WARGAMES illustrated

"How To..."

A GUIDE TO MODELLING (3)

INTRODUCTION

This 'How To... A Guide to Modelling (3)' is a compilation of articles published over several years in *Wargames Illustrated* magazine. It is the third in an on-going series which began with the publication of 'How To... A Guide to Modelling (1) back in 2018. Our original plan was to make the guides available to purchase on an annual basis, but instead we have decided to give them away for free with copies of *Wargames Illustrated* magazine. 'How To... Part Two' came bagged with the 390 issue of the magazine and here you have Part Three, gratis.

As mentioned all of these articles have been published in *Wargames Illustrated* previously and are also available to view via the *Wargames Illustrated* Vault. You will find they are gloriously eclectic, covering subjects are various as craters, African Huts and ruined 15mm gun nests.

Most of the content for 'How To.. (3)' has been supplied by *Wi*'s model-maker par excellence Paul Davies and Paul's articles still feature in *Wargames Illustrated* on a regular basis.

Look out for 'How To... A Guide to Modelling (4)' and (5) coming with future issues of *Wargames Illustrated*, with PDF versions being made available to view online or download by *Wargames Illustrated* Prime Members. In the meantime I hope you enjoy this issue.

Dan Faulconbridge

Wargames Illustrated Owner and Editor.

CREDITS

Produced in the UK and USA by Wargames Illustrated Limited.

Contributors: Paul Davies, Nick Buxey and Dave Andrews.

This publication features metal and plastic figures from a wide variety of different figure manufacturers.

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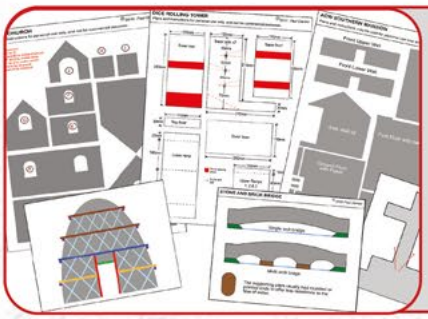


IN ORDER TO AID WITH THE CONSTRUCTION OF SOME OF THE MODELS DESCRIBED IN THIS BOOK, WE HAVE PROVIDED 'PLANS', WHICH ARE AVAILABLE TO DOWNLOAD FROM THE WARGAMES ILLUSTRATED WEBSITE.

WWW.WARGAMESILLUSTRATED.NET

HOW TO... BUILD A MEDIEVAL CHURCH

My latest modelling project has been the building of a 28mm scale English medieval church. I wanted something generic that would be usable from the middle ages right up to to the present day. I thought I would share the process with you in the form of this 'How To'.

My church includes a nave, a tower, a chancel with a rounded (apsidal) end and an additional area (an aisle) on the north face of the church.

When planning 'How to…' articles, I try to avoid the need for special tools, but when cutting curves, a circle cutter is essential.

THE PLANS

Scale the plans so the doorway is large enough for a based figure to pass through. Window positions and shapes are only approximate.

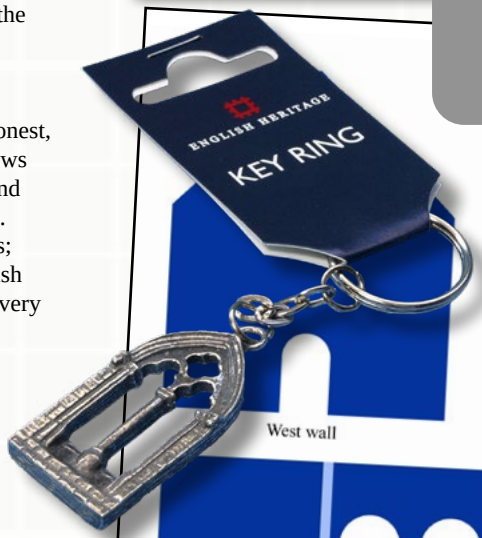
All the plans to re-create this model are available for download from the *Wargames Illustrated* website.

DON'T FORGET YOU CAN DOWNLOAD ALL THE PLANS FROM THE 'WARGAMES illustrated' WEBSITE.

WINDOWS

I do not have the time, or to be honest, the skill to make medieval windows unless they are extremely early and comprise a simple arched cut-out. For this model I used two sources; Antenociti's Workshop and English Heritage! Antenociti make some very nice windows, albeit often with a 'fantasy' influence.

The second source of windows for this project were some English Heritage keyrings. Just snip off the chain and that's it!



CONSTRUCTING THE CHANCEL

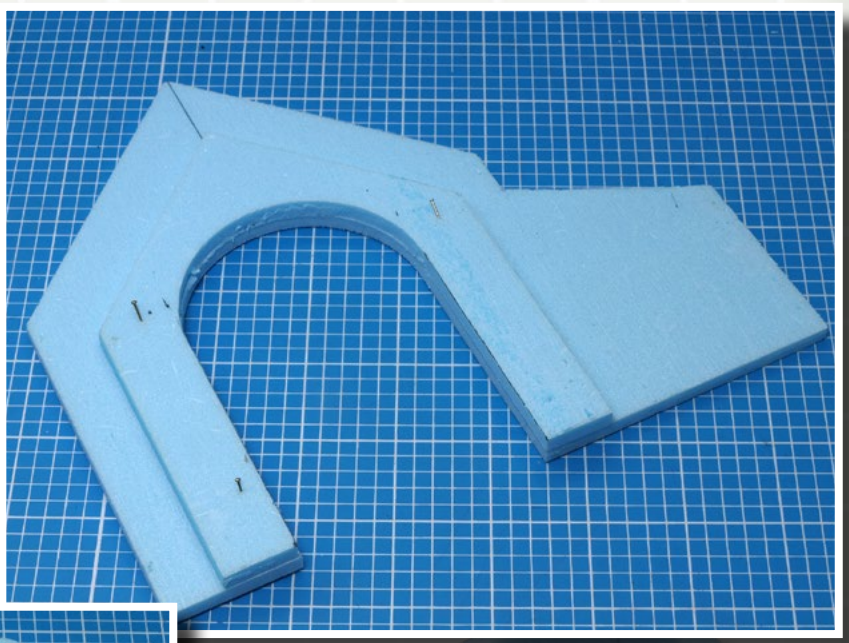
Using 5mm styrofoam cut out the main end wall using a circle cutter to make the arch. You also need to cut out and glue the wall that will support the one end of the chancel roof.

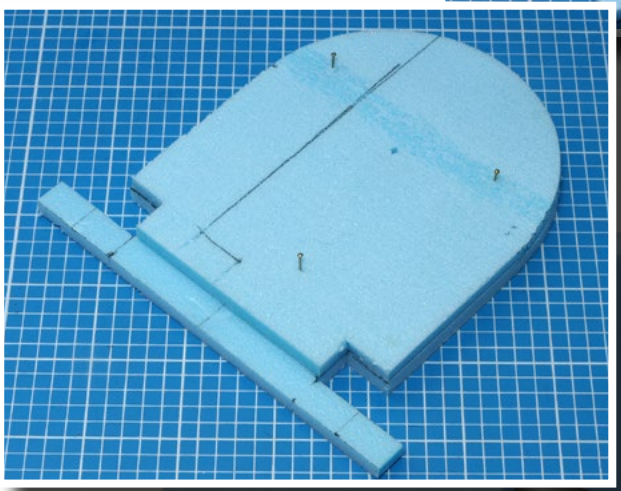
Cut out the lower chancel floor with the notch and add the floor.

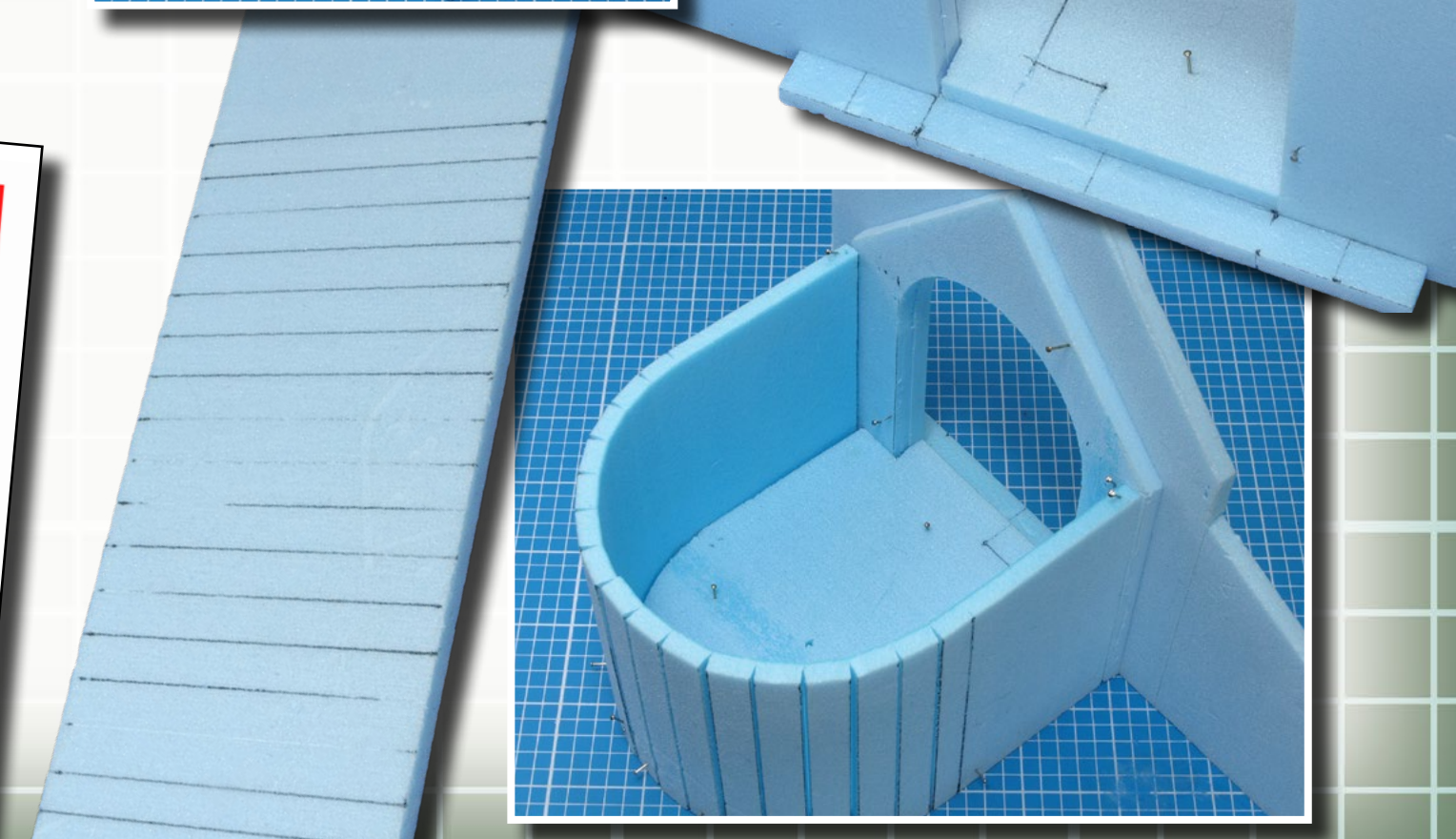
Glue it in position so that it fits into the ‘notches’.

For the curved wall I laid a length of string around the chancel floor. Marked the curved section, and transferred the relevant dimensions onto a length of styrofoam of the appropriate wall height. In the curved section, I scored a series of vertical lines.

Ease this section into a curve, and then pin and glue into position.





