

# JigStones Plans

If you are new to JigStones, the way that units typically assemble is quite simple, although there are literally thousands of alternative ways

enabling countless different building designs. A first glance at these plans may appear that they'll only make sense to the technically minded. You are not required to look at all of them all at the same time! Work in easy steps...

Concentrate only on the 'foundation' course of blocks shown in the first, and most simplest plan. Glue these blocks together, working on a flat surface, leaving appropriate gaps where any doors may be shown. Make the doors and position them 'dry' (not glued) to ensure a good fit.

The next plan gives the next 'course', and will introduce windows if present in the design. Again, introduce these 'dry'. If it helps, cross through all the blocks on the plan that you've already laid, to avoid any confusion.

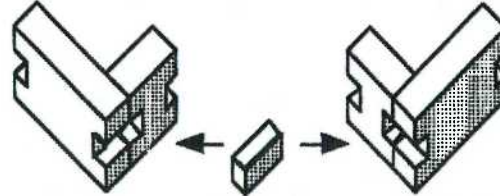
Continue to the next 'course', and so on, until your model is complete.

With JigStones plans, all the initial working out has been done for you, and all you have to do is cast and build. But once you've become familiar with the use of the various walling units, there's nothing to stop you adding on extra extensions, and make the model unique to your own railway.

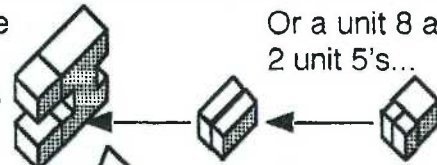
For chimneys, please refer to the instructions that are included with your standard walling mould set.

For the sake of clarity, and to indicate where linking or finishing 'stones' are required, these have been left out to create gaps in the structure as drawn.

Insert unit 6's at corners:



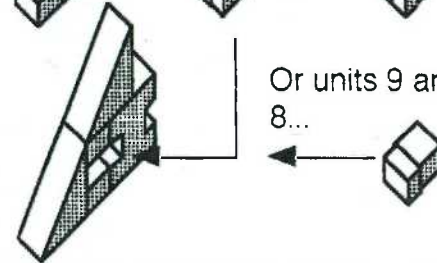
2 unit 6's are used to end a wall in this situation...



Or a unit 8 and 2 unit 5's...

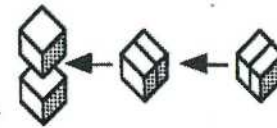


...or to fill a gap like this...

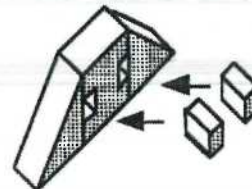


Or units 9 and 8...

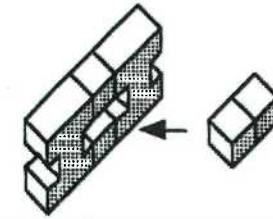
2 unit 8's seemingly hovering above one another require 2 unit 9's to be inserted, preferably with the join showing if 'stone' styling is used.



Another use for unit 9...



2 unit 8's for this situation...



## PROJECTED JIGSTONES PLANS

The Old Smithy	Footbridge
The Baker's Shop	Coach Shed
Meadow Farm	Staff Mess Hut
The Flour Mill	Tippler Wagon
The Grocer's Shop	Chute
The Village Post Office	Roadbridge
Station Hotel	Station Gift Shop
The Tea Rooms	Smallholding
The Village Pub	Cobbler's Shop
The Sawmill	Sweet Shop
Engine Shed	Garage
Goods Shed	Gamekeeper's House
Platform Shelter and Waiting Room	Coaching Inn
Small Station	Chemist's Shop
Large Station	Ruined Castle
Signal Box	Boathouse
Gatekeeper's Cottage	Fisherman's Cottage
Lineside Huts	Croft
Stationmaster's House	Church
Wagon Works	Market Cross
Village School	The Lodge
Wishing Well Cottage	The Rectory
The Squire's House	The Folly
Chapel	JigStones Factory
Cottage and Stable	
Wool Market	
Terraced House	
The Toll House	
The Gate House	
Ivy Cottage	
Small Factory Workshop	
Factory Building and Loading Bay	
Quarry Buildings	
Quarrymen's Houses	
Woollen Mill	
Brickworks	
Brewery	
Loco Water & Coaling Bay	
Coal Merchant's Office	
Bridge Supports	
Small Two-Storey Station	
Large Two-Storey Station	

These will be prepared over a period of time, and are at the moment working titles only. Some may be changed, or more added.

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# The Art of Casting

The operation of casting blocks of cement may appear to be a simple enough task, and it is, once you are aware of the pitfalls.

There is a 'nack' to it which modellers will conquer at varying speeds. Be prepared to waste some cement in the practice stages. For this reason I suggest that filling the whole of a mould may not be a good idea to start with. Just try one large block - unit 1. If this turns out OK, then gradually increase the amount of units cast at each session as your work speed increases.

Quick-setting cement is not quite as straight forward to use as ordinary cement. Its speed of setting varies according to both temperature and extent of dampness in the air.

In cold weather work in the warm, and use warm water if the setting time is longer than three-quarters of an hour. In the hotter month (!) you may need to use chilled water to slow the process down, and keep the cement workable long enough to get it into the moulds.

If buying cement or cement/sand mix locally, avoid purchasing a large amount before you know if it is suitable.

There are various brands available, with varying qualities. Anything that cures with a soft and powdery feel will be unsuitable.

I used to recommend "Quik-N-Eeze", which was both excellent in price and quality. Unfortunately, this is no longer manufactured.

Instead, I am now recommending a brand called "Jetcem", which is more expensive, but quite suitable. There will sometimes be reject castings - I get them myself.

Although younger enthusiasts of the family will, no doubt, get as much fun from the system as us older ones, please remember that handling cement with bare hands can be detrimental to one's health.

Wear rubber gloves, and use some kind of breathing protection when mixing cement, which may cause dust to become airborne.

The system is not suitable for children under the age of 8, and adult supervision must be given at all times, during casting sessions.

Now, back to the 'nack'.

There are three important aspects to the casting operation...

*Water content of the mix*

*Air bubbles*

*Releasing the castings*

## 1. Water content of the mix:

Work with a cement and sand mix that is very thick - never sloppy.

It should be so thick that you have to virtually shake it out of the mixing vessel, or at least give it a hand. Anything thinner will only give problems.

If you've got it so thick that it starts to set before you can introduce it into the mould - remember you must work quickly - then increase the water amount slightly.

With practice, you will get to know if the consistency is right by the amount

of energy required to stir it.

If using neat cement, add about the same amount in volume of sand - the finer the grade the better, though ordinary builder's sand (without large particles) is OK.

If using a cement/sand mix, add no more sand.

## 2. Air bubbles:

The chance of air bubbles is lessened by agitating the lower regions of the mix in the mould.

A few quick zig-zags across the mix with a pencil (or matchstick for smaller castings), and a prod in all corners should be sufficient.

The trick to use with triangular shapes is to pour in some cement and squeeze the triangle shut. This expels the air and, when released, sucks cement down into the corners. Repeat a couple of times.

