Watermill Building Plans

For complete building instructions and instructional videos, please visit the main web site at www.hirstarts.com/watermill/watermill.html. Using these plans alone will not give you enough information to build the water mill.

Please note that this is a fairly large and complex project. If this is your first building project using Hirst Arts molds, I strongly suggest you choose a more simple project instead.

This project uses six different Hirst Arts molds. The number of castings needed are:
- 20 castings of mold #226, wooden beam mold
- 16 castings of mold #225, half timber mold
- 15 castings of mold #253, brick panel mold
- 10 castings of mold #263, rubble block mold
- 10 castings of mold #230 clay tile roof mold
- 8 castings of mold #227, tavern window and door mold

This project is designed so that you do not have to make the river or water wheel portion of the mill if you do not want to. If you leave these off, you can simply make a nice looking two-story house. However, you will have a few extra unused castings if you do this.

Please do the steps below in order.

Step 1: Castings and Printed Plans.
Cast all of the molds and sort the pieces. If you place all of the pieces from one mold on a sheet of cardboard, it will be easier to find the pieces you need and move them out of the way when you don’t need them.

After printing these plans, several pages will need to be taped together to form a larger plan. Below is a diagram of which pages need assembled.

<table>
<thead>
<tr>
<th>Page 4</th>
<th>Page 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page 6</td>
<td>Page 7</td>
</tr>
</tbody>
</table>

| Page 8 | Page 9 | Page 10 | Page 11 |

Step 2: Gluing wood and stone sections.
Glue together the following wood and stone sections:
- B1 bottom floor
- B2 main beams (7)
- B7 chimney bottom
- B8 lower fireplace (don’t glue mantle onto fireplace)
- B9 stairway
- B10 large braces
- B11 small braces
- B12 porch side braces
- B13 porch side railing
- B14 porch front brace
- B15 porch front railing
- B16 front and side doors (2)
- T1 top floor
- T2 main beams (6)
- T6 bay window side
- T7 bay window
- T8 bay window side
- T10 chimney top
- T11 upper fireplace
- T12 porch front top
- T13 porch front railing
- T14 porch side braces
- T15 porch side railing
- T16 stair railing
- T17 upper front door

R4 roof dormer peaks
R5 roof dormer windows
W4 wooden wheel
W5 stone wheel support
(12 wooden paddles around the wheel will be painted on all sides along with this group.)

Floor sections B1 and T1 can be glued to thin card stock or matt board. You can lay the plans for B1 and T1 over card stock, poke holes in the corners, connect the dots and use this as a guide as to where to spread the glue on the floor.
Step 3: Cutting the water base.
If you intend to make the water level, you will need 1/2” thick insulating foam. Lay the plans for W1, W2 and W3 over the foam and poke holes through the plan into the foam. Then connect the dots and accurately cut the three foam shapes. Glue the W2 and W3 foam slabs together. Cut the bank edges in a slope towards the water. You may even want to cut a rock texture into the banks. Glue the rubble blocks around W3 to form the foundation stone under the house. Also glue the stones onto the face of W2. If your foam is slightly thicker than 1/2”, then be sure the stones of the foundation are flush with the top of the foam. The gap underneath can be covered with ground scenic materials later on.

Cut out the riverbed printed texture and varnish it down onto W1. Glue paper on the underside of the hole in W1 and paint the bottom of the hole brown. W2 and W3 will be glued down to W1 after the stone foundation and banks are painted.

Step 4: Painting the pieces and base.
Review the pieces list on page 23 of these plans. All of these pieces will be prepainted individually before gluing them together to form walls. Since this is an exact count of the pieces you will need, it’s a good idea to paint a couple extra of each piece in case you break or lose a piece.

Start with the brick panels. Use permanent double stick tape to stick down the brick panels onto pieces of cardboard. The backs of the pieces may need to be sanded slightly in order to stick. Split five of the 1” x 2” vertical brick panels down the center and split one of the 2” square sections as well. Spray paint these a flat or satin almond color. When dry, stain them with brown shoe polish and wipe off the excess.

Next are the half timber and decorative window pieces. Look on the parts list on page 23 and stick these pieces down to chunks of cardboard. These may also need sanding on the back side. All of these timbers and windows will be spray painted flat black (don’t forget the three iron straps from mold #226).

Spray paint flat black all of the wooden and stone sections that you assembled on step 1 of these instructions.

Hand paint W2 and W3 (stone foundation and banks) flat black using thinned down acrylic paint. You cannot spray paint these because spray paint will dissolve the foam.