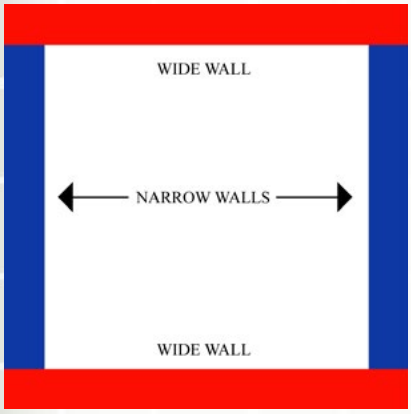


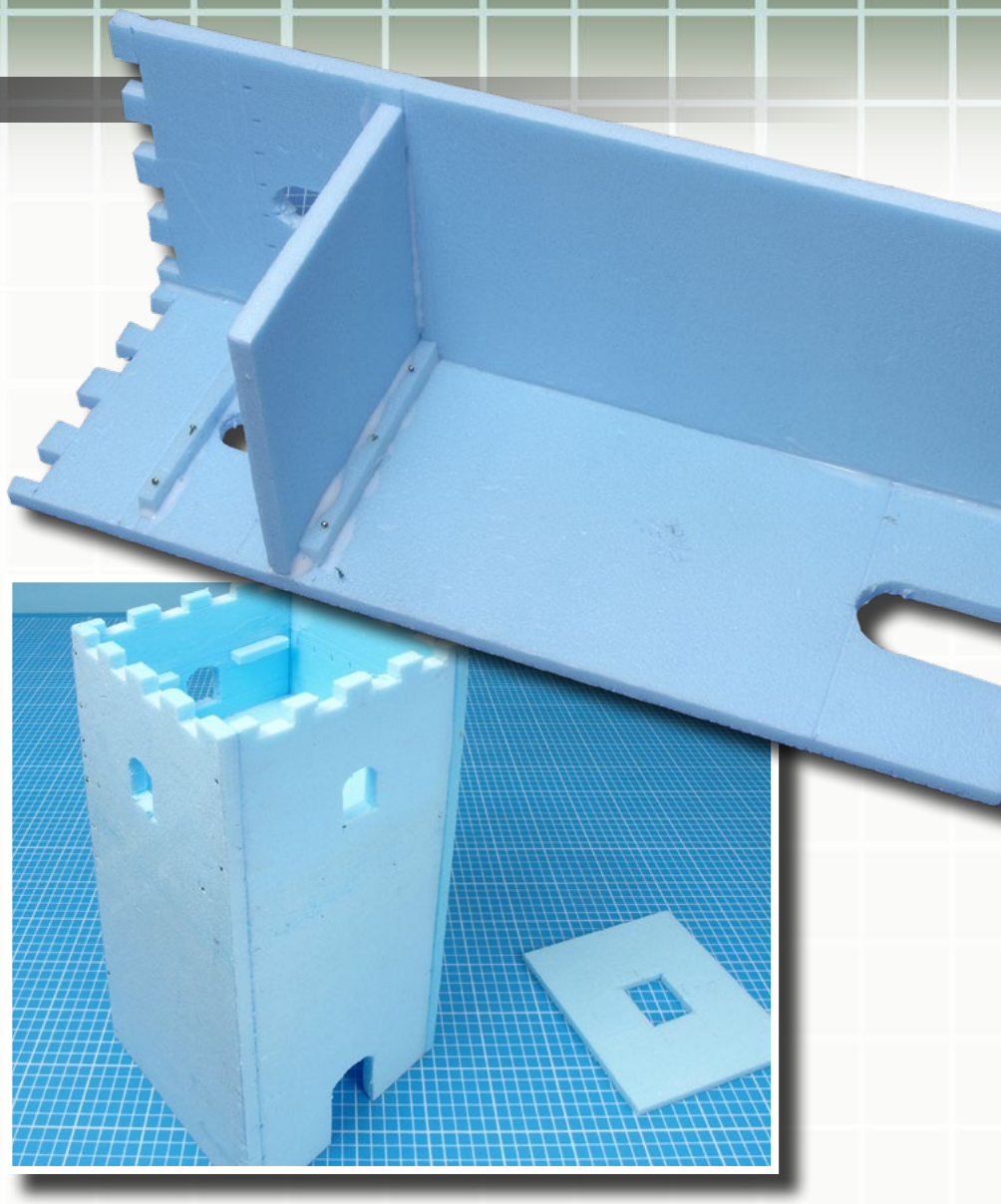
CONSTRUCTING THE TOWER

The tower comprises two narrow and two wide walls. The wide walls enclose the narrow ones.

Cut out one narrow and one wide side. Glue floor supports in position. Then glue the two walls together. I only wanted two floors in my tower, so I glued the lower one in position because it adds some strength to the structure. The upper floor is removable to allow access to the lower floors.

Glue the other walls together. Take dimensions from the inner edges of the tower and make your top floor. Cut a space for a trapdoor which makes it easier to grip and remove the upper floor. This floor is trimmed to size once the walls have been coated with air-drying clay.





THE NORTHERN AISLE, SOUTH WALL & PORCH

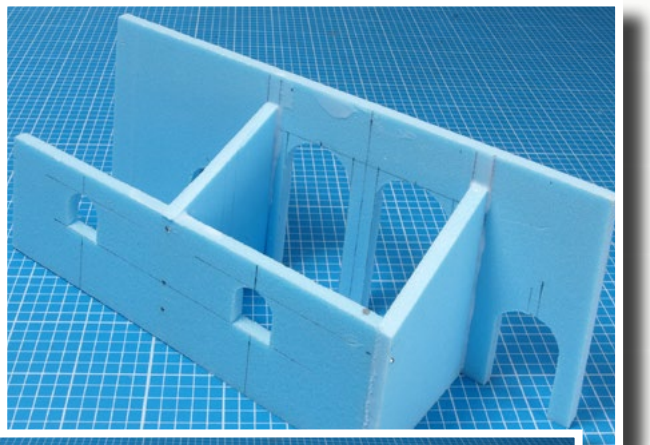
The northern aisle
This part of the church comprises four pieces that are pinned and glued together. The eastern end nave wall includes the eastern wall of the aisle.

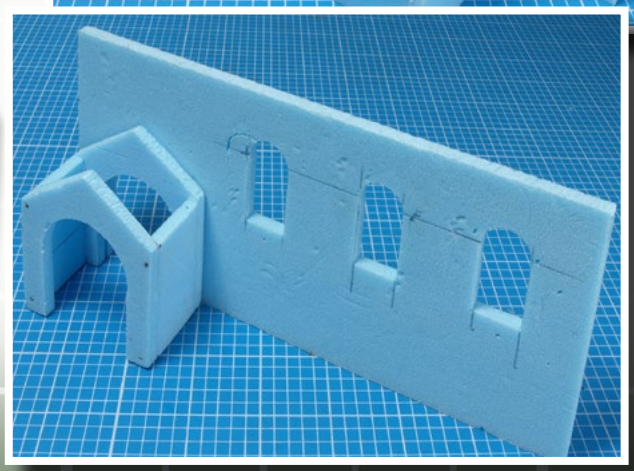
The south wall and porch
Cut out the wall, and the window and door apertures.

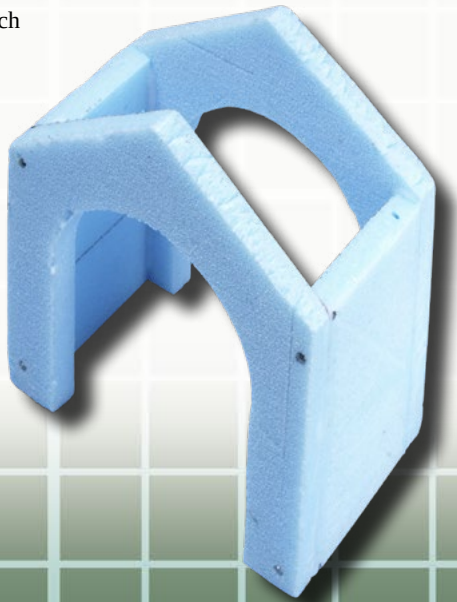
The porch
The porch is a simple construction. The arch aperture matches the aperture in the main nave wall.

Cut out the four sides and glue them together.

Glue the porch in position, aligning the porch rear door aperture with the one in the nave south wall.







ASSEMBLING THE WALLS, TOWER & ADDING THE WINDOWS

Glue together the various sub-structures. Brush PVA glue onto the wall and add pieces of flattened clay. Use a 50/50 PVA and water mix to blend each piece of clay with the next.

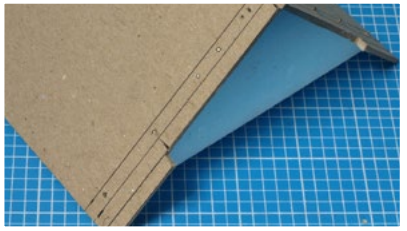
Adding the windows
Place the windows over the apertures. Trace round them, trim the aperture to size and then PVA glue them into position.

CREATING THE STONEWORK

Draw some horizontal guidelines, and then engrave the stonework. I use a small mini engraving tool, but you can use an old scalpel blade, even a nail.

THE ROOFS

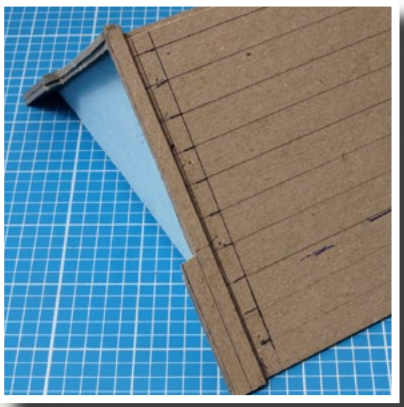
Main roof
Taking measurements from the building, cut a piece of thick card. Score the centreline and fold the card. The main roof end nearest to the tower has a recess cut out of it, as shown in the photograph below. Cut two pieces of styrofoam with the same triangular shape as the end walls. Pin and glue these to the underside of the roof.

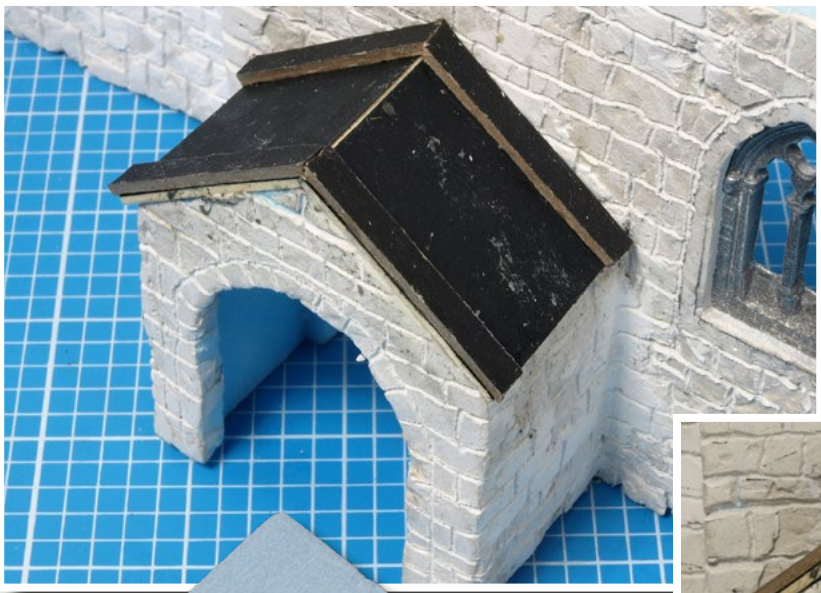


The photograph to the right shows how the nave roof and tower fit together.

Next is to rule guidelines for positioning the tiles.

Glue strips of card to each end of the roof. At the tower end you need to incorporate a cut-out.

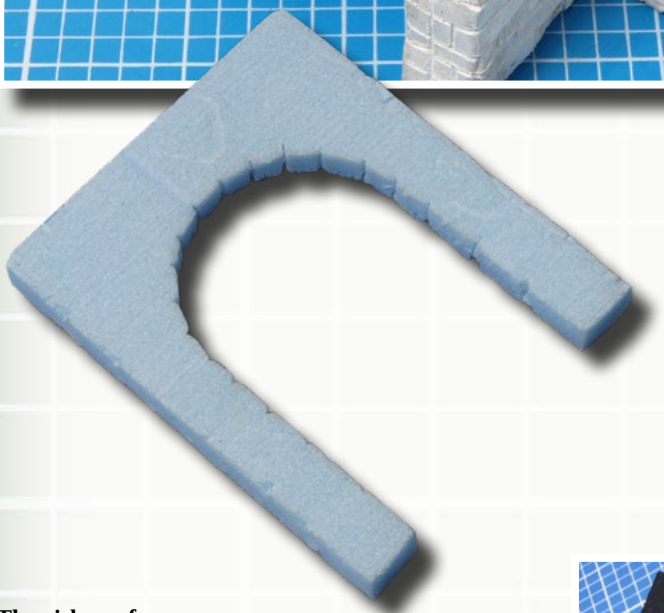




Porch roof
I didn't want this removable, so cut a piece of card to fit, lightly scored the ridge line, then folded it and glued it into position, followed by the raised sections at each end.

At this point I decided that the doorway of the porch was too large, so I made an inner section to fit inside.

Stonework was engraved, and the inner doorway glued into position.



The aisle roof
Another very simple roof. Just a piece of card cut to size with the end pieces added. Shown here on the right.

Since there is no ridge, this roof can easily slide off, but if you don't want a removable roof, just glue it in position, otherwise glue some scrap card underneath to stop the roof sliding.