Mist-spraying the mould before introducing cement will help to 'prime' the mould.

When you are satisfied with the filling, skim off any surplus as cleanly as possible. If you've a spare mould, one of the top straight edges can act as a good 'skimmer'.

Leave the filled mould, but check on the curing progress after about 20 minutes, and then, if necessary every 10 or so.

Never leave a filled mould to set bone dry, or to set overnight.

Cement will inevitably shrink fractionally as it cures. As it does so, it pulls in the rubber with it. Over a longer period of time, moulds will gradually become smaller by a

millimetre or more.

If you use all of your moulds by roughly the same amount, this will not affect their use, as they will all still be in unison as far as shrinkage goes.

Although of tough silicone rubber, like any instrument that is used frequently, moulds will not last indefinitely.

They should, however, give long service, and pay for themselves many times over in the production of a wide assortment of models.

Treat moulds with care.

## 3. Releasing the castings

When the cement is still damp, but does not feel soft or spongy, it's time to release the castings.

Concentrate on each individually.

First gently ease away the rubber from every side at the top of the mould.

Then press lightly underneath. On larger castings, press upwards at one end, then the middle, then the other end - by which time the casting should have become loose.

Press the whole up again at one end, enough to be able to pluck the casting out by hand. Avoid fingernails from digging into it.

Castings are delicate at this stage, and will remain so until fully cured. Even then, they require the additional support of fellow castings in a wall construction to give a strength that's more damage resistant. Rather like a brick wall.

Smaller castings need extra care.

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# INSTRUCTIONS

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40116



## SM4

Do not leave cured cement in moulds. Remove castings as soon as they can be released, otherwise the cement as it shrinks will draw in the rubber of the mould, and if left in such a way frequently will reduce the block sizes that are subsequently cast.

### Care of moulds...

The moulds are of tough, yet flexible, silicone rubber. They should be stored flat with no heavy weight placed upon them. If left in a distorted position, they may remain as such and become unusable. Clean off any build-up of cement residue with gentle brushing (an old toothbrush is ideal), and a normal household cream cleaning liquid.

### Casting...

Follow the instructions that accompany your Mould Set/s.

### How the arch components are used...

The five components produced from this mould are first cast. One set gives a complete arch, with two left- and two right-handed sections, plus a central "keystone" piece. Remove from the mould when set, and select the component '1' mould (the largest block of the system), in either "Squared Stone", "Random Brick" or "Welsh Slate". Turn the arch components over (detail side downwards), and place, securely in the component '1' mould as shown in the diagram. If using "Squared Stone" make sure that the thin mortar line of the mould is at the lower side of the arch mould.

Fill up the remaining upper space of the mould, leaving the area below the arch component empty. The shaded areas to be filled are shown in the diagram. Agitate the mix gently, but not so much that the cement runs under the arch piece. Leave to fuse together.

### Building...

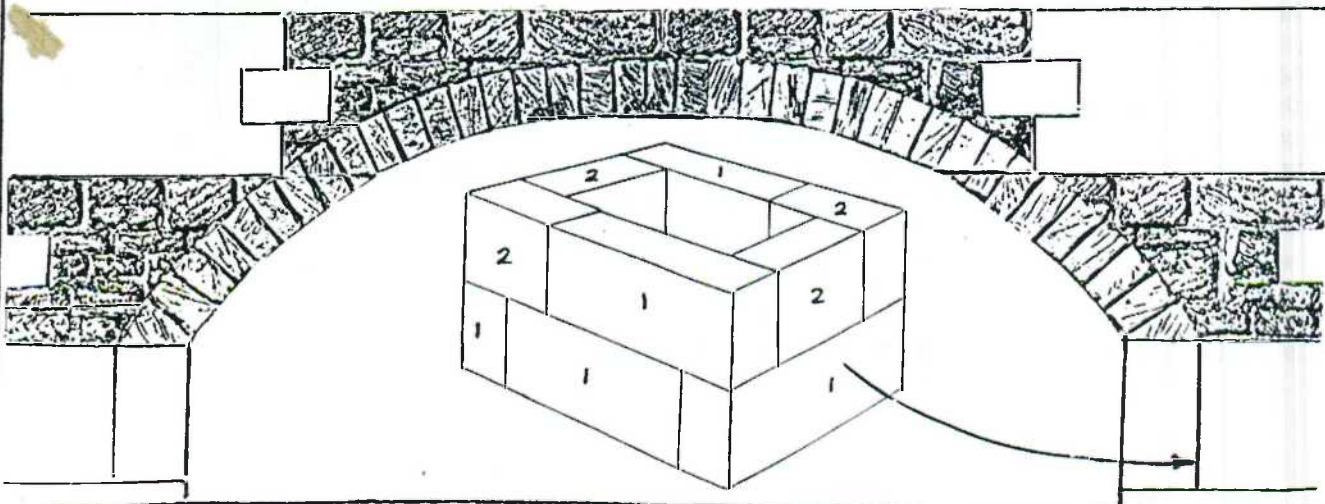
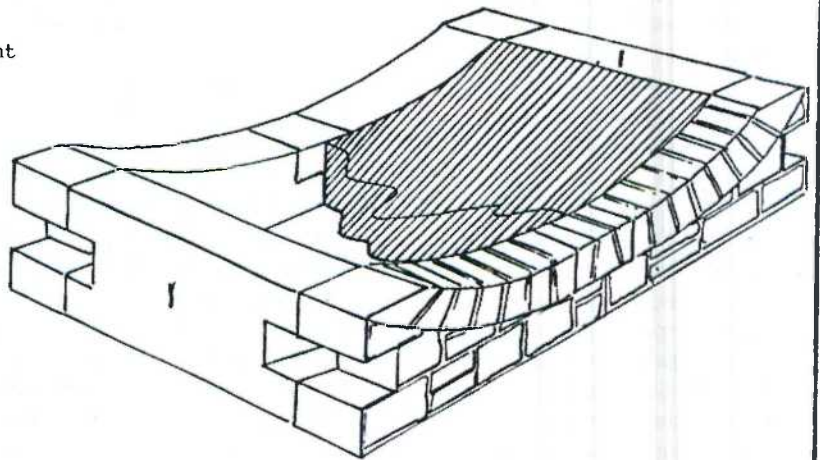
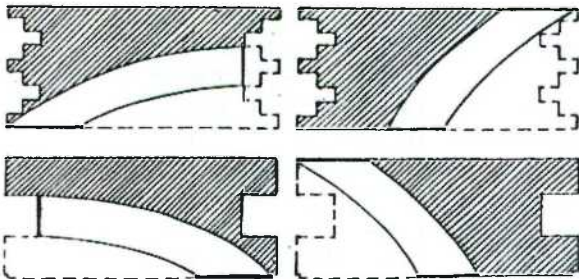
The diagram shows how the integral arch/component '1' castings are assembled. Firstly, construct the supporting columns for the arches, fix the first two arch blocks onto these columns and leave to set firm.

Fill the hollow columns with ordinary cement/sand for weight.

