



## FIRE RATED GLASS PRODUCTS SPECIALIST STORAGE AND HANDLING REQUIRED

FIRE RATED LAMINATED GLASS IS PREDOMINANTLY MADE UP WITH THIN LAYERS OF ANNEALED GLASS, WITH POROUS SOFT-SET INTERLAYERS. SPECIAL CONSIDERATIONS SHOULD BE GIVEN.

1. LOADING
2. TRANSPORTING
3. UNLOADING
4. STORING
5. HANDLING
6. GLAZING
7. DO'S & DON'TS



PLEASE NOTE THAT THIS DOCUMENT COVERS A WIDE RANGE OF RECOMMENDATIONS TO HELP AVOID DAMAGING YOUR GLASS PRODUCTS.

IT IS PRESENTED AS A GUIDE FROM A MANUFACTURER'S PERSPECTIVE, AND IS NOT EXHAUSTIVE.

ALWAYS SPEAK TO THE MANUFACTURER FOR FURTHER GUIDANCE AND SUPPORT.

THIS DOCUMENT **DOES NOT**  
PROVIDE SAFETY INSTRUCTIONS  
FOR THE PROTECTION OF PEOPLE, PERSONNEL,  
AND THE SURROUNDINGS.

PLEASE **REFER TO YOUR OWN**  
HANDLING RISK ASSESSMENTS,  
METHOD STATEMENTS, AND PERSONAL  
PROTECTIVE EQUIPMENT LIST.

## LOADING (1 OF 2)

### 1. WHEN LOADING GLASS ON TO A VEHICLE WITH GLASS RACKS INSIDE

- a. STACK LARGE PANELS AT THE REAR, AND SMALL PANELS AT THE FRONT
- b. KEEP THINNER GLASSES IN FRONT OF THICKER HEAVIER GLASSES.
- c. ENSURE SUFFICIENT TRANSPORT PADS ARE IN PLACE AND ALIGNED WITH THE HORIZONTAL RACKING BARS
- d. ENSURE THAT THE POLE RUBBERS ARE ALIGNED WITH THE TRANSPORT PADS AND HORIZONTAL RACKING BARS
- e. ENSURE THAT THE PRESSURE EXERTED BY THE POLE RUNS DIRECTLY THROUGH THE GLASS, TRANSPORT PADS, AND RACKING BAR
- f. USE SPONGE PACKING BLOCKS BETWEEN THE POLE RUBBERS AND THE GLASS
- g. APPLY MEDIUM PRESSURE ONLY WITH THE POLES
- h. DO NOT BEND THE GLASS OVER OR AROUND ANY OTHER GLASS; KEEP ALL PANELS STRAIGHT
- i. APPLY A GRIP STRAP TO EACH POLE, TIEING THE END OFF IN A QUICK RELEASE KNOT
- j. SECURE GLASS STACKS TO THE RACK USING LOW TACK 'PGP' TAPE TO KEEP THE GLASS UPRIGHT IN THE EVENT OF HARD BREAKING DURING TRAVELLING
- k. WHEN LOADING UP FOR A JOURNEY TAKING PLACE ON THE NEXT DAY, SLACKEN OFF THE POLES OVERNIGHT
- l. WHEN SETTING OFF WITH A PRE-LOADED VEHICLE, CHECK AND TIGHTEN ALL POLES AND STRAPS BEFORE MOVING THE VEHICLE.
- m. DO NOT TRANSPORT FIRE RATED GLASS ON THE EXTERNAL RACKING