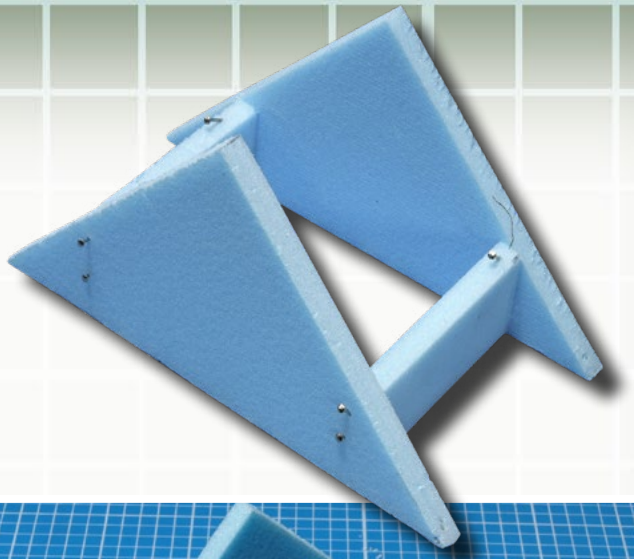
The chancel roof

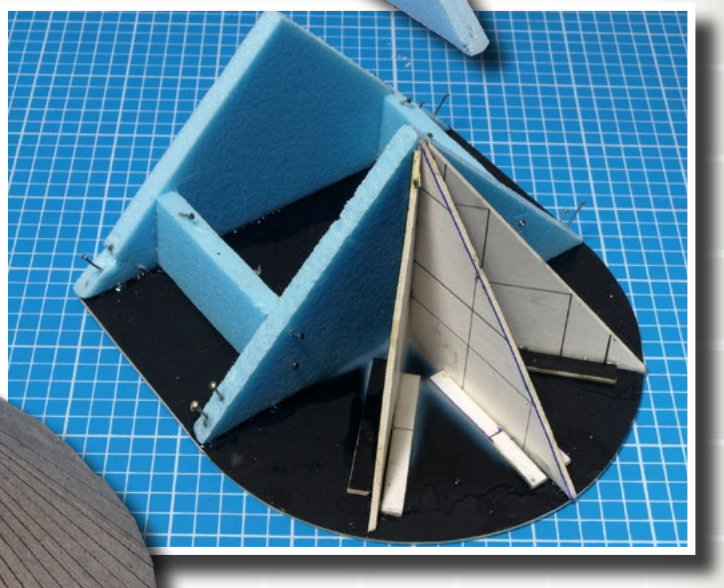
Using the gable end section of the wall as my template, I cut out two triangles of styrofoam plus spacing pieces.

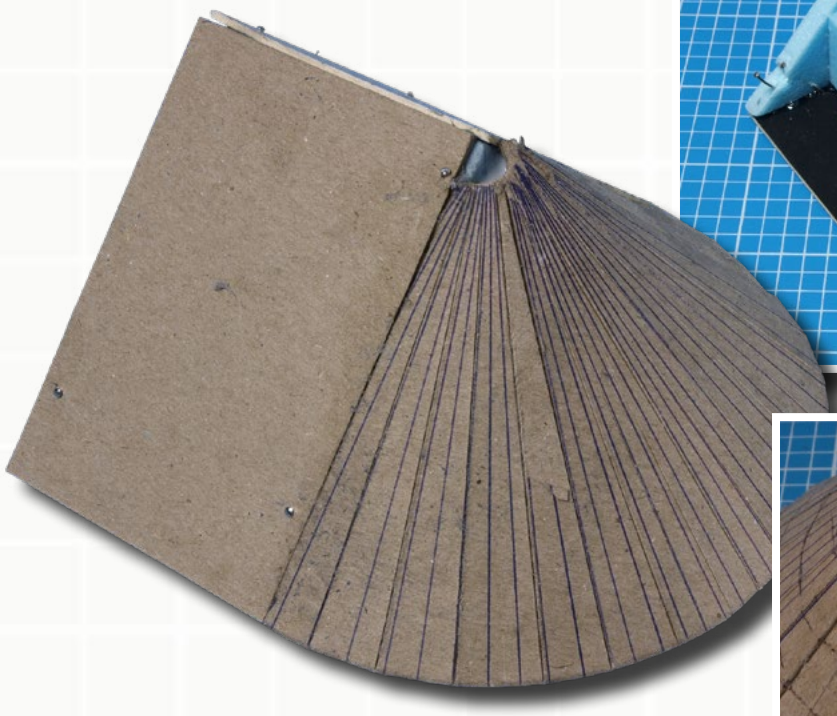
Next I cut a piece of card the same shape as the chancel floor, and glued the previous assembly to it. Taking measurements from the model, card triangular supports were cut out and glued into position. Note that I've added some pieces of card to support the triangular pieces.

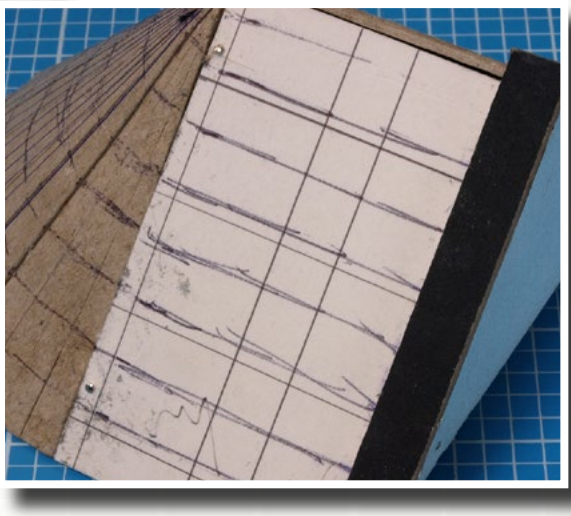
Cut two pieces of card; pin and glue them into position. Cut a circle of card with its radius the same as the distance from the peak of the triangle to the edge of the roof. The diagonals are drawn in, lightly scored and the card curved. Trim it until it fits over the supports and meets the edges of the straight roofs on both sides. Pin and glue in position. Cut a notch at the apex otherwise the card thickness will prevent the cone curving neatly.

Add the raised section and draw guidelines for positioning the tiles.









TILING THE ROOFS

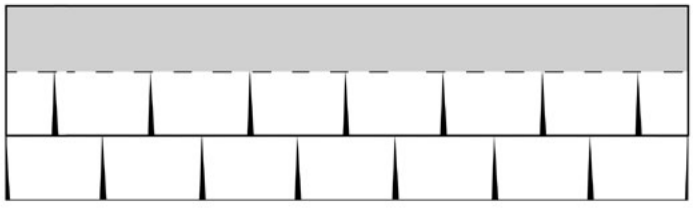
The nave, porch and aisle

I use thin black card for my tiles to reduce painting. For this model I drew a series of parallel lines 10mm apart, and vertical lines 15mm apart. Divide the sheet into 20mm deep strips. The 10mm line provided the guide for the tile overlap. Make two slightly angled cuts either side of each vertical that meet at the 10mm horizontal line. The grey area shows where the subsequent row overlaps the previous one.

Cut the next strip to length. Allow for the 'gaps' being staggered. Glue in place, carefully overlapping the previous strip. Repeat until you've tiled up to the ridge. Repeat the process for the opposite side of the roof.

Cut a strip of card for the ridgeline. Score it along the centre line, and then cut out individual tiles, folding each one to fit over the ridge and the uppermost tile on both sides and then glue them in place.

The next row of tiles is offset by half a tile width.



Cut the first strip to length and glue it in place.

Aisle roof
This is tiled using the same technique, except that you don't need a ridge line of tiles.

Porch roof
This is simply a smaller version of the nave roof without the 'notch' for the tower, and using smaller tiles.

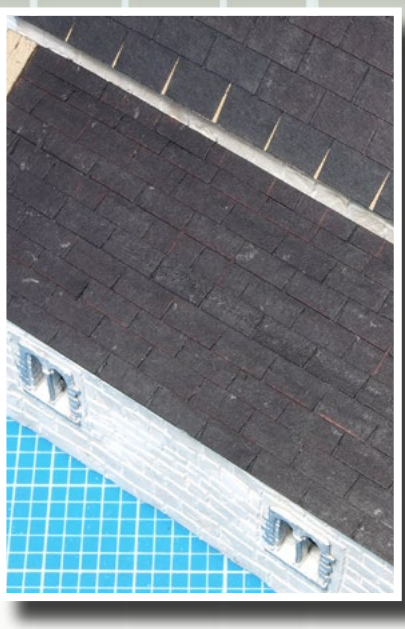
Chancel roof
Cut some tile strips following the same technique already covered. Tile the lower level of tiles on the flat sides of the roof, overlapping them onto the curved section of the roof.

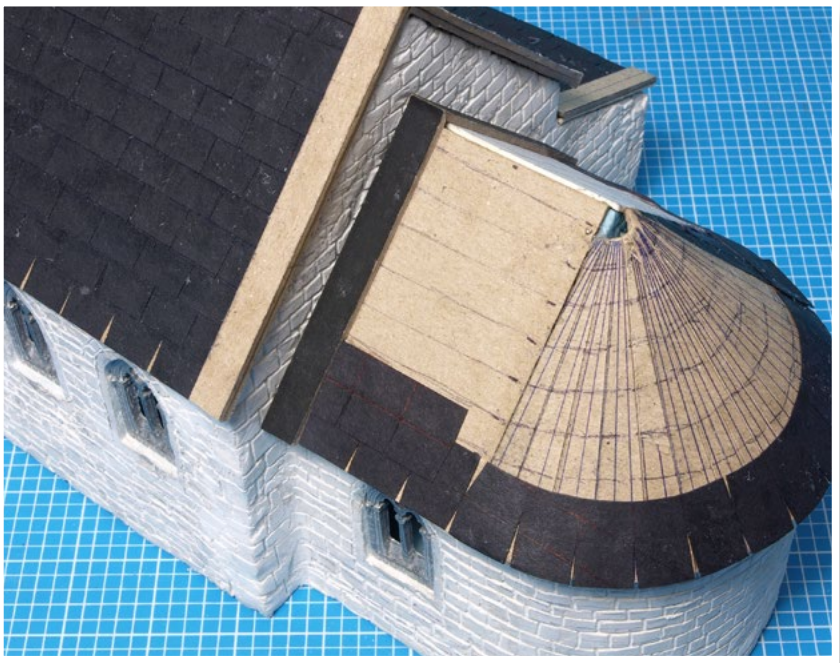
For each line of curved tiles, start by determining the radius of the roof at the lowest point which is the radius for the outer circle. Next you draw an inner concentric circle at the lower radius minus 20mm. Assuming your tiles will be 15mm wide, use dividers to mark 15mm intervals around the outer circle. Draw a line from these points to the centre of the circle.

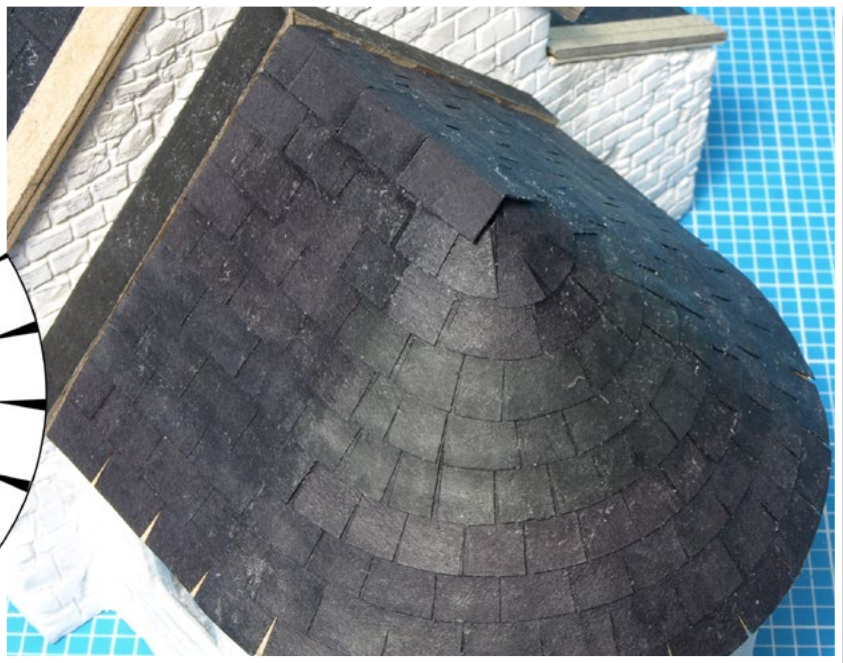
Cut out the ring template from the plans download, (as pictured below), and cut a notch 10mm deep along the lines created from the drawn diagonals. You also need to cut out a section so that you can fold the ring around the supporting roof.