Assemble the remaining centre parts of the arch as a separate structure, by placing them on a flat surface, covered with Polythene, fixing a component '1' crossways between the two sides at each end, and filling the inner space with cement. Curve this to flush with the arch shape. Leave to set.

Position the supporting columns to accept the separate central arch sections and bond all elements together. Complete by filling the space above each column with cement to give a flush top.

By using different styles of walling finish, a variety of designs is possible, though just one walling Mould Set is required if preferred. The span of arches is approximately 7½" and will therefore allow a single track line to pass beneath, in 16mm and 'G' scales. Extend the height of supporting columns as required.







## MOULD SM5 Arch Lintel & Window

40117

## Instructions

### CARE OF MOULDS...

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### Mould SM5

The mould produces the components for two arched lintels and a window frame. Although the arches may be used, perhaps, as decorative devices in their own right (over a doorway in a boundary wall, etc.), for use within walling as a lintel they must first become part of a normal walling unit...  
Cast the desired brick- or stone-effect lintel in the normal way, and when cured enough to release, place the unit face down in a mould which gives a unit '1' walling component. The 'legs' of the curved arch should be centrally positioned against the longest side of the unit '1' mould. If using 'Squared Stone' walling make sure that the thin course line at one edge is maintained at the base.  
See the diagram opposite  
Now fill the upper spaces of the mould, using as thick a casting mix as possible - try to avoid pushing the mix too much under the arch casting.  
The shaded areas shown in the diagram are those to be filled. Remove the integral casting and clean off any excess material from the arch design (it should just pick off with a sharp craft knife whilst the casting is still damp.)

### THE WINDOWFRAME

Use *Isopon P38* as a casting material, mixing up the paste and hardener as directed by the manufacturer. With a piece of scrap card or plastic, press the paste hard into the mould, repeatedly working the material into the mould from different angles so that all corners are well filled. The more vigorously this is done, the less need there will be to fill any odd air bubbles once the casting is removed. Smooth off the top of the paste by drawing a flat edge across very slowly.  
An alternative would be to place a sheet of thin acetate onto the top of the mould and roll across it something like a milk bottle/rolling pin etc. Leave the acetate in place until the casting is set, and then peel it off. Leave to cure for about ten minutes and then carefully release the casting. Cut away the flash as necessary, and clean up the frame edges with a sharp craft knife.  
The frame should be painted before glazing, and an oil-based paint is recommended. A primer can be used first to act as a key for the top coat. Glaze the frame by cutting a panel of acetate to a size that's about 1mm smaller all round than the outer dimensions of the frame. This is then secured to the rear of the frame with corner 'blobs' of *Isopon* to lock it in position. Run some more along the edges once the corners have set. The completed window is then ready for adding to the model.  
As both cement and *Isopon* castings shrink slightly as they cure, it is virtually impossible to allow exactly for any slight discrepancy of fit between components, and the modeller is required to make any final adjustments as necessary. The arch lintel may be opened up a little by sanding or filing if the window is too tight a fit. This is more preferable to making the frame any finer. If the fit is loose, gaps should be neatly filled with a mix of PVA glue and cement.

### VERSATILITY

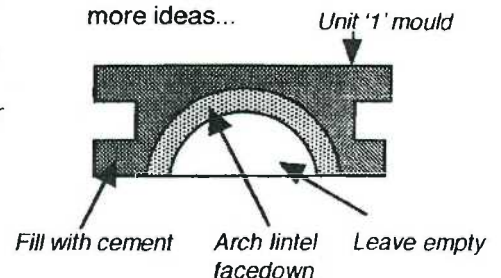
Use the arch/window either on its own, or as a vertical continuation of a normal window from Mould WM1, joining the two frames with *Isopon P38*.

Join two arches to form a circle in a wall for ventilation screens in loco and goods shed designs, an inner panel of wooden louvred strips for the ventilator.

Used upside down, the arch can act as a decorative turret arrangement above the grander entrances of larger buildings. Reverse the position of the arch casting in the unit '1' mould so that the 'legs' fit against the top side and fill the lower areas of the unit '1' mould. Turn the diagram below upside down.

Join two arches to form a flat circle as a raised wall around prize-winning platform flowerbeds.

Cut a middle section from arch to the width of a single window and use as a shallower curved lintel. The castings can be cut with a junior hacksaw (easier when still damp). No doubt you will have more ideas...



40118



# Instructions

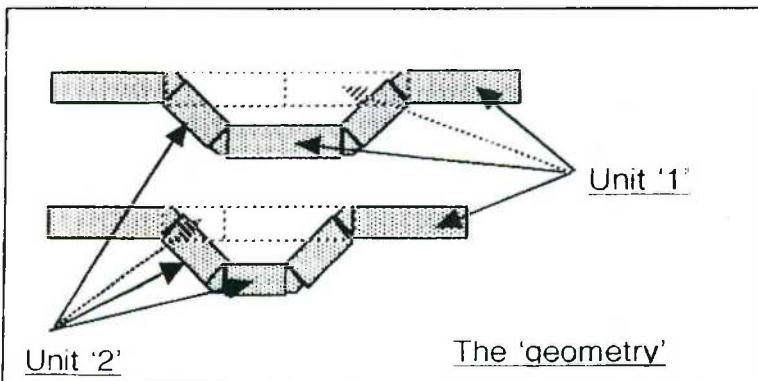
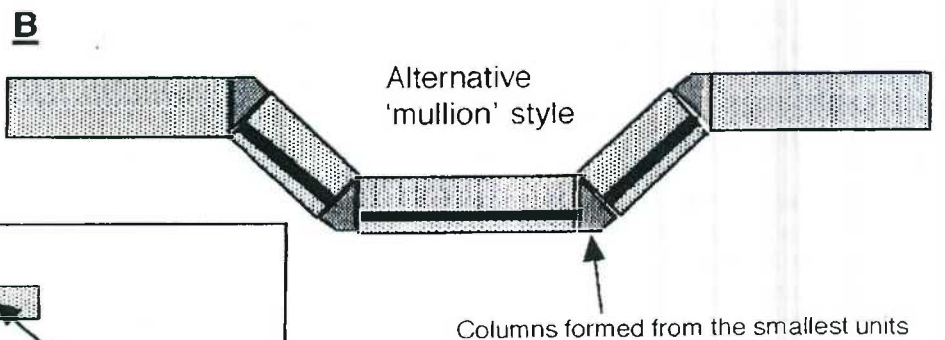
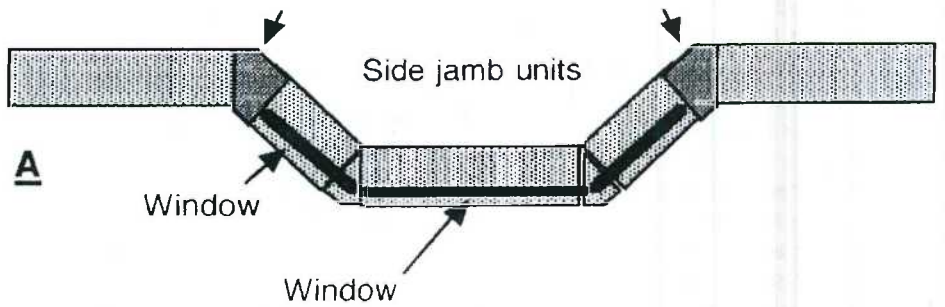
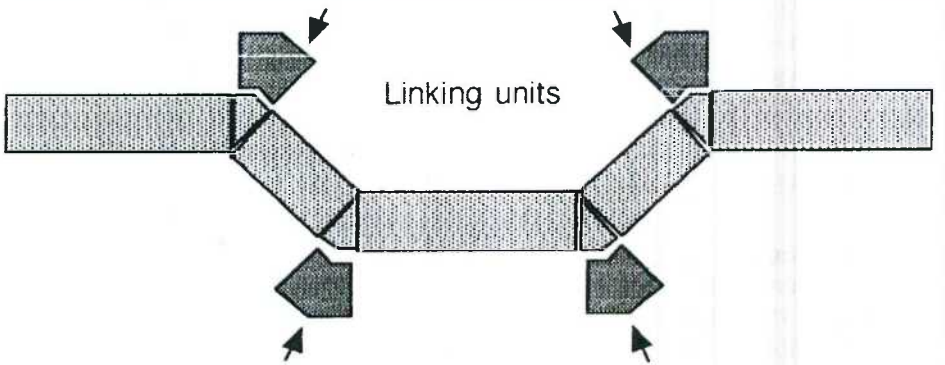
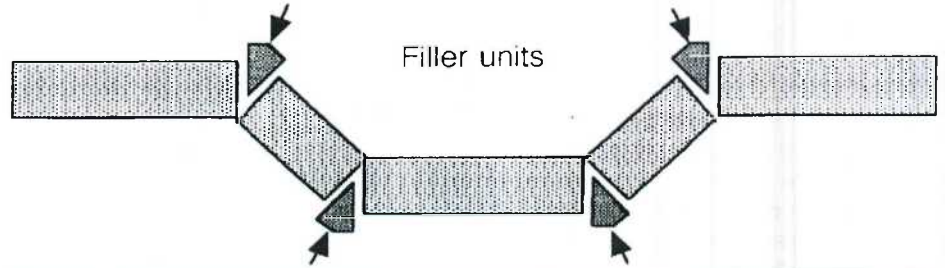
## MOULD SM6 Angled Corners

