical should be diluted as much as possible with a view of removing all remanence of the contained chemical. Should the chemical be exceptionally corrosive it may be prudent to assess the bund surfaces.

We recommend that a Sealant be applied to the outside perimeter of the Bund and between it and the Concrete floor (Supporting Structure). This helps to prevent any water ingress from below the Bund Floor. Both the stability of the Bund and the integrity of the Bund Floor are affected by water ingress and therefore this additional Sealant to the outside perimeter of the Bund should be maintained on a regular (see inspection periods) basis.

15. ADVERSE WEATHER DAMAGE

The building is designed to accommodate the environmental loading however storm damage may have occurred due to other items inducing damage onto the external surfaces. A full and complete assessment of the product is needed after every extreme event to ensure that the enclosure has not been damaged.

16. REPAIRS

Repairs to Smooth Moulded Products

GRAFFITI

Clean with a cyclohexanone-based cleaner and rinse off with clean water. Please refer to instructions of graffiti remover for full instructions and safety information. Whenever using a chemical based cleaner, always check on an inconspicuous small area first before use.

SURFACE SCRATCHES

If the scratches are not too deep, they can be removed by rubbing down with appropriate grade of wet/dry silicon carbide abrasive paper. 800 grade paper followed by 1200 grade, ensuring that all the scratch marks have been removed. Finally, buff up the area using an electrical/air driven buffing tool and abrasive compound (normally 2000 grade). If further buffing is required, an appropriately coloured compound/ restorer and polish can be used.

Note: Normal gel thickness on panel surfaces is 508-635 microns (0.5 to 0.65mm.)

REPAIRS

Due to the nature of this product and the importance of ensuring no water ingress to the core material it is recommended that all repairs be carried out by a qualified GRP contractor at the earliest opportunity.

Repairs to Textured Kiosks

GRAFFITI

Kingsley Plastics, The Airfield, Winkleigh, Devon. EX19 8SW
Tel: 01837 83154 Email: sales@kingsleyplastics.co.uk

Clean with a cyclohexanone-based cleaner and rinse off with clean water. Please refer to instructions of graffiti remover for full instructions and safety information. Whenever using a chemical based cleaner, always check on an inconspicuous small area first before use.

If this does not work the kiosk can be re-stippled, contact Kingsley Plastics Ltd for a quote to carry out the works.

REPAIRS

Due to the nature of this product and the importance of ensuring no water ingress to the core material it is recommended that all repairs be carried out by a qualified GRP contractor at the earliest opportunity.

DO NOT MAKE MODIFICATIONS TO A SECURITY RATED ENCLOSURE AS THIS WILL INVALIDATE THE SECURITY RATING OF THE ENCLOSURE. MODIFICATIONS CAN ALSO EFFECT THE WARRANTY OF THE ENCLOSURE IF NOT CARRIED OUT IN ACCORDANCE WITH THIS MANUAL. PLEASE CONSULT WITH OUR DESIGN TEAM SHOULD YOU WISH TO DISCUSS ANY CHANGES