Dry brush all wooden pieces with medium brown from the earth tone colors. Mask off the stone sections on floors B1 and T1, then heavily dry brush all stone pieces using the same medium brown. Afterwards, lightly dry brush all stone sections with light gray from the castle gray colors. Dry brush all hinges and straps with silver.

Step 5: Building the remaining walls.
Assemble wall sections B3, B4, B5, B6, T3, T4, T5 and T9 using all prepainted brick panels and timbers. Wait to glue on fireplaces and items with hinges until after the walls are assembled, otherwise wall will not lay flat when gluing on the back side.

Paint the insides of the doorways and the tops of the wall sections with raw umber paint (or some color that looks appropriate). This will hide the light brick color that’s sandwiched between the dark planks. Paint black on the insides of the chimney and dry brush black around the fireplace openings and chimney top.

Step 6: Gluing the walls onto the floors.
Glue the bottom floor pieces B2, B3, B4, B5 and B6 onto the B1 floor to form a complete circle of wall. Glue the porch pieces B2, B12, B13, B14 and B15. Do not glue on the chimney yet. Once dry, flip this first floor upside down and glue the B10 and B11 braces onto the outsides of the wall.

Glue the top floor pieces T2, T3, T4, T5, T6, T7, T8, and T9 onto the T1 floor to form a complete circle of wall. Assemble the upper porch using pieces T2, T12, T13, T14 and T15.

To determine where the chimney should go, set the first floor of the house down onto the foundation (or onto page 14 of the plan if you didn’t make a foundation). Set the second floor down on top of the first floor so they line up. Glue the bottom and top chimneys onto the sides of the house, making sure that the right side of the chimney aligns with the center peak of the house.

Step 7: Finishing the water base.
Glue W2 and W3 down onto W1 foam base. Glue the wooden insert into the W5 stone wheel support. Glue the wooden
paddle template (looks like a saw blade) onto some heavy card stock and cut it out. Use this as a guide to glue the wooden paddles into the water wheel. Slide a B2 beam through the water wheel (trimming will be needed) and position the water wheel according to the instructions on the web site. The B2 beam should not interfere with setting the house into position on the foundation.

Dam around the outside edges of the river using strips of insulating foam with packaging tape stuck to them. Pin these in place around the river and seal all edges using 5 minute epoxy. Mix up 12 ounces of Envirotex Lite and add food coloring; 5 drops blue, 5 drops green and 2 drops red. Mix this up and pour it into your river. When cured, remove the strips and trim off any excess plastic. Varnish the wooden wheel with gloss varnish. Use acrylic gloss medium to texture the water. Finish the dry land by painting it a dirt color and gluing on ground foam scenic materials.

**Step 8: Making the roof.**

Lay the roof plans for R1 and R2 onto thick card stock and poke holes in the corners. Remove the plan and connect the dots, then cut the outside shape of the roof. Across the main peak, cut only halfway down into the card stock so the roof will fold properly. The small side roof on R1 will need to be cut underneath so this part will fold upwards. Test fit the roof onto the building and trim as needed. Glue the roof tiles from mold #230 into place on the roof and glue on the peak tiles. Tiles on the plan that look "broken" will need to be trimmed to fit properly. This can be done using tile nippers and a file.

Roof section R2 will need to be assembled separately. Find a good 90 degree angled peak surface to set the card stock roof section over and glue on the roof tiles, extending over the angled back edge. Also glue on the peak tiles. Once dry, the back edge of the roof will need to be carefully clipped and sanded to fit against the R1 main roof. Once it fits properly, glue it into place and then fill any large gaps between R1 and R2 with paintable caulking.

Once completely dry, glue three of the 90 degree angle supports (found on page 36) underneath R1 and one underneath R2. These can be made from cardboard or foam core board. Be sure these are at least one inch in from the edge of the roof.

Lay the roof plans for R3 onto thin card stock and poke holes in the corners. Remove the plan and connect the dots, then cut the outside shape of the roof. Do this for two small roofs. Fold these down the center line, lay them over a 90 degree peak surface and glue on the roof tiles and peak tiles.

 Completely paint all three roof sections (main assembled roof and two dormer roofs). Spray paint them with rust colored primer and then dry brush them with medium pink.

When dry, glue together the R3, R4 and R5 pieces to form the completed dormers. After the glue dries, trim and sand the back edge of the dormer roofs to fit flat against the existing roof and glue them into place. It really doesn’t matter how you position them, but try to put the edges of the dormers resting on the top peaks of the tiles so you don’t have deep grooves around the edges of the dormers.