### CARE OF MOULDS...

The moulds are of tough, yet flexible, silicone rubber. They should be stored flat with no heavy weight placed upon them. If left in a distorted position, they may remain as such and become unusable. Never leave cured cement or *Isopon* in moulds. Remove castings as soon as they are set firm enough to be released, otherwise the slight shrinkage of the casting will draw in the sides of the mould. If left in this way, subsequent castings will be reduced slightly in size.

### Mould SM6

Mould SM6 provides units to create angled corners (for bay window walls, etc). The two largest units are used in the same way as a standard unit '8' - i.e., to link two large wall units '1' or '2', except in this case, an angled bend will be formed, either outwards, or inwards. The two smallest units fill the gaps above and below the linking units to complete the wall thickness. The remaining 2 units are used to form side jambs for windows, if these are required. The plan views opposite show how the three units typically assemble, with two suggested bay window methods, A and B. The diagram below shows how the bay's geometry complies with the basic modular format.







# MOULD JM1 Canopy Supports

40301

# Instructions

## CARE OF MOULDS...

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## Mould JM1

This produces 10 items portraying cast ironwork, for supporting roofing around station platform areas, above loading platforms of goods sheds, smaller porch roofs of houses, and so on.

Use *Isopon P38* (available at car accessory shops) as the casting material. Place the mould on a flat surface. Mix the paste with hardener as directed by the manufacturer, and press well into the mould with a flat piece of stiff card/plastic as a spreader. Force the paste in to the mould from all angles to ensure that no corners have been missed. The more forceful the paste is applied, the less chance there will be of air bubbles in the casting.

Air bubbles which do appear on any castings may be filled with *Isopon*.

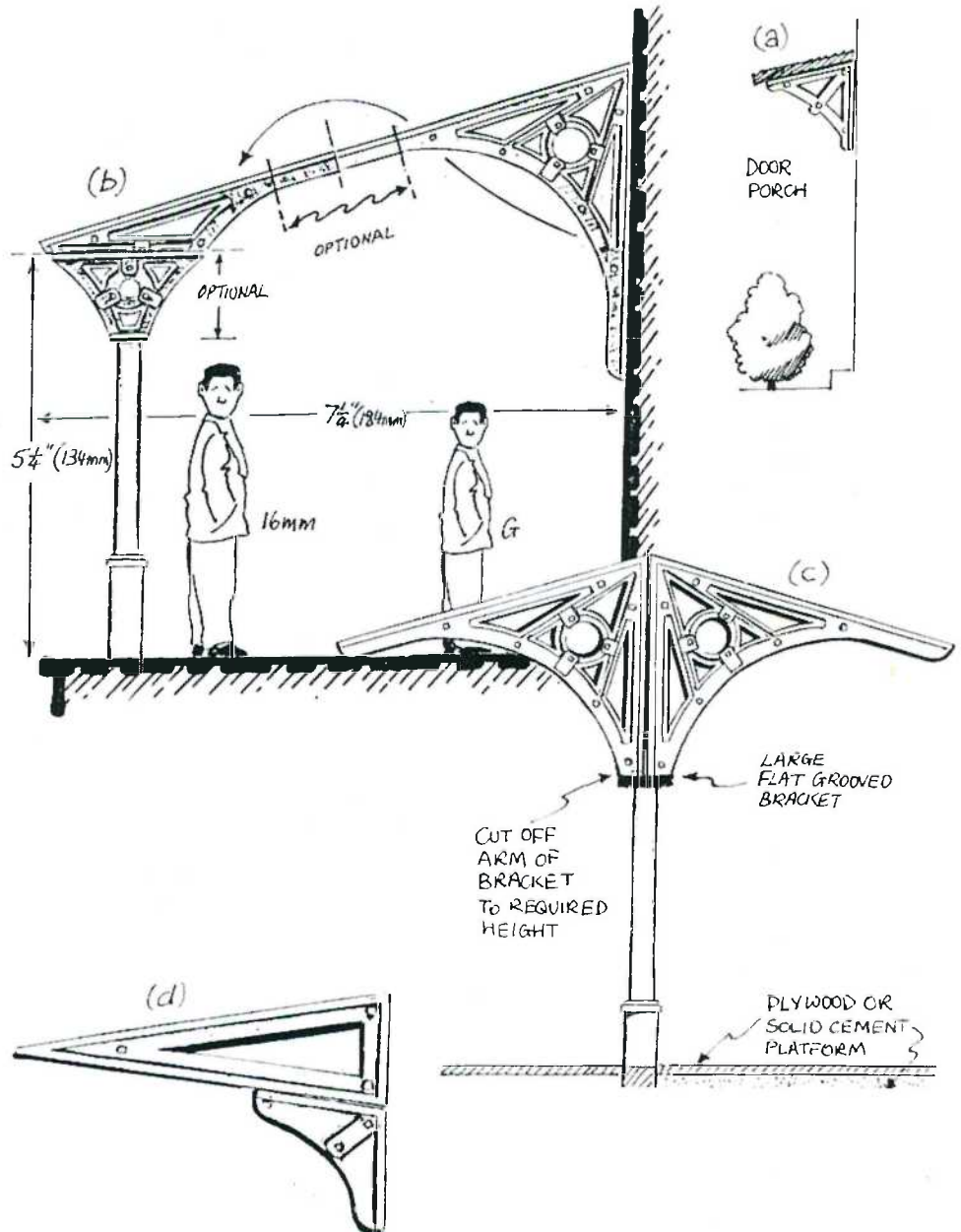
Before the paste starts to harden, lay a piece of (ideally) acetate over the mould, and press the paste flat with it using a rolling pin, thick dowel, side of bottle, etc, until the outlines of the castings can be seen through the acetate. Leave for about ten minutes. Strip off the acetate, carefully remove castings and clean up with a sharp craft knife.