## LOADING (2 OF 2)

### 2. WHEN LOADING GLASS ON TO A TIMBER A-FRAME

- a. ALL A-FRAME UPRIGHTS AND HORIZONTALS SHOULD BE PRESENT AND IN GOOD CONDITION, WITH CUSHION LAYERS OF STYRENE FOAM OR RUBBER PROTECTION
- b. ALL NAILS, SCREWS, AND STAPLES SHOULD BE FULLY RECESSED
- c. THE FRAME AND ALL COMPONENTS MUST BE COMPLETELY DRY
- d. ENSURE THE A-FRAME EXTENDS 100MM LONGER THAN THE GLASS AT EACH END, AND 200MM HIGHER
- e. PACK THE GLASS UP BY 5MM AT 200MM FROM AT EACH END, AND AT THE CENTRE, ON 2" WIDE X 3/4" HIGH SOFTWOOD TIMBER
- f. DO NOT PLACE EXTRA CHOCKS ABOVE THE FORK-LIFT FORK POSITIONS
- g. DO NOT USE CARPET, PLASTERBOARD, CARDBOARD, OR POLYSTYRENE PACKAGING MATERIALS
- h. STACK HEAVY AND LARGE PANES AGAINST THE REAR, AND STACK SMALLER PANES IN FRONT
- i. USE 48MM X 4MM TRANSPORT CUSHIONS BETWEEN ALL PANES, EVENLY SPREAD AND IN LINE WITH THE A-FRAME HORIZONTALS
- j. USE 48MM X 4MM TRANSPORT CUSHIONS AT EACH CORNER OF EVERY PANE AS PROTECTION FROM LIGHT IMPACT
- k. LAY ALL PANES DOWN IN THE 'LANDSCAPE' POSITION WHERE POSSIBLE
- l. STRAP 3 TIMES HORIZONTALLY AND 2 X VERTICALLY AROUND THE LOAD, WHERE PRACTICABLE
- m. USE WIDE-LOAD EDGE PROTECTORS WHERE ALL STRAPS PASS OVER THE ENDS OF THE GLASS
- n. TENSION THE STRAP BUCKLE AND ENSURE A PERMANENT HOLD, WITHOUT APPLYING OVER-PRESSURE
- o. 'PORTRAIT' ORIENTED STACKS SHOULD BE STRAPPED AND TAPED AS ONE SET EACH
- p. FOR HEAVY PANELS, INDIVIDUAL PANEL STRAPPINGS MAY BE NECESSARY, OR IF INSTRUCTED BY THE CUSTOMER
- q. SHRINK-WRAP THE A-FRAME USING CLEAR HEAVY GAUGE SHEET, TAKING CARE NOT TO OVERHEAT THE GLASS INSIDE THE FILM
- r. A MAXIMUM NETT GLASS LOAD OF 900KG IS TO BE MAINTAINED PER A-FRAME, EVENLY DISTRIBUTED
- s. LIFT CAREFULLY AND SLOWLY WITH THE FORK LIFT, AND MOVE STEADILY ON TO THE TRANSPORT VEHICLE
- t. CHECK THE GLASS OVER FOR CRACKS ONCE LOADED ON THE VEHICLE
- u. RATCHET STRAPS AND OTHER TIE-DOWN METHODS SHOULD HOLD THE A-FRAME ONLY, AND NEVER COME IN TO CONTACT WITH THE GLASS

GLASS SHOULD ALWAYS BE  
**HANDLED WITH EXTREME CARE.**

PACKAGING SHOULD NOT BE  
CONSIDERED AS WATER TIGHT,  
U.V. RESISTANT, OR AS IMPACT  
PROTECTION.

## TRANSPORTING

- a. MAINTAIN ADDITIONAL BREAKING DISTANCE AT ALL TIMES
- b. DRIVE SMOOTHLY AND AVOID UNNECESSARY HEAVY BREAKING AND ACCELERATING
- c. SLOW RIGHT DOWN FOR SPEED BUMPS, POTHOLES, AND UNEVEN SURFACES
- d. PARK THE VEHICLE ON A FLAT AND HORIZONTAL SURFACE
- e. DO NOT UNTIE THE LOAD WHERE THE VEHICLE IS NOT IN A FLAT AND HORIZONTAL POSITION
- f. KEEP THE LOAD DRY AT ALL TIMES. WIND VORTICES WILL ALLOW RAIN UNDERNEATH A-FRAMES WHEN TRANSPORTING ON OPEN BACKED VEHICLES
- g. KEEP THE LOAD OUT OF DIRECT SUNLIGHT, AND AWAY FROM HEAT SOURCES
- h. LOADING SHOULD BE CARRIED OUT IN A MORNING, WITH DELIVERY TAKING PLACE LATER THE SAME DAY
- i. DO NOT MOVE, REMOVE, RE-LOAD, OR RE-DISTRIBUTE THE A-FRAMES ONTO OTHER VEHICLES