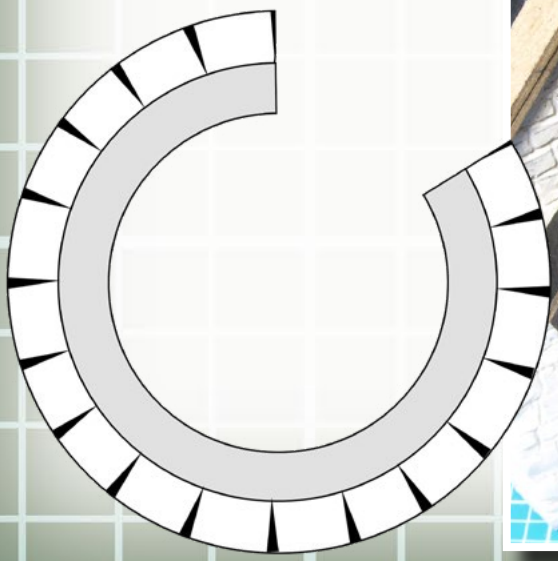
Trim this ring as necessary, and glue in position. Glue the second line of tiles to the straight sides, remembering to stagger the gaps.

Tiling the remainder of the roof follows the same procedure except that you will have to progressively reduce the radii of the circles because the radius of the cone reduces as it reaches the apex. On my model, the lowest ring had an outer radius of 80mm, the inner 60mm. The next ring up was 70mm and 50mm respectively, and the next 65mm and 45mm, but unless your supporting roof is perfectly constructed, you'll probably have to resort to 'trial and error'. Don't forget to add the ridge tiles.









DOORS

My doors are made from pieces of balsa scored with an old pen to simulate planks. Plan your doors so the grain runs vertically rather than across it, because you'll get a much cleaner line when creating the plank effect.

It's best to paint your doors prior to fitting them. If you're unsure as to the correct colour for aged wooden doors, this photo of a small door at my local church includes black, brown and grey.

Door knobs were made by gluing a 'jump' ring to a small bead; painting it black and then supergluing it in place as this photo of a fitted door on the painted model shows.

PAINTING THE CHURCH

Exterior Walls
Depending on just how specific you want the location of your church to be, and thus the materials employed in its construction, seek out a suitable reference source.

Paint the walls in the colour of the mortar, which for this model was grey. Once this has thoroughly dried, dry brush the walls in the most predominant colour. Next, pick out some individual stones in varying colours. When you've finished, apply a thinned brown ink wash, to blend the colours together.

Roofs
I generally make my roofs from black card to save painting them, but if you haven't, paint the tiles and the roof between the tiles black, then dry brush the roof with successively lighter shades of grey.

Over the years roofs can gather mosses and lichens. To simulate this I spatter thinned yellow, green and off-white paint onto the roof using an old toothbrush. Make up a thinned mix of paint, dip the tips of the bristles into the mix and then pull your finger back from the tip of the toothbrush so that the bristles spring backwards depositing the paint in 'spatters'.

Practice the technique on some scrap paper until you are confident. Once the 'spattering' was dry, I added clumps of green sponge foliage.

Interior Walls

I decided to keep everything relatively simple and chose white to provide a blank canvas onto which you can add as much detail as you choose later. Before painting the interior walls I gave the windows a base coat of RailMatch® concrete. But as the following photograph shows, windows and their surround can vary considerably in colour.

Floors and the base

The model comprises several areas to be 'floored'; the tower, the chancel, the nave and the aisle.

The tower floors

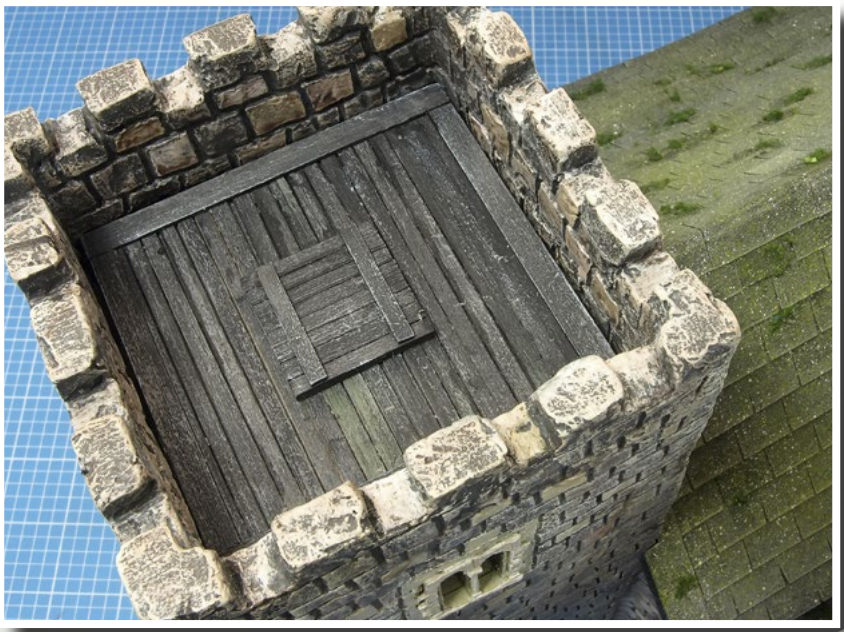
Paint the styrofoam black. Plank the floors using thin strips of balsa. As the inner walls have already been painted, paint the balsa before gluing it in place. Paint them black, and drybrush them grey, and then glue them down. The upper floor is a little more complicated, because it features an opening which needs a trapdoor.

The trapdoor is basically a small floor and follows the same construction steps as the floor. I was planning to glue the trapdoor open at an angle, but decided it would be too fragile, and reduce the space for figures, so I just rested the trapdoor over the aperture, removing it when I needed access to the lower floor. See below.

Chancel floor

First I measured the internal dimensions of the chancel, and then made a card template. After browsing the internet I decided that the chancel floor would consist of 'marble' slabs. Once I'd found a suitable image, I 'copied and pasted' it using Adobe Elements, until the image was large enough to cover the chancel floor, and then glued it down.

Strips of marble floor were cut and scored to cover the steps from the nave and glued in place.



The base, the nave and aisle floor

The base was made from thick card. (Right). The building was positioned, traced around, and the base cut out.

I created a stone floor using images manipulated in Adobe Elements; added medieval tiles in 3 x 3 blocks, added a border, dropped them over the stone slabs and printed the final image on 150gsm 'linen' ink jet paper.

I covered the base with double-sided tape, removed the protective layers, and positioned the printed floor.

THE CROSS

The cross was made from balsa using a simple halving joint.

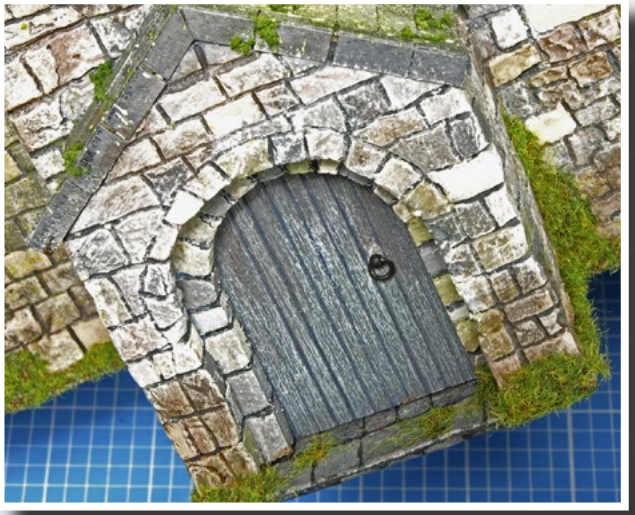
The cross piece was glued in position. A headless pin was glued into the underside of the cross and a hole drilled into the nave roof. I painted the cross gold and then glued it into position.

FIXING THE CHURCH TO THE BASE

As the styrofoam was 5mm thick, I drilled a series of holes through the card approximately 2.5mm from the outer edge. The church was glued to the base, and pins pushed through the holes into the styrofoam.

The exposed edges of the base were given a coat of PVA onto which fine sand was scattered. Once dry, the sand was painted a dark earth colour, drybrushed pale cream and clumps of static grass were added.

I felt that the doorways needed doorsteps, so using some left-over 'stone floor', I cut and glued strips in place, wrapping them around and under the base, using more static grass to fill any gaps.



WHATS NEXT

The church itself is only the start. Ideally it needs suitable dedicated terrain into which to place it, and so my next 'How to...' will show how to construct a lychgate and suitable walls.

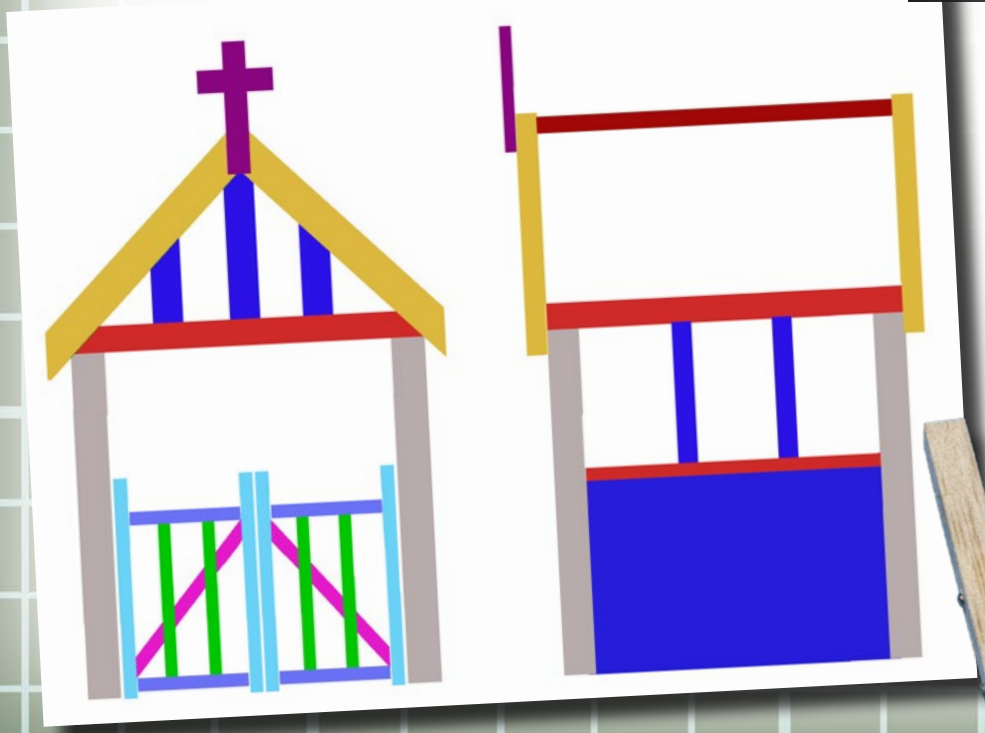
HOW TO... BUILD A LYCHGATE AND WALLS

All wargamers can use walls in their games, so this 'How to…' could stand alone, but the inclusion of the lychgate also makes this a follow-up to the previous article 'How to… Build a medieval church'.

The term lychgate derives from the Old English, or Saxon, *lych* meaning corpse. Apparently the deceased, wrapped in a shroud, or in a coffin would be met at the lychgate by the officiating clergy, before being carried into the church itself.

THE PLANS

As always my plans are primarily schematics to show how the various components fit together, it being impossible to provide precise dimensions to allow for different scales and different thicknesses of materials. The point to remember is to scale the plans so that a based figure can pass through the entrance.



THE LYCHGATE SIDES

Before starting construction, it helps to have a perfectly flat surface on which to build the components. I use a sheet of thick plate glass mounted on a piece of blockboard and held in place using mirror clips.

Start by making the two stonework sides from styrofoam or foamboard, at each end of which is an upright made from balsa.

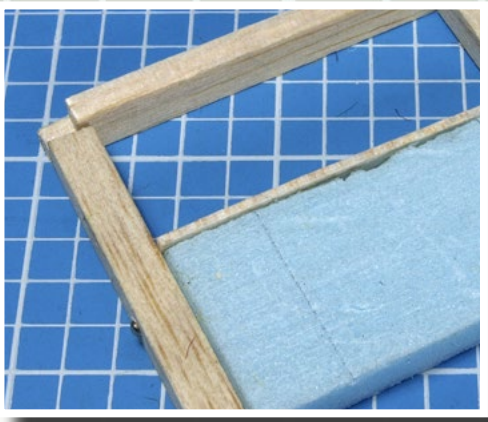
Finish off the stonework by adding another balsa strip along the top edge of the styrofoam.