## Assembly

The angled bracket units may be used in various ways.

- a) wall-fixed end brackets for large or small awnings (the patterns provided are symmetrical and can be used as left- or right-handed units).
- b) wall-fixed and column supported awnings over platform areas (see diagram below). The arms of the largest angle may be removed to give the required overall span.

- c) column supported awnings over island platforms. Join two large angles side by side with *Isopon* to give an apex design, and fix these to the tops of columns. Two grooved brackets are provided to aid fixing of components together, and can be used as wall anchorage units, or column-top units.
- d) the long plain angle bracket is more basic and 'industrial' in appearance. It may be used as it is, or preferably with the smaller solid plate angle unit to help support it.



## MOULD JM5 Platform Edging

40304



## Instructions

### CARE OF MOULDS...

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#### Mould JM5

Mould JM5 provides three variations of platform edging. See diagrams far right...

**A** Stone facing with random stone platform edging.

**B** Stone facing with dressed slab platform edging.

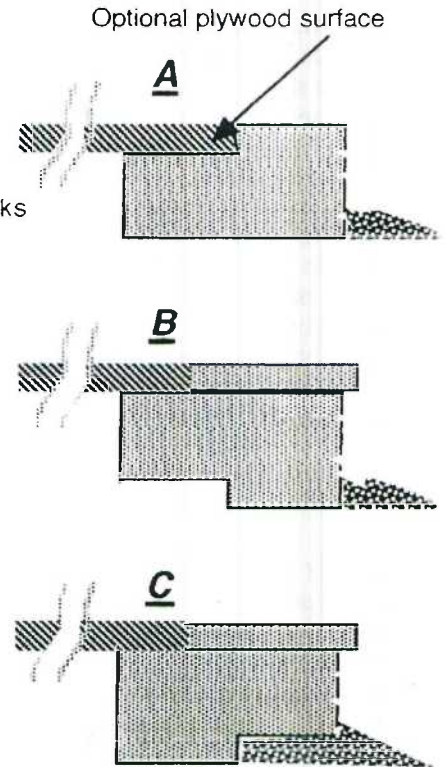
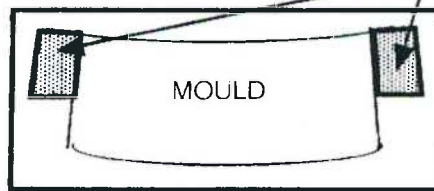
**C** Brick facing with dressed slab platform edging.

The separate dressed slab section may also be used as a height adjuster, placing it under the platform walling unit.

Where the dressed slab section is used as a top piece, construct in brickwork fashion, (i.e., staggered joints), for strength. See diagram below right.

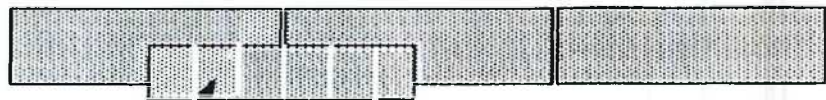
The mould may be slightly flexed within reason to give curved units. There is a limit to the extent that this can be done before the mould distorts too much. Normal wide radius curvature of 16mm/G' trackwork should be able to be accommodated. Platforms arranged around sharp curves would usually, in any case, cause clearance problems with rolling stock unless a wider 'berth' is allowed for. This might then appear unrealistic.

To make curved units, mark on a piece of chipboard, plywood, thick card, etc., the angled ends of the mould. Glue in position two small blocks of wood which will squeeze the mould into a curve (see diagram below).



When used as a brick-faced platform, there will be a gap at the front base of the unit. This is to be filled with your normal ballast when completing the trackwork.

Platform surfaces can either be solid cement, or you will see that a ledge is available for supporting a plywood platform surface. The ledge is already part of the random stone edging style, and by positioning the dressed slab section either flush with the walling unit, or slightly overhanging at the front, a ledge is also achieved for this purpose.



Arrange slab section across joins of platform walling units.





**MOULD JM2**  
**Door/Window Surrounds**

402 01

*Instructions*

**CARE OF MOULDS...**

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**Mould JM2**

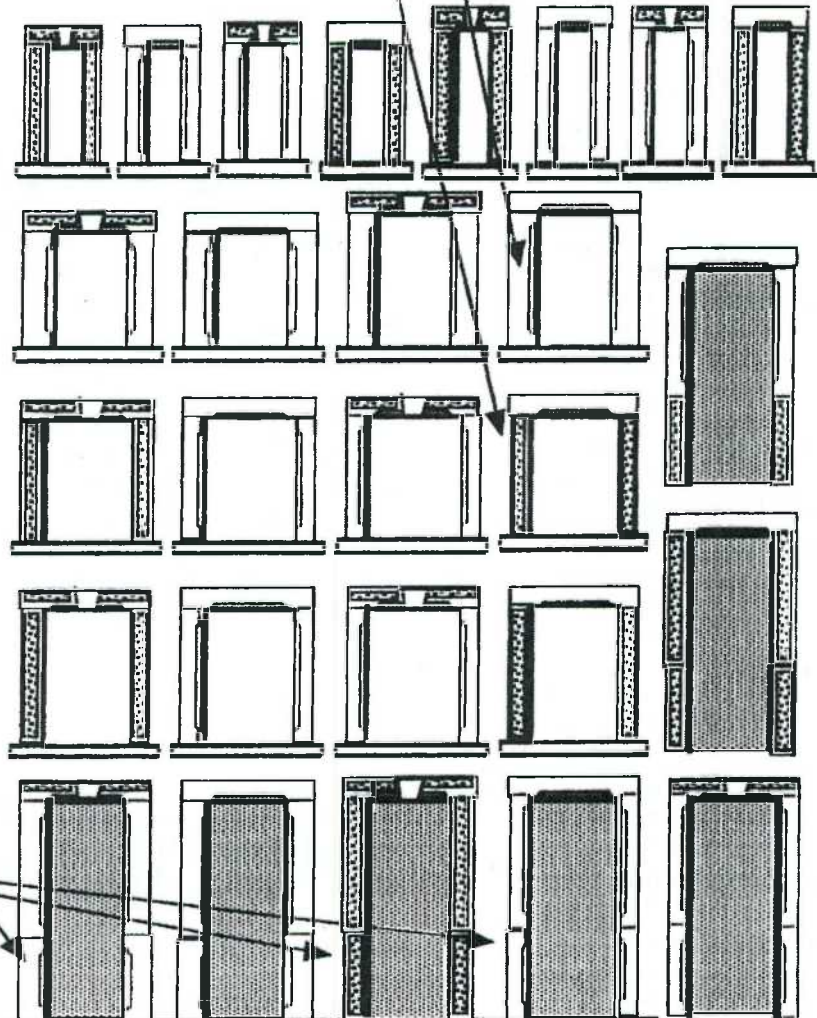
Mould JM2 provides many variations of door and window surround when units are 'matched or mixed'. The two lintels may be used either way round to give two different designs. The two sills must be used to make up the correct window opening height dictated by the JigStones modular format. The two small brackets can be used under the sills if required. The remaining 3 units from the mould are the side jambs, and are used as follows:

The shortest unit is placed at the lower side of doorways. Use it wide-face forward (chamfered design) for a normal door size, or narrow-face forward (reversible designs) for large doors, as shown here. The units above are the longest jambs from the mould for large doors, or the next size down for normal doors.

Windows use the two larger jambs, and may be used wide-face forward for normal window sizes (Moulds WM1; WM2), or narrow-face forward for wider windows.

Below are some varying designs, which can also be enhanced with the small brackets under sills, or under protruding door lintels

For the best effect, allow lintels and jambs to stand slightly forward of the walling. The bordered 'chiselled' decoration on units can sometimes be picked out in a different colour to add further variety to a building's appearance. The lintels can also be used without the jambs as another option.





## Windows WMI

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40205



### Care of moulds...

The moulds are of tough, yet flexible, silicone rubber. They should be stored flat with no heavy weight placed upon them. If left in a distorted position, they may remain as such and become unusable.

The window frame castings produced from this mould are suitable for both 16mm:1ft and 'G' scales.

Four frames are provided, each of which can also be reduced in height (see diagram) to give, in all, eight window variations. The numbers in the diagram represent the walling unit '8', e.g., a frame of height "3" is equivalent to the height of three walling unit '8's.

In all cases, a window sill casting must be used to make up the proper measurement, with the frame resting on the raised portion of the sill.

For wider window formations, join the frames together to the width required.

The castings can be cut with a sharp craft knife.

### Lintels...

The "Jig-Stone" walling unit '3' is normally used as a lintel (reversing the casting so that a plain side is seen), and unaltered is suitable for use over single doors and windows of two unit '8's wide. For a narrower lintel to suit a window of one unit '8' in width, take a casting of a No.8 walling component and place at one end of component '3's mould. Pour in the casting mix whilst holding a small piece of acetate against the unit '8' to prevent the cement from adhering to it. When set, separate the two castings to give a lintel of two unit '8's wide.

### Casting...

Use Isopton P38 (car bodywork filler available from Halfords, and car accessory shops).

Mix the Isopton with the hardener as directed, and press well into the mould with a thin strip of wood or stiff plastic. Do not use a sharp object or the mould may be damaged. With repeated pressure of the mix, air bubbles will be dispersed. Any small ones which remain may be filled later with Isopton. Smooth off the top of the

mix with a straight edge, drawing it slowly across the mould.

Leave to set for about 10 minutes and then carefully remove the casting. Trim out the window pane areas with a craft knife. If the casting tends to bow, place a weight on it until the Isopton is properly cured.

The window frame can now be used to act as an integral part of a building, but is positioned without glueing whilst the walling components are built up around it. Remove once the walling units have set, paint, glaze and glue back in position.

### Painting and glazing...

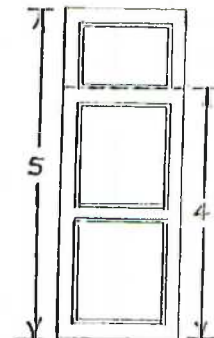
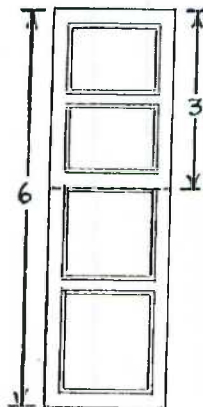
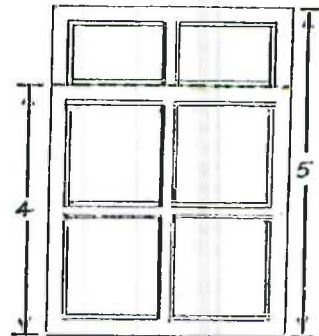
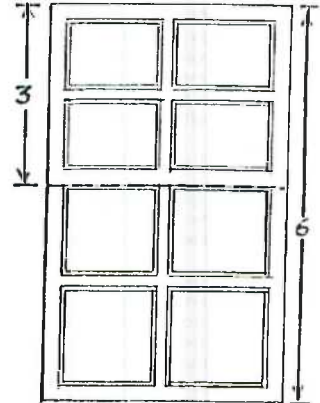
Paint the frame with an oil-based paint before glazing.

From the acetate provided, or a similar material, cut a panel 1 to 2mm smaller than the frame. Secure the acetate to the back of the frame by running a 'line' of Isopton over the edge of the panel and onto the casting, thus sealing the acetate to the frame. Leave to set.

Glue the sill in position, packing waterproof PVA glue behind it, and glue the frame onto the rear, raised section. The frame should sit about 3mm into the wall for the best effect. When set, any gaps around the unit can be filled with some bonding mix.

It's best to leave any roofing off until all windows/doors have been fitted, as they are more easily positioned by holding at both sides in order to achieve the desired position within the wall.

For wider lintels, join two units as appropriate to give the desired width.





## Mould JMC2

### Components to adapt Workmens' Coach to Box Van or Guard's Van

The components cast from the enclosed mould provide the parts required to adapt the Workmen's Coach Body to either a Box Van, or Semi-Open Guard's Van. This is designed to be attached to the chassis of a 16mm scale tipper wagon or bolster wagon produced by Binnie Engineering.

Some of the parts are to be cast twice or more to enable the construction of one complete kit of parts. For a Box Van these are the side wall (2), sliding door (2), door channel strip (4), end wall ventilator grill (2), and from Mould JMC1, floor, end wall (2) and roof.

For a Guard's Van, side wall (2), gate (2), and from Mould JMC1, floor, end wall (2), seat, seat support (2) and roof.

Isopon P38 is used both for castings and joining cast components together. The supplied sheet of acetate is used to give smooth backings to the castings, by laying over the filled mould and rolling flat. Remove when the Isopon has set. Masking tape may be useful for holding castings in place whilst gluing together with Isopon.

#### BOX VAN:

Cast the components required, and break off and discard the four protruding hinge details on the inside of the door opening. The door openings in the side walls of the Box Van may be either at the same end of the van, or diagonally opposite, i.e., the casting is symmetrical and can be used upside down to give left or right-handed doorways.