# UNLOADING

## UNLOADING PANES BY HAND

- a. ON ARRIVAL, INSPECT THE LOAD, AND INSPECT THE GLASS PANES, BEFORE UNLOADING
- b. REMOVE ONE POLE, AND UNLOAD THE STACK
- c. ENSURE THAT A SUITABLE AND PERMANENT STORAGE LOCATION IS AVAILABLE FOR THE GLASS, UNTIL GLAZING CAN TAKE PLACE
- d. INSPECT THE STORED STACKS, NOTING ANY EDGE DEFECTS OR IMPERFECTIONS AT THE TIME
- e. ENSURE THAT THE FULL AREA OF THE GLASS IS FULLY SUPPORTED WHILST IN STORAGE, WITH THE GLASS LEANING BACK AT A 3° TO 5° ANGLE FROM THE VERTICAL

## UNLOADING A-FRAMES

- a. ON ARRIVAL, INSPECT THE LOAD, AND INSPECT THE GLASS PANES, BEFORE UNLOADING
- b. WHERE A-FRAMES ARE UTILISED, DELIVERY NOTES MUST BE SIGNED FOR PRIOR TO HANDLING AND UNLOADING BY OTHERS.
- c. LIFT CAREFULLY AND SLOWLY WITH THE FORK LIFT, AND MOVE STEADILY OFF THE TRANSPORT VEHICLE
- d. THE LOAD SHOULD BE TAKEN ACROSS FLAT AND EVEN GROUND, TO THE STORAGE LOCATION, SLOWLY AND CAREFULLY, AVOIDING ALL BUMPS
- e. STORE THE A-FRAME IN A LEVEL AND DRY LOCATION, OUT OF DIRECT SUNLIGHT AND WEATHER
- f. CHECK THE GLASS OVER FOR CRACKS ONCE PLACED IN THE STORAGE LOCATION
- g. PLACE BARRIER PROTECTION AROUND THE A-FRAME, TO PREVENT COLLISIONS FROM THE EQUIPMENT AND TRADES
- h. DO NOT MOVE THE A-FRAME UNLESS TAKING TO THE GLAZING LOCATION
- i. WHERE GLAZING IS TAKING PLACE MORE THAN 24 HOURS AFTER DELIVERY, TENSION STRAPS SHOULD BE SLACKENED
- j. GLAZE ALL PANELS WITHIN 24 HOURS TO AVOID UNNECESSARY ISSUES WITH THE FIRE RATED GLASS PANES
- k. SAME-DAY INSTALLATION IS STRONGLY ADVISED

RESPONSIBILITY FOR THE GOODS  
TRANSFERS TO THE CUSTOMER AT  
THE POINT OF UNLOADING.

**ANY FAULTS SHOULD BE PROPERLY  
DOCUMENTED AND REPORTED  
TO THE SUPPLIER'S OFFICE AT THIS TIME  
TO AVOID REMAKE CHARGES.**





## STORING

- a. ENSURE THAT THE FULL AREA OF THE GLASS IS FULLY SUPPORTED WHILST IN STORAGE, WITH THE GLASS LEANING BACK AT A 3° TO 5° ANGLE FROM THE VERTICAL, AGAINST A DRY NON-POROUS A-FRAME
- b. STORE IN A SAFE AND PERMANENT PLACE, WHERE PASSING EQUIPMENT, PEOPLE, AND TOOLS, CANNOT ACCIDENTALLY DISTURB, SCRATCH, OR DAMAGE THE GLASS
- c. KEEP THE GLASS OUT OF DIRECT SUNLIGHT, AND AWAY FROM ULTRA-VIOLET LIGHT SOURCES
- d. KEEP THE GLASS COMPLETELY DRY AT ALL TIMES
- e. DO NOT ALLOW GRINDING WORKS TO BE CARRIED OUT NEAR THE GLASS
- f. DO NOT ALLOW WET TRADES TO BE CARRIED OUT NEAR OR ABOVE THE GLASS
- g. ENSURE THE GLASS IS NOT PLACED ON THE FLOOR OR ANY POROUS PACKING MATERIALS
- h. DO NOT REST THE GLASS AGAINST METALS, STONE, CONCRETE, OR OTHER ABRASIVE MATERIALS

LONG TERM STORAGE IS **NOT RECOMMENDED**,  
AND SIGNIFICANTLY INCREASES THE  
CHANCES OF DAMAGE AND DEGRADATION.