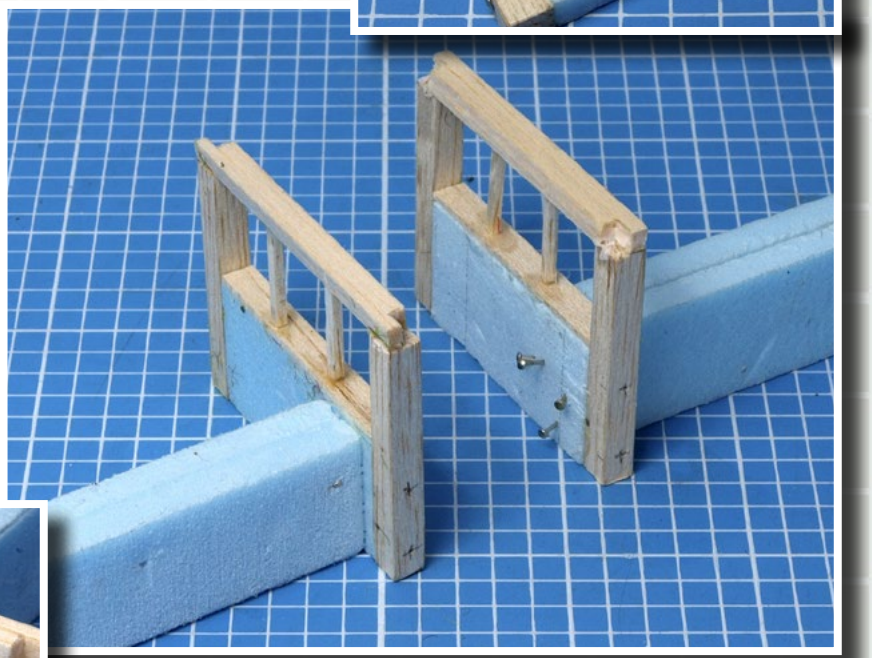
Taking measurements from the model, cut the intermediate uprights from balsa and glue them in position.

Repeat these steps for the opposite side.

To ensure that the walls either side of the lych-gate fit neatly, pin and glue a wall section to the stone part of the two side walls.

I wanted the outer walls to be wider than those forming the lych-gate. Unfortunately I only had one thickness of styrofoam, so I pinned and glued two thicknesses of it together. After removing the pins, the stonework was carefully engraved into the inner surfaces. You can use various 'tools', from an electrically operated engraving tool to an old ballpoint pen or a blunt nail. Whichever you choose, lightly draw the required pattern of stonework onto the styrofoam first as a guide, before starting to engrave it.





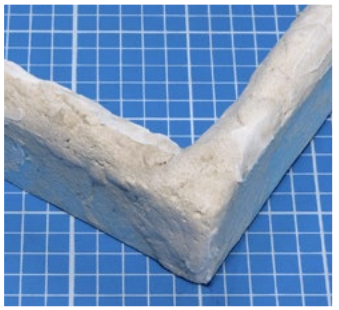
THE WALLS

It makes good sense to make up all the wall sections that you feel you're likely to need at one time, not only to, in this case, enclose the church, but for any other applications too, so that they match each other.

Given that these are intended to be rough stone walls it didn't look right for them to have neat, squared-off, upper edges, so I used DAS air-drying clay to round off the top edges and make them look less regular. The technique is to first coat the surface with PVA glue, and then smooth it and blend it into the styrofoam walls using a PVA/water mix.

If you use only a single thickness of styrofoam, then you can carefully sand the upper edges to create a suitably rounded top.

Next stage is to engrave the stone detail onto all the walls, using the basic technique already covered. Each wall section is then pinned and glued to a suitable card base, which is then coated with PVA glue and sprinkled with fine sand and gravel.



PAINTING AND MAKING THE ROOF

From here on, I'm going to concentrate on the lych-gate section, but the technique will be the same for each wall section, but first, add the two cross pieces to join together the two sides of the lych-gate.

Next paint the walls and base dark grey, and, in the case of the lych-gate section, paint the timber black. Note that there is no texturing on the 'floor' of the lych-gate, because it will be covered with stone slabs once all the painting has been completed.

Drybrush the walls and timber with successively lighter coats of grey. Invariably stone walls vary in colour, so pick out some individual stones in lighter grey or yellow. Don't get too carried away at this stage otherwise your walls will look like a patchwork quilt.

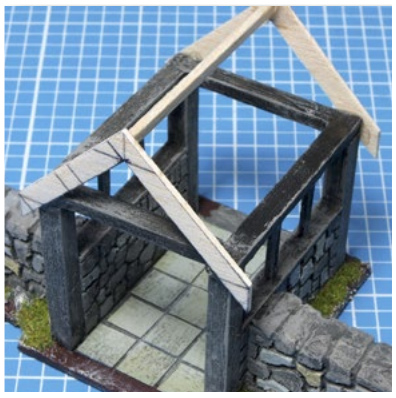
Drybrush the 'ground' with dark brown. Carefully apply PVA glue to the base, and if you wish, to selected areas of the walls themselves, and add clumps of static grass.

The next stage is to make stone slabs for the 'floor' of the lych-gate. Take some thin black card, drybrush it grey. Cut the card into squares and glue them to the floor of the lych-gate.

Then to make the front and rear roof supporting frames.

These supports are glued against the front and rear cross beams, and a central beam is added to keep the roof supports vertical.

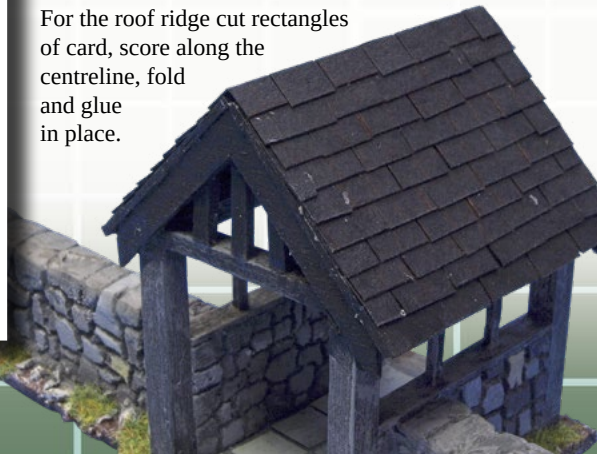
Cut some short lengths of balsa and glue them so that they rest on the cross beams, and fit behind the roof supports. I made a supporting roof from two pieces of thin sheet balsa which were glued to the roof supports. It's a good idea to paint these pieces before gluing them in position.



TILING THE ROOF

The roof is tiled using small pieces of thin card that overlap the previous rows, but taking care to stagger the spaces between the tiles in each row. I used black card because it saves painting time later.

For the roof ridge cut rectangles of card, score along the centreline, fold and glue in place.



MAKING THE LYCH 'GATE'!

The lychgate needs a gate, (…otherwise I suppose it would just be called a 'lych'?), which consists initially of two frames made from balsa. Once again, it is easier to paint the balsa black before assembly. Cut two uprights and two horizontals and glue them together.

Make another identical frame, and glue the two frames to the main lychgate uprights.

Add some uprights, and a diagonal piece to each gate. Touch up the black where necessary and lightly drybrush with pale grey.

If you've not used black card for the tiles, paint them black followed by a grey drybrush. The procedure is the same as was employed in the construction of the church in my previous 'How to…'. Finally I added a simple balsa cross painted gold.

And that is about it for building the lych-gate and the accompanying church walls.

As already suggested in the 'How to… Build a Medieval Church', when making buildings etc., you should consider the impact of any such model on the area available for manoeuvre, and depending upon the historical period in which you wish to use your church and lychgate you may wish to also include gravestones or headstones. That said, they tended to be a 17th Century feature and were inappropriate therefore for this particular project which I set in the Early-Mid Medieval period.

Another point to consider when thinking about gravestones etc., is that, in a wargames context, they will restrict movement within the church grounds, particularly if your figures are fixed to multiple bases. In effect players will probably finish up having to keep moving the gravestones to permit movement, which was another reason why I left them out of this 'How to…, but that said, if you want to include some, I can recommend the ones made by Renedra and sold by, amongst other companies, North Star Figures; 44 gravestones for just £8! Alternately, you could make your own gravestones from the curved ends of lolly sticks or coffee stirrers, but when you can buy such nice ones for around £0.13 each, I can't see much point.

HOW TO BUILD... EXPLOSIONS!

BUILDING EXPLOSION MARKERS

For many years Dave Andrews' WW1 gaming tables have been graced by some wonderful explosion markers (*seen left and below*), marveled at by all who get the chance to see them. We decided to finally ask Dave just how he does it.

STEP ONE

Cut a rough circle from balsa wood or similar. About 30-60mm will do for 15mm to 28mm scale depending on the calibre of weapon effect you want to represent. Drill five or six holes on the base and glue either cocktail sticks or kebab skewers into the holes. Vary the lengths a little for a more convincing effect.

STEP TWO

Glue Woodland Scenics foliage to the sticks using a hot glue gun. Add more towards the base of the explosion.

STEP THREE

When dry, liberally spray the explosion with Games Workshop Chaos Black primer, and then lightly over spray with Skull White primer. Job done!

STEP FOUR

OPTIONAL: We added a few tufts from *XX601 Smoke and Flames* from the *Flames of War* range for something a little extra.

A QUICK LOOK ONLINE

A quick search of Google Images using the word "explosions" will give you a LOT of images of nuclear explosions (mushroom clouds galore), but a slightly more refined search - adding WW1, for example - should yield you a few more photos of high explosive shells going off, throwing huge gouts of dirt, mud, and smoke into the air.

HOW TO... MAKE SIMPLE MOVEMENT TRAYS

Nick Buxey shows us how to get our models moving en-masse.

I would always prefer to make something rather than buy it if at all possible, and that applies as much to a medieval church as a movement tray. Focusing on the latter, there are many companies who produce excellent movement trays in different sizes and configurations; most in MDF, some in resin, with prices varying from a few pounds upwards, depending on size and complexity.

Recently I found that I needed a lot of movement trays which would work out expensive if I bought them, so I decided to make my own; after all, the money saved could be used to buy more soldiers!

Basically I needed two styles of trays; the first to hold varying numbers of figures…

…the other to suit various artillery pieces and crew.

That said the construction principles were similar; a base made from thick card, and a 'top' either in the form of an outer frame, or a layer with carefully cut apertures to hold the figures.

Before getting into the actual construction, a word or two about card, or more accurately, how its thickness is measured. It would be so much easier if card manufacturers simply quoted the thickness…. But then again I suppose its no more confusing than manufacturers producing figures, supposedly to the same scale but which are totally incompatible!

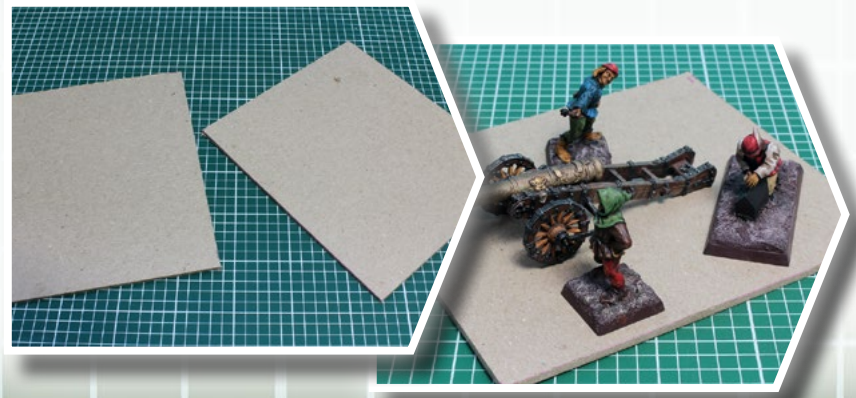
For example 2.5mm is unequivocal, but how does one relate gsm to the thickness? Fortunately card thickness is also often described in microns… and one micron is near enough 1mm. For my movement trays I used three micron (3mm) card which I sourced as offcuts from my local picture framer and they cost me … nothing! Of course you don't have to use card, you can use offcuts of styrofoam, but if you do, be careful what glue you use because styrofoam can react very badly indeed to some glues, so if in doubt, test first!

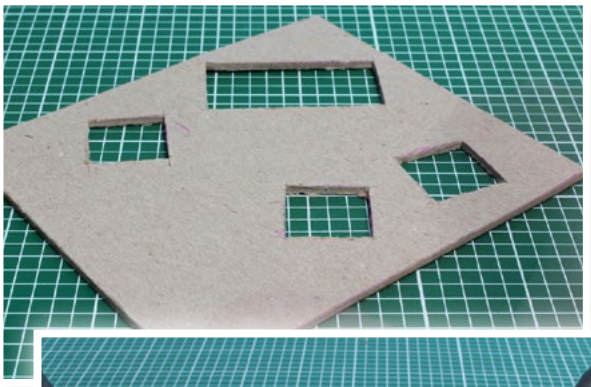
Let's start with the an artillery movement tray.