Once you have decided which way up to use the side walls, a bevelled edge at the top will need to be created to accommodate the angled outer edges of the roof. This angle can be made with either a sharp craft knife or sandpaper. Holding the side wall against an end wall will show what is required to be removed, or check a casting from the Workmen's Coach model for reference. Join the four walls together. The end walls are sandwiched (butt-joined) between the side walls with corners flush. Hold this box shape together with an elastic band whilst it sets, making sure all is square.

Fix the body onto the floor section (the floor planking runs across the vehicle from side to side), and leave to set firm.

The two door castings should not be 'over-thick' if they are to slide efficiently in the channels. Place the door between the upper and lower raised strips on the van to check the correct thickness. The thinner strip at the top and bottom of the door should be slightly lower than the retaining strips on the van. Sand the doors thinner on their reverse side if necessary.

Place the door in position and complete the sliding door channel (which permanently retains the door) by fixing the thin strip over the top. Be very careful when handling this strip as it is quite fragile until fixed in position. Do not overuse Isopon in fixing it, which may foul the channelway. Make sure the door slides easily. Hold the top channel strips in place with masking tape until set. Repeat with the door for the other side of the van.

Finally add the roof, heating the section in hot water, bending to the correct curve, and immediately cooling in cold water. Fix the Box Van body to the chassis in a similar manner to the Workmen's Coach.

#### GUARD'S VAN:

This is a semi-open version, closed at one end, open at the other.

Cast two end walls and a floor section (Mould JMC1). Then cast two side walls (Mould JMC2) as follows:

To create the working hinges of the side gates, a strip of acetate is embedded into the van side casting so that it extends well into two protruding hinge details. The acetate strip must be narrow enough to allow Isopon to pack around it, and long enough to extend across into the side wall by about 10mm or so. A small 90° fold at each end of the acetate, giving a microscopic flange will help to anchor it in position. The idea is that, when totally embedded in the casting and set, the hinge details may be carefully snapped at the door frame, but will still be retained in position by the embedded acetate strip. Careful filing away at the back of the 'hinge' line will allow the gate to open inwards with the acetate flexing to allow this movement, though the 'spring' of the acetate will normally keep the gate closed.

Only two hinges are required for each side - determine which pair are required for each casting. The gate consists of three planks with a recess cut away to accept the two hinges.

Make up the two side walls and gates first. Fix the gates to the acetate-embedded hinges, resting the wall on a flat surface whilst they set firm. Snap the hinge carefully and file the back as instructed above.

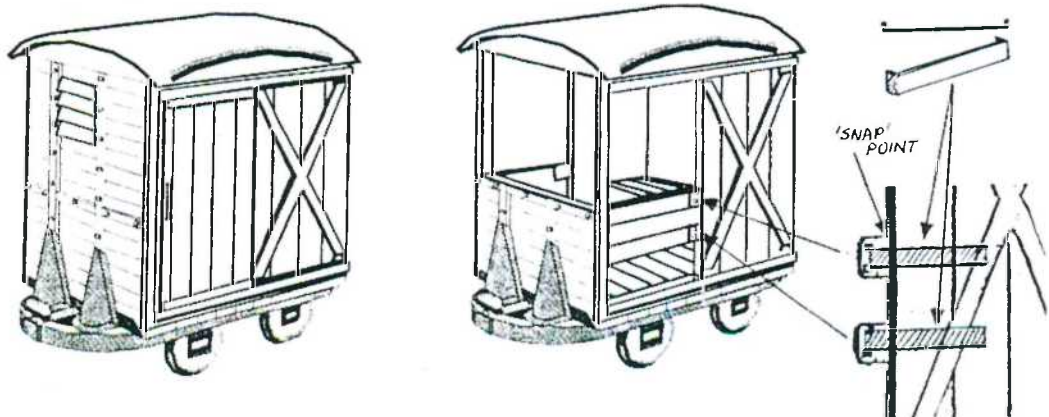
Take one end wall and cut away the top section completely, leaving just the lower panel.

The other end wall is unaltered, and will probably carry a window rather than a ventilator.

Fix the four walls together as before, with the open end adjacent to the gates, and insert a seat in the more enclosed section of the vehicle.

Add the roof, and fix to a chassis.

Small thin square and oblong panels are provided for vehicle number boards, and may be applied to both the Workmen's Coach, Box Van or Guard's Van vehicles wherever they might be required.







## INSTRUCTIONS:

### DPM1 - Drainpipe Fittings 40213

The components from this mould are used as junctions between pipework. For downpipes, plastic drinking straws are suggested, or brass tubing.

Fill the mould using Isopon P38 resin-based filler, pressing well into the mould. Some of the components are in halves and must be joined together - join with Isopon.

To attach junctions to downpipes, cut the pipe to the required length and plug ends which have to be joined, with Isopon. When set join the junction to the plug, again with Isopon.

### CPM1 - Chimneypots 40212

The mould provides one half of a chimneypot, two halves being required to complete the components.

Use Isopon P38 resin-based filler as a casting medium, and join the halves together with Isopon.

A complete curved cawling and 'box' cawling (two halves required) are also included to fix to the top of chimneys if required.

To fix the chimneypots in position, mix sand with waterproof PVA adhesive into a thick cream, and use as a mortar, shaping this smoothly around the base of the pot.

### CM1 & CM2 - Wall Coping 40128/40129

Cast the wall coping units in quick-setting cement. Different units are provided for straight runs and 90° corners. Glue the dry castings onto the tops of walling blocks.

### SM7 - Drystone Walling 40119

Cast the walling sections in quick-setting cement. The two halves may be joined back to back for full thickness, or used at half thickness in situations where the reverse side will not be seen - along the rear of station platforms, etc.

### JM3 - 16mm Scale Bricks 40302

20 scale bricks can be cast each time. Cast the bricks in quick-setting cement. Mixing a very small amount of red cement colouration pigment with the cement will give red bricks. When dry, glue the castings together with waterproof PVA adhesive. The bricks are used for adding detail to the tops of chimney

stacks, etc. Authentic piles of bricks can also be created to add interest to building scenes, or use them as cargo in railway wagons.

### WM3 - Chapel Windows 40207

The mould provides two sizes of Gothic window frame, which should be cast in Isopon P38 resin-based filler.

Use the height of windows as provided, or reduce the height by cutting to measurement required, and rejoining the lower sill on afterwards.

Once in position in a wall, fill in the area above the window with offcuts of cement blocks from the walling system.

Stained glass windows may be created from small sections of coloured cellophane (from sweet wrappers, etc). Use a spray adhesive to glue them to acetate windows. The completed window is then trimmed to shape and glued behind the frame.

## Doors DM2

Modellbau-Werkstatt Bertram Heyn  
 Königsallee 32 D-37081 Göttingen  
 Tel. 0551/631596 Fax 0551/631307  
 www.modell-werkstatt.de

40203  
 40216



### Care of moulds...

The moulds are of tough, yet flexible, silicone rubber. They should be stored flat with no heavy weight placed upon them. If left in a distorted position, they may remain as such and become unusable.

The two door castings produced from this mould are suitable for 16mm:1ft scale. The height equals 3 walling units '1' high, and the width equals that of a walling unit '2'.