Touch up any places with paint that need it. Many times, planks will have a white edge showing where they connect to a wall beam.
W3 is cut from a ½" thick insulating foam and foundation of the building.

W2 is a 12" x 7 3/4" piece of ½" thick insulating foam with notches cut out of it to fit the lowest stone wall across the waterside of the mill.

W3 is cut from a ½" thick insulating foam and foundation of the building.

B10
Make 4 of these
Glue 2 braces back to back and glue them under a 1" beam.

B11
Glue 2 pieces back to back.
Make 4 of these
Texture side facing upward.

R
Roof

T
Top floor

B
Bottom floor
W3 is cut from a ½”thick insulating foam and fitted around the foundation of the building.

W1 is a 12” x 12” piece of ½” thick insulating foam.

This edge will be carved to slope down into the water.

Top edges of hole are tapered outwards so wooden wheel will fit.

Lay this plan over your pieces of ½” thick insulating foam. Poke small holes at the dots with a pen. This will give you the outline of where the foam should go for the first three bottom layers W1, W2 and W3.
From a ½” thick piece of foam and forms the on of the building all W1-W2

Window are glued to thick card stock and button is glued in the center. This is painted a wooden color and then glued into the square hole after the stone is painted back to back with 2” planks glued onto top and bottom. These panels go on the back side of the diamond windows. These panels go on the back side of the diamond windows.

Trim off the extra 2.5” plank length.

Windows glued back to back with 2” planks glued onto top.
This is a hole cut out of the W1 piece of ½" foam. This edge will be carved to slope down into the water. The bottom of the hole is covered with card stock and sealed so that the water will not leak out the bottom.

Wooden beams from Mold #225
Wooden Planks from Mold #226
Brick panels from Mold #227
Pieces from Mold #222
Stone from Rubbleblock Mold #263
Clay roof tiles from Mold #230
Color Key

½" thick pink or blue insulating foam (shown on right)

Outside

blocks

Sloped

1.5"

2"
Right side of Watermill
Left side of Watermill
Top chimney core is made from two 2.5” beams.

Glue back to back with blocks wrapped around it.

All windows are a single window glued onto thick card stock. These windows will end up being recessed.

Squared tops of windows are sanded down to fit the rounded stone arches.

In the stone and painted a stone color.

Goos behind here.

This group of blocks goes behind here.

1” block on edge.

Four of each block glued together.

Glue these 3 brick strips on the shoulders of the chimney.

Glue these 3 brick strips on the shoulders of the chimney.

All windows are a single window glued onto thick card stock. These windows will end up being recessed.
Template for position of paddles. Paddles are made from 1.5" long beams placed on end. Glue this template to thick card stock. Cut out on dotted lines. Position center hole over hole on frame. Make 6 of these.

Make 7 of these. Make 6 of these.

These are two 3" beams glued back to back. These are two 3" beams glued back to back.

These are two 2" beams with an angle on the end glued back to back. 3/4" stones on their side. Two 3/4" planks stacked.

3/4" stones on their side. Two 3/4" planks stacked.

2" 2"

2.5"

3/4" 3/4"

1" 1"

2" 1.5"

1.5" 1.5"

Placed on end.

Temple for position of paddles. Paddles are made from 1.5" long beams. Glue this template to thick card stock. Cut out on dotted lines. Position center hole over hole on frame. Make 12 paddle beams 1.5" long. Extra glue needed here. Smallest angles needed here.

1" 1"

2" 2"

2" 2"

1" 1"
Wooden beams from Mold #226
Wooden Planks from Mold #225
Windows and decorative pieces from Mold #227

Stack of 2 planks
Glue these back to back

T6
T8
T7

Glue these back to back

Stack of 2 planks under windows
Glue these back to back

Wooden Planks from Mold #225
Windows and decorative pieces from Mold #227
Glue the large supports centered under the beam with the texture facing outward.

Small supports glued back to back and centered under beam.

Upper Porch

1" plank glued onto back side.

3" beam glued onto edge.

1" angle beam with two decorated windows glued back to back with planks all around.

Large angle braces with texture facing outwards.

Make 2 each of these

The peak R4 and the window R5 are assembled separately, then painted a wood color.

The roof R6 is assembled and painted separately. Afterwards, it is glued onto the roof and the back is sanded fit onto the existing roof.

B113

B12

B14

B15

Each adifferent direction.
This is the front of the upper porch. After all pieces are painted and the porch is assembled, glue these small supports back to back, then glue them into the corners.

Make 2 of these

Make 2 of these

3” beam texture side facing up.

Door glued back to back

3” beam on edge

1” plank on top

Decorative windows glued back to back

Small supports centered under beam.