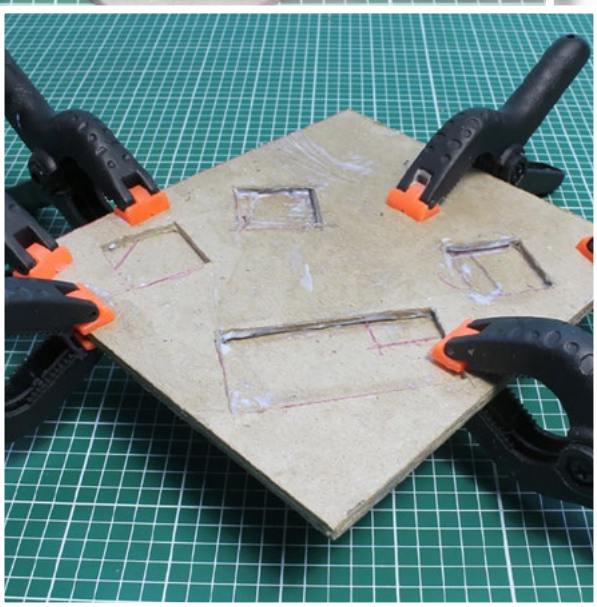
First, determine the optimum movement tray size by positioning your artillery piece and crew, and lightly draw around their bases.

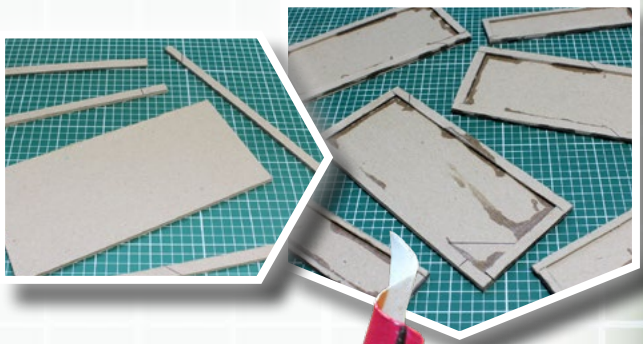
Next, cut out the apertures.

Glue the top to the base, using clamps to hold the two layers together while the glue dries. I generally use PVA glue, but you can also use cheap Superglue which is quicker, although it makes adjusting the position of the layers more difficult.









Brush PVA onto the top surface and outer edges and sprinkle on fine sand.

Next step is painting and texturing to help your movement trays to blend in with your usual playing surface. My technique is to first spray the movement tray with matt black, followed by a heavy coat of dark brown topped off with a drybrush of pale cream. And once the paint has dried thoroughly I apply PVA glue and sprinkle on static grass. Finally a spray of matt varnish serves to toughen and seal, the static grass. and also encourage it to 'stand up'.

My other style of movement tray is intended to take ranks and files of individually based figures. The construction is similar, but this time the upper layer comprises thin strips of card to create a frame into which the figures will stand.

The edge pieces are trimmed to size and glued to the base. I always make a number of bases at a time.

All my bases receive the same texturing, painting and 'grassing' so that they will blend in with each other; just make sure that you keep a record of the paints and static grass used.

Dead easy … and if you're concerned about based figures moving about in their tray, simply press a ball of Blu-Tak under the base and then press the figure firmly down.

You can design the bases to suit your specific or most awkward requirements, and best of all … they're cheap!

HOW TO... BUILD AN AFRICAN HUT

Paul Davies shows us how to construct tabletop African huts, ideal for the Congo (other African countries/games are available!)

African huts followed several different designs; some were round with domed roofs, others rectangular with a pitched roof, whilst in areas were rainfall was limited the roofs were flat. Building materials varied too, depending on what was readily available. In North Africa stone and rammed earth were used for the walls and roofs; huts in West Africa tended to be built from 'adobe' and thatch; whilst Central African and South African huts were more usually built from thatch and wood. My intention was to use these huts for the latest 'flavour of the month' rules, *Congo* so I decided that my hut would be located in West Africa; circular and made from 'adobe' with a conical 'thatched' roof.

MATERIALS

- **Large Cardboard tubes:** I got mine from a local carpet supplier who would otherwise throw them away.
- **Ready-mixed filler**
- **An old towel or flannel**

CONSTRUCTION

Start by determining the height of the doorway. Often doorways were relatively low; allegedly so that anyone entering would have to stoop down which would put them at a disadvantage if they were intending to cause trouble, anyway for this project as I wanted to use them with 28mm figures, I made the doorway 20mm wide by 25mm high which looked about right.

For the hut height, excluding the roof I decided to work on 1½ times the based figure height which worked out to 50mm and a section of cardboard tube was cut to that height and the doorway cut out.

To create the effect of adobe walls, I coated the walls with ready-mixed filler. I wanted to have an interesting texture visible in the 'adobe'. I waited until the filler had almost dried then dabbed the filler with a piece of coir basket lining, until I was satisfied with the result.

TEXTURING THE WALLS

THE ROOF

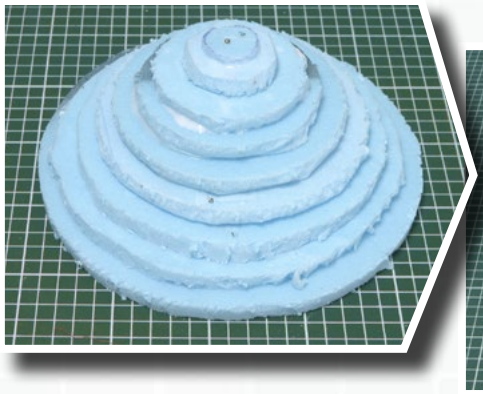
The roof should taper to a rounded off top. I cut a series of concentric circles out of 3mm thick styrofoam offcuts which were pinned and glued together. Each circle was 10mm smaller than the previous one to create the sloping effect.

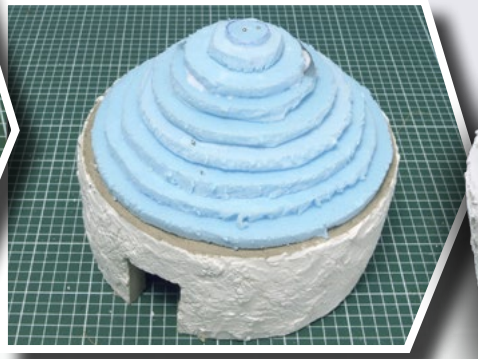
This assembly was pinned and glued to the walls.

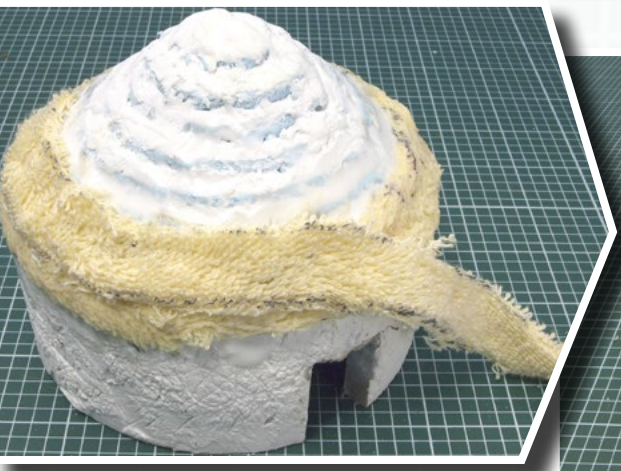
And filler was used to create a smoother transition between the layers. You don't need to be particularly neat because the material that provides the roof texture will cover it.

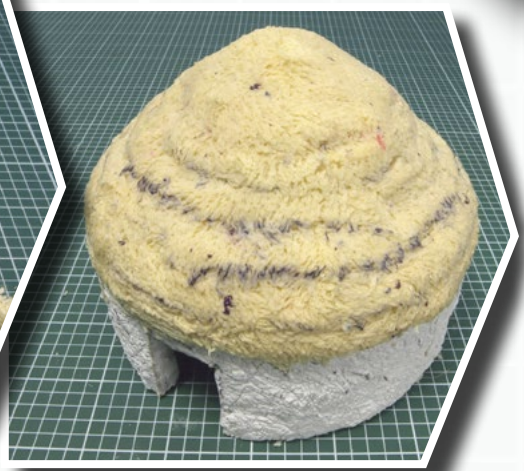
Leave to dry thoroughly overnight.

For previous 'How to…' projects where I've needed to simulate 'thatch' I have used fake fur, coated in PVA glue which was 'combed' to create the look of 'thatch'. However for this project I decided instead to use thin overlapping lengths of towelling.









ADDING THE THATCH

I first cut strips of towelling approximately 20mm deep. Starting at the bottom and allowing for a slight overlap of the wall, I glued the first strip in place and carefully trimmed it to length.

I then cut another strip and glued it in position giving it a slight overlap.

Subsequent layers overlapped the previous one and followed the same technique with a small circle of towelling finishing off the roof. A 50/50 PVA and water mix was worked into the towelling to seal it and harden up the surface making it easier to paint and drybrush later.

PAINTING

The model was set aside to dry. Don't be tempted to rush things, as the towelling must be totally dry before the painting stage.

First the roof was given a black undercoat followed by a series of drybrushing steps: dark brown then dark yellow. The walls were painted sandy yellow, followed by a drybrush of 50/50 yellow and white. Finally the whole building; roof and walls were given a drybrush of pale yellow to pick out detail and also blend roof and walls together.

CONCLUSION

These huts were really easy and cheap to make. The cardboard tubes were free, the filler and the towelling cost just £1 each from my local Poundland, and the paint, no more than a few pounds if that, so I made three huts for next to nothing. And the money I saved can be used to buy figures. Can't be bad can it! And if you want different sized huts, simply start with a different diameter cardboard tube. Simple.

HOW TO...
15MM GUN NEST

Inspired by a post on the Model Dads website www.modeldads.co.uk we constructed this simple and quick 15mm machine gun nest.

I spent some time looking at the MG nests available from a few websites and they looked pretty cool, if a little expensive.

They also looked simple to make, using things that most people will have around the house anyway. Even if you don't then the total cost is low and it only took me around 45 minutes.

1. Snap or cut the cocktail sticks/bamboo skewers into small sections. I just snapped mine as it was quickest - but maybe cutting them would give the look of sawn logs?

Superglue the first two sections of the sticks to the base.

2. Glue more sections on top of the first until you get the height you want. I used four cocktail sticks here.

3. For detail I added a vertical 'log' to make it look like it was helping to hold up the retaining log wall.

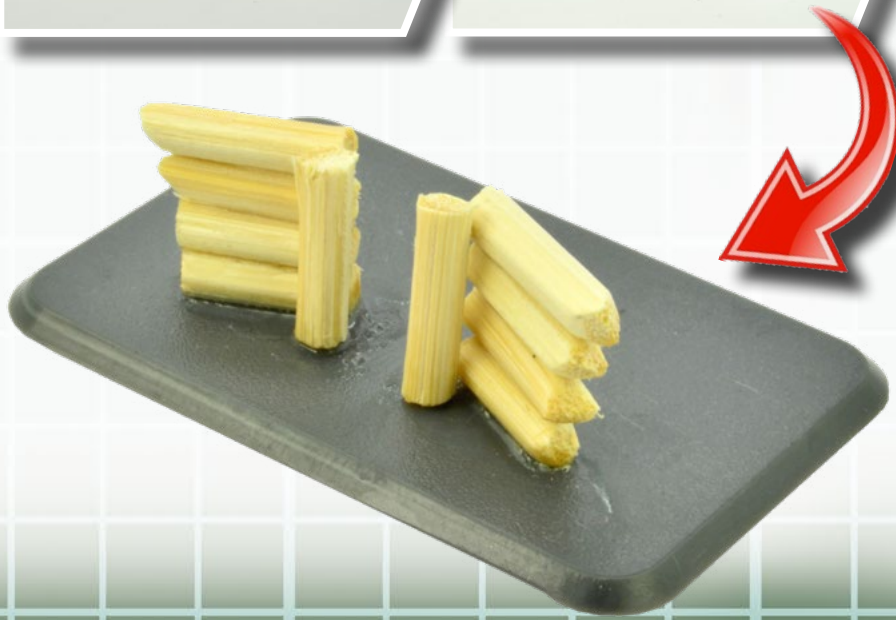
4. To fill out the rest of the nest, which is primarily an earth bank, I used blue Styrofoam carved to approximately the shape I wanted.

5. then I just stuck cocktail stick and bamboo skewer 'logs' together to form a flat roof.

6. Now to provide rigidity and a bit of texture I mixed the Polyfilla/spackle together with some brown paint. You can also add some PVA glue if you find the Polyfilla cracks a bit on drying. I recommend adding fine sand for extra texture. Apply liberally all over.