### Casting...

Use Isopon P38 (car bodywork filler available from Halfords, and car accessory shops).

Mix the Isopon with the hardener as directed, and press well into the mould with a thin strip of wood or stiff plastic. Do not use a sharp object or the mould may be damaged. With repeated pressure of the mix, air bubbles will be dispersed. Any small ones which remain may be filled later with Isopon. Smooth off the top of the mix with a straight edge, drawing it slowly across the mould.

Leave to set for about 10 minutes and then carefully remove the casting. Trim out the window pane area/s with a craft knife. If the casting tends to bow, place a weight on it until the Isopon is properly cured.

The door can now be used to act as an integral part of a building, but is positioned without glueing whilst the walling components are built up around it. Remove once the walling units have set, paint, glaze and glue back in position.

### Design options...

The panelled door can be cast and used unaltered, or by carefully cutting away horizontal and vertical window bars from the casting, adaptation to a number of alternative patterns is possible, to add variety to your models.

The diagram illustrates the range, glazing is shown cross-hatched, otherwise a window area is made solid. Use a sharp craft knife to cut away unwanted bars, and sand off any remaining detail that it leaves.

To fill a panel solid instead of glazing it, produce a thin panel of Isopon, layering it onto a completely flat piece of acetate. Remove when cured and trim to fit behind the open area/s to be filled, overlapping by about 2mm. The flat shiny surface should, of course, be seen. Make sure the reverse of the door casting is flat (sand if necessary), and fix the panel with Isopon.

The doorknob from the Cottage style door is used, as a small casting, for the panelled door, and can be positioned to the left or right, with Isopon.

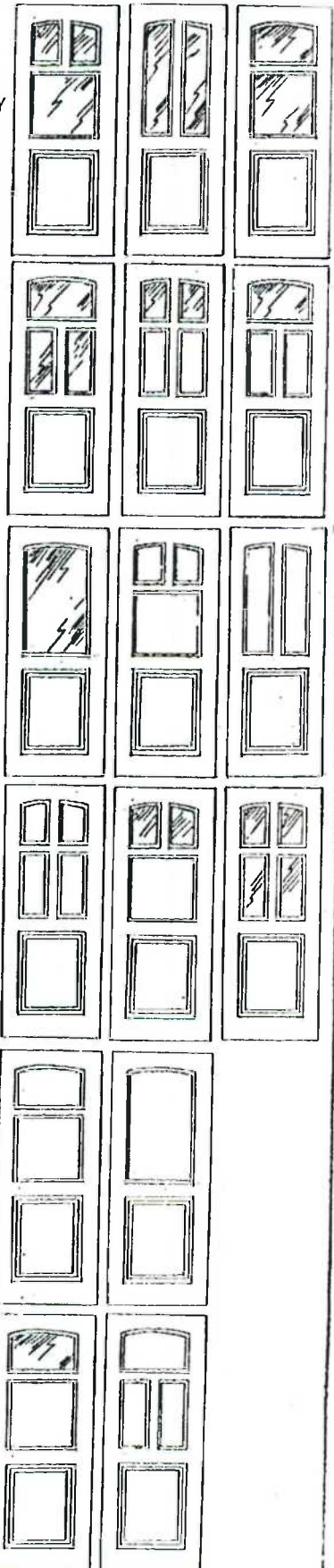
### Painting and glazing...

Paint the door with an oil-based paint before glazing.

From the acetate provided, or a similar material, cut a panel 1 to 2mm smaller than the door, excluding the lower half. Secure the acetate to the back of the door by running a 'line' of Isopon over the edge of the acetate and onto the casting, thus sealing the acetate in place. Leave to set. Glue the door in position with waterproof PVA glue, and fill any surrounding gaps with the normal bonding mix.

### Note:

Shrinkage of Isopon, as it cures, is unavoidable, and may reduce height of a door casting by 1 or more millimetres. Any gap that occurs between a door and wall should be left below the door. When a cement 'floor' is added to the interior of the building, allow the mix to pass under the door, and fashion as a step. A build up of about 1/2" of cement behind the door will help to bond the two walls surrounding the door together.







## MOULD WM2 Sash Windows

40206

## Instructions

### CARE OF MOULDS...

The moulds are of tough, yet flexible, silicone rubber. They should be stored flat with no heavy weight placed upon them. If left in a distorted position, they may remain as such and become unusable. Never leave cured *Isopon* in moulds. Remove castings as soon as they are set firm enough to be released, otherwise the slight shrinkage of the casting will draw in the sides of the mould. If left in this way, subsequent castings will be reduced slightly in size.

### Mould WM2

The mould produces the components for two sash window frames, plus two sills and two optional 'cosmetic' brick lintels.

The windows are to the heights of six and five walling unit '8's. In both cases the sill must be used under the base of the frame to give the total height.

The width of both frames are two unit '8's wide.

Each window size requires three components which are sandwiched together. From back to front these comprise (a) a window frame with no cross bars in the top half, (b) a small window frame to suit the missing frame of (a), and (c) a three-sided front frame representing the side and top sliding channels.

See the diagram opposite.

### Casting

Place the mould on a flat surface. *Isopon P38* (a resin-based paste available from auto accessory shops, DIY stores etc) is used as the casting medium.

It has the advantage of curing within about ten minutes.

Mix the paste and hardener as directed by the manufacturer, and press well into the mould with a stout piece of card.

Repeatedly tamp in the paste to

dispel air pockets.

The more vigorous this is done, the less need there will be to fill any odd air bubbles once the casting is removed.

Smooth off the top of the paste by drawing a flat edge across very slowly.

An alternative would be to place a sheet of acetate onto the top of the mould and roll across it something like a milk bottle/rolling pin etc.

Leave to cure for about ten minutes and then carefully release the castings.

Cut away the flash as necessary, and clean up the frame edges with a sharp craft knife.

The frame parts should be painted before glazing, and an oil-based paint is recommended. A primer can be used first to act as a key for the top coat.

Glaze the lower half of component (a) by cutting a panel of acetate to a size that's about 1mm smaller all round than the outer dimensions of the frame. This is then secured to the rear of the frame with corner 'blobs' of *Isopon* to lock it in position. Run some more along the edges once the corners have set.

Cut glazing for the second frame (b) in the same way, and sandwich between the two frames. The front frame is secured to the rear with more small amounts of *Isopon*.

Make sure that you haven't painted any parts which need to be fused together with the paste.

The top window can be positioned either closed or slid open.

Lastly position the outer side channel frame, with the missing end at the base. There is a projection on the lower rear window to maintain the spacing of the outer frame.

The completed window is then ready for adding to the model, and must be secured to the sill casting to give the proper height.

*Isopon* will tend to shrink slightly as it cures, and a perfect fit may only be achieved by building walling units around the frame. Gaps should be filled with a mix of PVA glue and cement.

The two brick lintels can be used for ornamentation if preferred. If using them, make sure that you have assembled the walling unit '3' (lintel) with the stone/brick surface design outermost.

### NOTE:

If windows are modelled in an open position, bear in mind the entry of rainwater to the interior of a model. This should not be a problem if the model is sealed inside where the water may run.