GLASS IS DESIGNED TO BE INSTALLED IN  
ITS NORMAL VERTICAL POSITION, AND  
GLAZING SHOULD TAKE PLACE  
**WITHOUT DELAY.**

## HANDLING

- a. CARRY AND MOVE THE GLASS IN A VERTICAL-PLANE POSITION ONLY; NEVER CARRY IT FLAT  
AVOID TIGHT SPACES WHERE THE FACES OR EDGES OF THE GLASS COULD BE SCRAPPED  
AGAINST ABRASIVE MATERIALS
- b. HEAVY PANES MAY REQUIRE MULTIPLE REST STOPS BETWEEN THE STORAGE AND GLAZING  
LOCATION. PRE-PLACE SUITABLE CHOCKS ALONG THE ROUTE
- c. VACUUM PUMPS CAN BE USED ON THE FACE OF UNCOATED SODALIME AND BOROSILICATE  
GLASS PRODUCTS, BUT SHOULD NOT BE USED ON
- d. SOME COATED GLASSES, SANDBLASTED FACES, FILMED FACES, OR ON RADIATION  
SHIELDING GLASS
- e. NEVER USE GLASS CLAMPS, SIDE LIFTERS, OR ANY OTHER MEANS OF HANDLING WHERE THE  
GLASS CONSTRUCTION WILL BE PUT UNDER PRESSURE
- f. NEVER PLACE OR TURN THE GLASS ON A CORNER OR EDGE

## GLAZING

- a. FOR ANY GLAZING WORKS, USE ONLY COMPETENT AND EXPERIENCED PERSONNEL
- b. FIRE RATED PRODUCTS ARE EXPENSIVE, CONTAIN DELICATE LAYERS, AND SHOULD BE GLAZED BY SPECIALISTS
- c. GLAZING SHOULD BE CARRIED OUT AS SOON AS THE GLASS ARRIVES ON SITE, IN A ONE-STEP PROCESS
- d. ALWAYS ENSURE THAT THE FRAMING AND BEADS ARE MANUFACTURED IN ACCORDANCE WITH THIRD PARTY APPROVED FIRE RATED DOCUMENTATION (CERTIFIRE, QMARK, ETC) TO BS476:22 OR BS476:21, OR THE EUROPEAN STATE EQUIVALENTS
- e. CHECK THAT ALL LINERS AND GLAZING GASKETS HAVE BEEN SUPPLIED AND INSTALLED IN LINE WITH THE APPROVED DOCUMENT
- f. CHECK THAT THE CORRECT PINS OR SCREWS ARE BEING USED, AS STATED IN THE APPROVED DOCUMENT, AND THAT ALL BEADS ARE PROPERLY SEATED
- g. USE NON-COMBUSTIBLE PACKINGS (NORMALLY 4mm), PROVIDING THE CORRECT BEAD COVER OVER THE GLASS. PACKERS SHOULD BE 100mm LONG (DOUBLE FOR HEAVIER GLASS) AND SUPPORT THE FULL GLASS THICKNESS
- h. DO NOT REMOVE ANY TAPES FROM THE GLASS EDGES, UNLESS AGREED IN WRITING WITH THE MANUFACTURER
- i. ONLY USE APPROVED SEALANTS FOR BUTT JOINTED SPECIFICATIONS
- j. BUTT JOINTS MAY REQUIRE ADDITIONAL INTUMESCENT STRIPS BETWEEN THE GLASS BEFORE APPLYING THE SILICONE POINT. ALWAYS CHECK WITH THE
- k. MANUFACTURER AS THEY MAY NOT BE SHOWN ON THE APPROVED DOCUMENT  
APPLY SILICONE POINTS TO BOTH GLASS FACES, ALL AROUND THE BEADS, IF POROUS GLAZING
- l. TAPES ARE SPECIFIED
- m. KEEP THE GLASS EDGES DRY WHEN CLEANING DOWN OR APPLYING SILICONES  
IF IN DOUBT, SPEAK TO THE MANUFACTURER BEFORE MOVING OR GLAZING THESE PRODUCTS