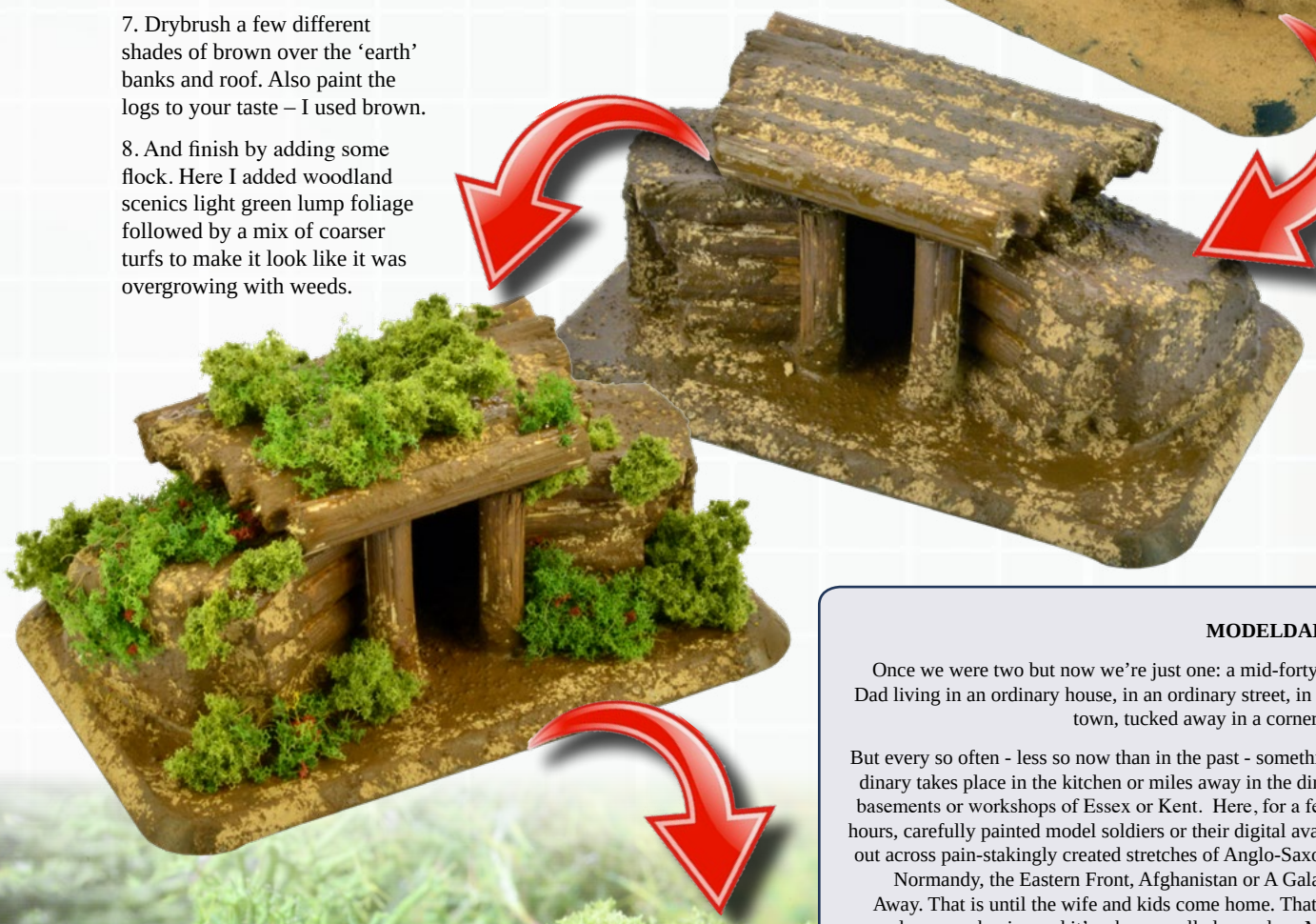
MATERIALS

- **1x *FOW* Medium Base**
- **Cocktail sticks and/or bamboo kebab skewers**
- **Offcuts of polystyrene/foam -** *I used blue Styrofoam but you could use normal white packing polystyrene here.*
- **Polyfilla/spackle**
- **Superglue**
- **Brown Paints**
- **Ground cover Flock -** *I used Woodland Scenic as well as a couple coarser flocks.*



7. Drybrush a few different shades of brown over the ‘earth’ banks and roof. Also paint the logs to your taste – I used brown.

8. And finish by adding some flock. Here I added woodland scenics light green lump foliage followed by a mix of coarser turfs to make it look like it was overgrowing with weeds.



MODELDADS.CO.UK

Once we were two but now we’re just one: a mid-forty-something Dad living in an ordinary house, in an ordinary street, in an ordinary town, tucked away in a corner of the UK.

But every so often - less so now than in the past - something extraordinary takes place in the kitchen or miles away in the dining rooms, basements or workshops of Essex or Kent. Here, for a few precious hours, carefully painted model soldiers or their digital avatars duke it out across pain-stakingly created stretches of Anglo-Saxon England, Normandy, the Eastern Front, Afghanistan or A Galaxy Far, Far Away. That is until the wife and kids come home. That’s when the real carnage begins and it’s why we called ourselves Model Dads.

HOW TO...

MAKE BARBED WIRE TERRAIN PIECES

Paul Davies shows us 'how to' make barbed wire terrain features for the Western Front, and beyond.

I don't know what it is about wargamers, but many of us simply cannot resist 'trying to improve things'. For example, I seriously doubt that I possess a rulebook that doesn't have appended to it, some of those dreaded 'club amendments'. And it's the same for me with boxed wargames, I'm invariably thinking of ways that I can 'improve' them.

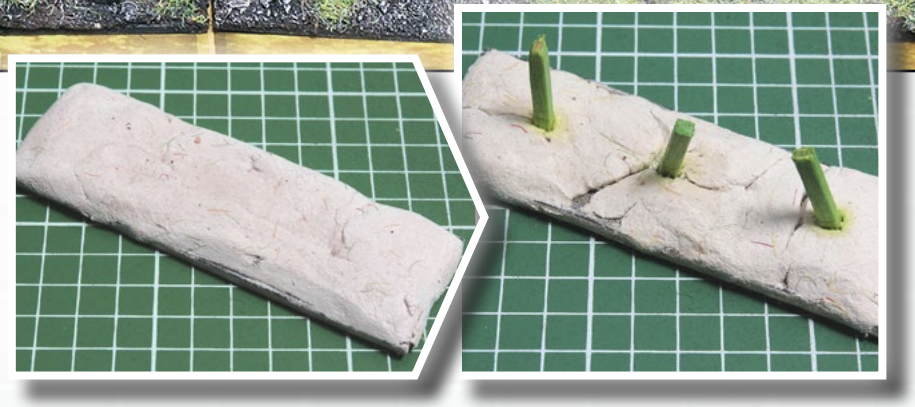
This started me thinking on how I could improve the look of the Command & Colours 'The Great War' boardgame.

First off had to be replacing the printed barbed wire counters, which would also come in handy for my tabletop 'Alternate History WW1' project.

You can buy ready-to-play barbed wire terrain pieces; they're very good, but if you need a lot, work out very expensive, so the solution was to make my own, albeit with some ready-made 'barbed wire'.

First, determine the size for your barbed wire sections. I went for 60mm x 20mm, which would fit the hexes used for 'The Great War' game and also look right for my conventional tabletop game.

I use mounting board for my bases, which I scrounged from my local picture framer as he is always throwing away the offcuts. You can also use the backing card from art paper pads, or thin mdf or plywood.



Use whatever is easiest and cheapest!

I think that flat bases for terrain features can look odd, so I used DAS air drying clay to create a bit of shape on my bases. To help the clay adhere to the base, I gave the base a coat of PVA glue.

As the clay dries out, you'll find that the base may curl upwards at the ends. Carefully bend it straight. Don't worry if it cracks, the texturing will cover the cracks.

Cut matchsticks for the supporting posts and push them into the clay before it dries.

Add some texture to the base by brushing neat PVA over the base and sprinkle on a mixture of fine sand and grit. Try to avoid getting any glue on the posts.

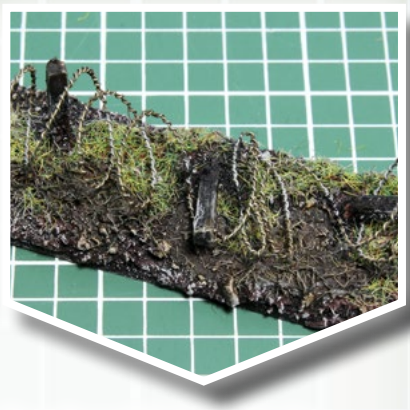
Spray everything matt black. I use Citadel Chaos Black spray. It's not the cheapest, but when I've tried cheaper options, I've always regretted it. Once this undercoat has thoroughly dried, drybrush the base with Dulux Exotic Spice 1. I buy it as a 0.25L sampler pot, which works out significantly cheaper than buying loads of 12ml or 18ml pots!

Once this first drybrush coat is completely dry, drybrush the base and posts using Dulux Crispy Crumble, which is a mid grey.

If you are aiming for a muddy 'Flander's Field' look, you could skip the next step, but I wanted to use my barbed wire terrain pieces for an alternate history scenario in which the Great War conflict has moved away from the stalemate of the trenches to more open and otherwise unspoilt areas. To convey that feeling I applied random areas of PVA glue to my bases and then added static grass.

And now, finally, we get to the 'barbed wire'. Now, it is possible to make your own barbed wire, but when you can buy 3m of Army Painter 'Razor Wire' for less than £4, frankly, what's the point? To put that into context, I made around 30 barbed wire sections from three packs!

Carefully wrap the wire around a piece of suitable diameter rod. I used a pencil. Slide the curled wire off the pencil, slowly pull it outwards to create a visually pleasing separation between the 'loops', and then cut it to size. As supplied the wire is too shiny, so before gluing it in position I brushed it over with Army Painter Soft Tone wash.



Once the wash is thoroughly dry, superglue it in place. Don't stint on the superglue. Glue the wire not only to the supporting posts, but also to the ground. Don't buy expensive branded superglue. Visit your local Poundshop or Proper Job and buy their cheapest superglue. Be careful not to use too much superglue because it can 'cloud over'. If it does, wait until it's completely dry, brush on some PVA and sprinkle on static grass.

And that's it; an effective, simple and cheap barbed wire terrain piece. Of course, you never make just one section do you…?

But what happens when your tanks have forced their lumbering way through the barbed wire so the supporting troops can follow up? A few damaged sections are clearly called for. Simply press down on the wire and one or two posts. Easy.

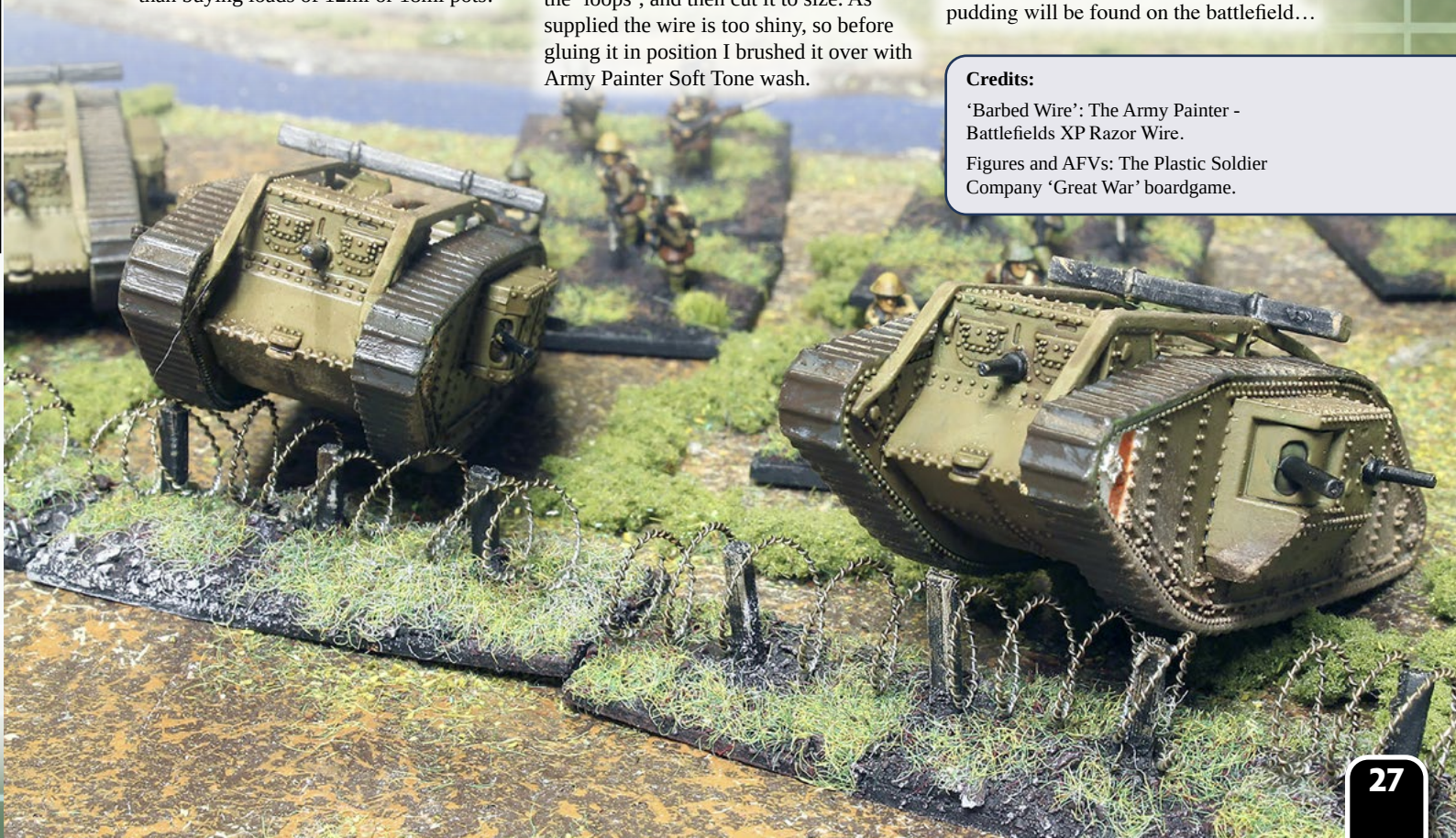
Barbed wire is one of those relatively subtle terrain pieces, which easily enhance your battlefield whether on the tabletop or to augment a boardgame.