1” beam on edge

Texture side facing up.

Upper Porch
Wooden beams from Mold #226
Wooden Planks from Mold #225
Windows and decorative pieces from Mold #227
Stone from Rubble block Mold #263

Glue this assembled side onto a thick piece of card stock.

```
1" 1"
2" 2"
2.5" 2.5" 2.5" 2.5"

Glue these stoneblocks together.

Rail top is a 2" and a 2.5".

Right

Railing is inset slightly.

Steps are 1.5" beams.

Stairway

Top step will overhang slightly.

Texture facing toward you.

Rail top will set flush so the plank end plank. Sand one end.

Front

Stairway

Glue this assembled side on to a thick piece of card stock.

Glue undermantel.

Sanded blocks.

Steps are 1.5" beams.

Page 22
Pieces not shown will not need to be painted individually.

Pieces to be separately taped down to cardboard and painted individually.

These are from the half timber mold #225.

15 castings will not have enough of some pieces such as the 1" squares. To make these extra pieces, you will need to break some of the larger pieces in half.

Snap 5 of the remaining pieces in half to make the 1" squares you need.

Snap 1 of the remaining pieces in half to make the 2 extra horizontal panels.

No small angles are needed.

Straps from mold #226 painted like wood.

These are from the tavern window & door mold #227.

The number of pieces shown here are the exact number needed for the walls. It's probably a good idea to paint a couple of extra pieces, just in case you accidentally break or lose some pieces.

These are from the brick panel mold #253. You will notice that with 15 castings you will not have enough of some pieces such as the 1" squares. To make these extra pieces, you will need to break some of the larger pieces in half.

These are from the brick panel mold #225.
Do not glue door in place.

Wooden Planks
from Mold #225

Brick panels

Pieces of decorative
windows and moldings
from Mold #227

Inside of wall

Do not glue door in place.

Page 24
Wooden Planks from Mold #225
Windows and decorative pieces from Mold #227
Brick panels from Mold #253

Do not glue door in place.
Do not glue door in place.

Do not glue door in place.

B4

Inside of wall

Outside of wall

1.5" Bricks panels from Mold #253

1.5" Brick panels from Mold #227

2.5" Pieces from Mold #227

2.5" Wooden Planks from Mold #225

2" Do not glue door in place.

2" Do not glue door in place.

1" Do not glue door in place.

1" Do not glue door in place.
Wooden Planks from Mold #225
Windows and decorative pieces from Mold #227
Brick panels from Mold #253

This area will be covered by the stairway.

2” plank on edge to form a bench. Wait and glue this after wall is completely assembled.

corners nipped off 2” plank.

2” plank on edge.
Wait and glue this door on after wall is completely assembled because the hinges stick out.

Page 28
Wooden beams from Mold #226

Window and decorative pieces from Mold #227

Brick panels from Mold #253

Hole for fireplace goes here.

Chimney on outside of house goes here.

Wait to glue it on after the wall is assembled.

Fireplace and mantel goes here.

B6

Page 29
Do not glue door in place.

Wooden Planks from Mold #225
Windows and decorative pieces from Mold #227
Brick panels from Mold #253

Inside of wall
Do not glue door in place.
Do not glue door in place.

Glue the shutters on after the wall section is completely assembled because the hinges stick out.
Wooden Planks from Mold #225
Windows and decorative pieces from Mold #227
Brick panels from Mold #253
Wooden Planks from Mold #225

Windows and decorative pieces from Mold #227

Brick panels from Mold #253

Clay roof tiles from Mold #230

T9 Inside of wall

Hole for fireplace

Fireplace goes here

Glue this on after the wall section is assembled.

Edges will be broken off and sanded.

Clay roof tiles

Brick panels

Wooden Planks

Windows and decorative pieces

Brick panels

Clay roof tiles
Clay roof tiles from Mold #230

½"

½"

1"

1.5"

1.5"

2"

2"

2"

2"

2.5"

2.5"

Wooden Planks from Mold #225

Windows and decorative pieces from Mold #227

Brick panels from Mold #253

Outside of wall

Hole for fireplace

Chimney goes here

Roof angle supports.

Make 2 sets of these.

Make 2 of these.

Edges will be broken off and sanded.
Clay roof tiles from Mold #230

Roof tiles on this section may have to move slightly, so glue these after the roof has been set on the building.

Score on back side and fold up.

Score and fold down.
Riverbed

Image from Mayang’s free texture library

Slots may need to be cut deeper depending on the angle of your slope.

W5 wheel support goes here

Cut slots