# DO'S AND DON'TS WITH LAMINATED FIRE RATED PRODUCTS

## DO:

- ✓ RELEASE BANDING PRESSURES SOON AFTER ARRIVAL
- ✓ CAREFULLY LIFT FROM UNDERNEATH IF USING A FORK LIFT
- ✓ SUPPORT THE FULL AREA OF THE GLASS AT ALL TIMES TO PREVENT BOWING
- ✓ LAY SINGLE GLASS PANES ON A FLAT NON-ABRASIVE SURFACE FOR 24 HOURS TO REMOVE BOWS IF REQUIRED
- ✓ GLAZE THE GLASS ON NON-COMBUSTIBLE FIBRE PACKERS 100mm LONG x THE FULL THICKNESS OF THE PANE, SET 150MM FROM EACH END.
- ✓ FOR HEAVY PANES OR PANES OVER 1000mm WIDE, DOUBLE THE PACKINGS TO 200mm
- ✓ STORE ON A LEVEL SURFACE, IN A DRY AND SAFE AREA AWAY FROM DIRECT SUNLIGHT
- ✓ STORE AT A MAXIMUM OF 5° FROM THE VERTICAL POSITION
- ✓ HANDLE IN THE UPRIGHT VERTICAL POSITION
- ✓ USE 150mm WIDE SOFTWOOD TIMBER CHOCKS WHEN RE-STACKING AND MANUALLY HANDLING AROUND YOUR SITE
- ✓ LEAVE A MINIMUM 4mm TOLERANCE AROUND THE GLASS AFTER GLAZING
- ✓ USE THE CORRECT GLAZING TAPES ON BOTH SIDES OF THE GLASS
- ✓ USE A FIRE RATED LINER AROUND THE GLAZING REBATE (IF APPLICABLE)
- ✓ CHECK THAT THE BEADS AND FRAMING SECTIONS ARE FIRE RATED, AND TO THE CORRECT SIZE AND SPECIFICATION IN LINE WITH THE APPROVED TEST EVIDENCE
- ✓ APPLY A SILICONE POINT OVER ANY POROUR GLAZING TAPES

# DO'S AND DON'TS WITH LAMINATED FIRE RATED PRODUCTS

## DON'T:

- ⊗ DO NOT REST THE GLASS ON THE CORNERS
- ⊗ DO NOT TURN THE GLASS ON THE CORNERS
- ⊗ DO NOT REST THE GLASS ON HARD SURFACES
- ⊗ DO NOT REMOVE FOIL MOISTURE BARRIER TAPES
- ⊗ DO NOT APPLY ADDITIONAL FORCE TO RECTIFY BOWED PANES
- ⊗ DO NOT FORCE THE GLASS INTO A TIGHT OPENING
- ⊗ DO NOT USE ANY TYPE OF HAMMER OR IMPACT ON THE GLASS
- ⊗ DO NOT MODIFY THE EDGES OF THE GLASS
- ⊗ DO NOT USE STEEL OR PLASTIC GLAZING PACKERS
- ⊗ DO NOT TILT THE GLASS BACK ON THE PACKERS OR CHOCKS WHEN HANDLING AND GLAZING
- ⊗ DO NOT HANDLE OR MOVE THE GLASS MULTIPLE TIMES
- ⊗ DO NOT STORE OUTSIDE, OR ANYWHERE THAT RAIN OR LIQUIDS CAN REACH THE GLASS
- ⊗ DO NOT STORE IN DIRECT SUNLIGHT
- ⊗ DO NOT OVERTIGHTEN WHEN PRESSURE GLAZING
- ⊗ DO NOT SHIM THE GLASS WITH A GLAZIER'S SHOVEL OR SIMILAR TOOL
- ⊗ DO NOT APPLY LOCAL PRESSURE AT THE EDGES OF THE GLASS
- ⊗ DO NOT USE EDGE CLAMPS TO LIFT THE GLASS
- ⊗ DO NOT EXPOSE THE GLASS TO TEMPERATURED BELOW -15°C, OR ABOVE +50°C
- ⊗ DO NOT USE PRESSURE WASHERS TO CLEAN THE GLASS OR GLAZING INSTALLATION
- ⊗ DO NOT EXPOSE THE GLASS TO SUDDEN TEMPERATURE CHANGES
- ⊗ DO NOT APPLY FILMS TO THE GLASS WITHOUT THE PROPER APPROVALS
- ⊗ DO NOT INSTALL MARKETING BOARDS OR OTHER MATERIALS ON TO THE GLASS



**IF IN DOUBT,  
ASK THE MANUFACTURER  
FOR MORE INFORMATION**

PGP



Performance Glass Processing Ltd

[www.PerformanceGlass.co.uk](http://www.PerformanceGlass.co.uk)