However, 'the proof of the proof of the pudding will be found on the battlefield…

Credits:

'Barbed Wire': The Army Painter - Battlefields XP Razor Wire.

Figures and AFVs: The Plastic Soldier Company 'Great War' boardgame.



HOW TO... MAKE CRATERS

Paul Davies shows us 'how to' make craters for the Western Front, and beyond.

Craters have a potentially wide usage; from ones created by the impact of a stone cast by an ancient Greek ballista to those caused by the most advanced 21st century artillery piece, by a UAV, or even some futuristic device from an unknown galaxy. As long as you stick to just the impact crater itself and don't add any period specific details like a Roman helmet or a bicycle, your craters will prove extremely versatile.

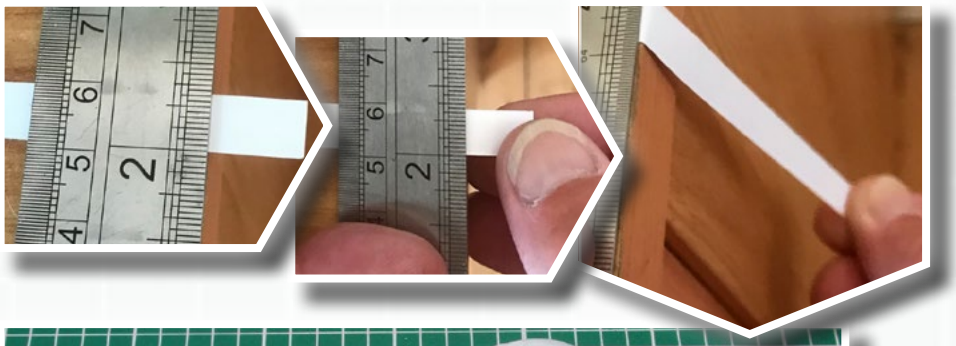
Technique

First, determine the size of your crater and base. I used 2mm MDF for my bases, but you can use thin plywood or mounting card. Whatever material you use, lightly score the surface to provide a key for the clay and texturing.

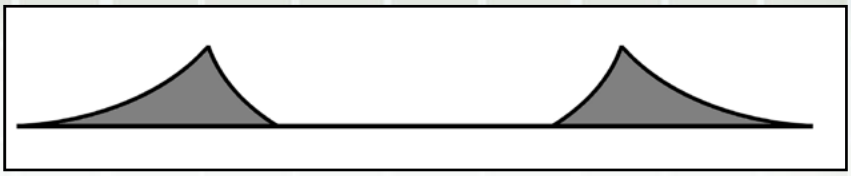
As with my previous 'How to…' about building barbed wire defences, these craters were intended to replace printed card components in the PSC *Great War* boxed game, and are therefore based on hexes, but you can base them to suit your own requirements. You can also combine multiple or different sized craters on the same base.

The crater rim is made from a 'ring' of thin card. Determine the height of the rim and cut strips of thin card to that width. To make it easier for the card to retain a curved shape, it needs to be 'curled'. Take a strip of card and place it on a table edge at right angles to the edge overhanging by approximately 25mm. Place a steel ruler on top of the strip along the table edge. While holding the ruler down, firmly pull the card strip downwards to curl it.

To make the actual ring, the strip needs to be wrapped around some kind of 'master'. I used different sized polystyrene balls [shown right] as I had some lying about but you could use cardboard tubes of varying diameter.



Glue the rings to the bases either individually or in multiples. Brush a thin layer over the card too, because once dry, PVA sets hard and will toughen up the card.



The next stage is to create the outer slopes (ejecta) of the crater and blend them into the base. I use DAS® air drying clay, because it's cheap and available in most craft or art shops. Just make sure that you when you've finished with it, you keep it in an air tight bag to prevent it drying out*.

The other major advantage of DAS for this type of project is that can be 'worked' for longer than 'fillers'. Ultimately the finished crater cross-section you'll be aiming for is similar to the one shown below.

Apply a thin film of PVA to the outer surface of the card ring and the area of the base outside of it. Break off some small pieces of clay and press them into position against the outside of the card ring while supporting the inside of the ring with your thumb to retain the curve. Blend and smooth the clay pieces together. Apply more PVA and clay to the remainder of the base and blend it all together. You can use a lolly stick or something similar, but I find it's just as easy to use your fingers. It helps with the blending if you lightly dip your fingers into PVA glue. Did I mention that this is a REALLY messy technique?

Set the craters aside until the DAS has dried thoroughly; the outer slopes of the crater must be solid because you will push against them to create the inner slopes. Coat the inner surface of the card ring with PVA. Break off some pieces of clay and blend them together to create the sloping inner surface of the crater.

Next stage is texturing. There are two areas to consider; the inside of the crater and the crater floor which absorbed the initial impact; and the ejecta which is the material that was expelled following the impact and which fell to the ground to create the outer crater walls.

For the inside of the crater and walls I used fine 'chinchilla sand', and for the ejecta and surrounding area I used a mix of fine sand and grit. Just apply PVA glue and sprinkle on the texturing.

The next step and the one where the craters start to look more realistic is painting. First, the craters are sprayed matt black and then set aside to dry. The craters are then lightly dry-brushed in colours that will match your terrain, but first, it's a good idea to give the crater base a coat of PVA glue to bind the texturing together, otherwise the dry-brushing may lift the off the carefully applied texture.

As regular readers of my 'How to…' articles will know, when I paint terrain I NEVER use those small 12ml or 18ml pots. They would work out far too expensive. Instead I use Dulux® Matchpots. Simply take a colour swatch of your paints along to your local builders' merchant or hardware store and compare them with the Dulux Colourchart. Simple and VERY cost-effective.

For my craters, following the matt black sprayed undercoat, I started with a dry-brush of the Dulux equivalent of Citadel Rhinox Hide, followed by a drybrush of their equivalent of Citadel Mournfang Brown. And just to prove that I don't only use Citadel paints, I finished the craters off with Dulux's equivalent of Coat d'arms Dark Sand.

Once the paint had thoroughly dried, I added a few scattered clumps of static grass. There was no plan as to the positioning of the static grass … although if someone was to suggest that I used it to cover up places where the texturing had lifted because I didn't allow enough time for it to dry, or to hide patches where my dry-brushing was too heavy handed, then I wouldn't be able to disagree.

You will note that I left the inside of my craters black. I wanted my craters to look as if there had been an explosion and fire on impact so the ground inside the crater had been charred and burnt. If you are making craters for an earlier period without the benefit of gunpowder etc., just paint the inside of the crater in the same colours as the outside.

These crater terrain pieces will suit almost any wargame situation, but if you wish, you can make them more period specific by adding suitable 'bits and pieces', perhaps left over weaponry from figures, or other suitable equipment.

***Recovering dried-out clay.**
Even if you're really careful air drying clay can still dry out, but all is not lost.

Place the clay in an air tight plastic bag; the ones sold as resealable food bags are ideal.

Add some water, perhaps half a cup, and seal the bag.

After a day or so, the clay will have softened.

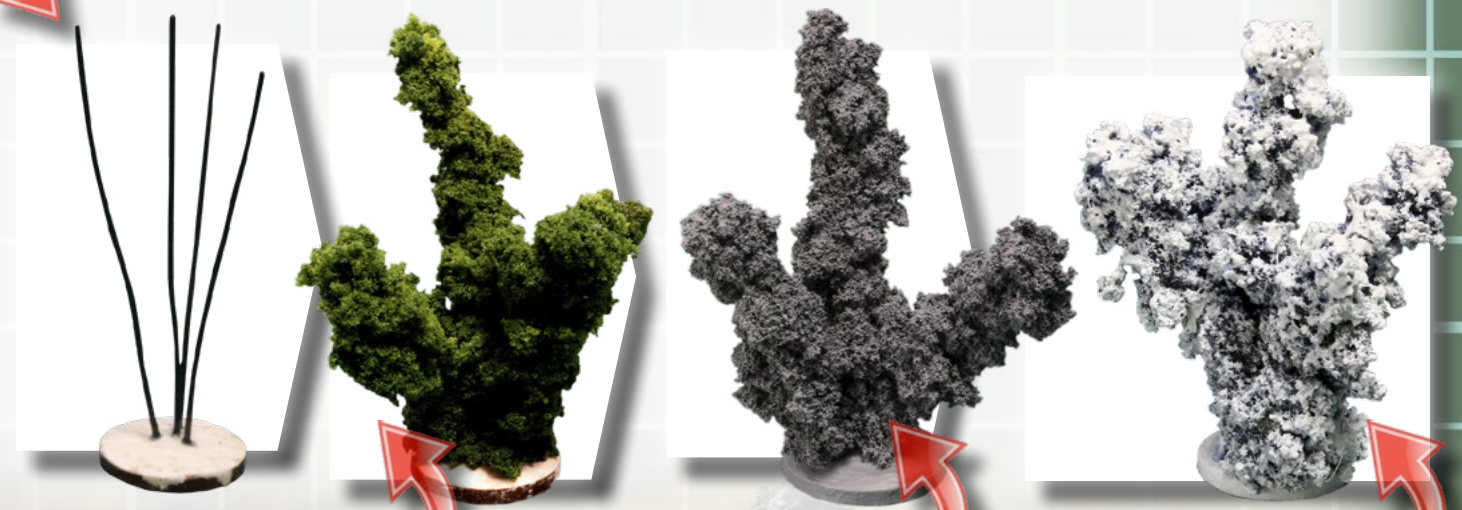
HOW TO... MAKE CRUEL SEAS 'WATER SPLASH MARKERS'

Paul Davies shares another *Cruel Seas* do it your self article

It's easy and cheap, to make your own splash markers.

I started with some 20mm diameter MDF bases to which I applied bits of DAS® air drying clay blended together using PVA glue. Once dried, the PVA creates a hard surface and also helps the clay stick to the base. To suggest 'waves' I pressed the round handle of a small paint brush into the clay before it had dried.

To support the 'plumes' of water I used garden wire because it's easy to bend and cut. Once the clay had thoroughly dried I drilled a series of holes into the base into which short lengths of the wire were glued.



The plumes themselves were formed using 'Clump Foliage'- pieces of dyed sponge, usually green. I broke the foliage into smaller clumps and pushed them down the wire, gradually building up the individual plumes until they reached the right height. Untreated, the foam can break up, so I bought some cheap superglue and dripped it onto the foliage which quickly soaked it up and set solid.

The first painting stage was to spray the markers grey. I used cheap car primer from my local discount store. I wouldn't use it for figures but here it worked just fine. I needed several coats because the clumps of sponge soaked up paint like … well, a sponge.

Finally I painted any exposed areas of the bases with pure white because the area immediately around 'water splashes' is invariably a foaming white. And that's it. Obviously its difficult to truly capture something that moves, like a water splash or smoke, in a static form, but these work fine for me, and they were very cheap and simple to make. I've now got to find a way to ensure that players miss their intended targets so I can deploy my markers….

(In the background you can see the markers alternatively employed as shell blasts.)

WARGAMES illustrated®

Wargames Illustrated is the world's premier tabletop gaming magazine and throughout its thirty-three years of history the magazine has showcased some of the best model making talent in the wargames hobby.

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