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PRODUCT OVERVIEW

BuildRadius takes a new direction to form radius walls. The forms are based on quarter arc size (90° corner). The 2-foot, 4-foot, 8-foot, 12-foot, 16-foot, and 20-foot form sizes create a 90° corner in that many feet. Combined, these fully interlocking radius forms can create curved walls with outside circumferences of 8-foot, 16-foot, 32-foot, 48-foot, 64-foot and 80ft.

Web spacing is maintained at 6"o.c. on the outer panel. The unique interlocking design of BuildBlock forms is blended into the curve of the panels. This interlock pattern provides the standard 12" offset common to all BuildBlock ICF forms. It creates in a much stronger stacked radius wall by eliminating vertical seams on the radius.

The 2-foot and 4-foot forms were designed with an integrated straight section allowing the running bond to seamlessly stack into a BuildBlock wall. Each of these forms may be used as corner forms.

Using BuildRadius forms, castle turrets, Spanish-style homes with rounded corners, and sweeping arcs of all sizes are all easily accomplished. Swimming pools and hot tubs also benefit from the design options available with BuildRadius.

PRODUCT LABELING

The block size is labeled on the face of the form within the curved sections. Differentiating between a 12-foot and a 16-foot in the field would prove challenging at best.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBR-602</td>
<td>2-foot arc radius form</td>
</tr>
<tr>
<td>BBR-604</td>
<td>4-foot arc radius form</td>
</tr>
<tr>
<td>BBR-608</td>
<td>8-foot arc radius form</td>
</tr>
<tr>
<td>BBR-612</td>
<td>12-foot arc radius form</td>
</tr>
<tr>
<td>BBR-616</td>
<td>16-foot arc radius form</td>
</tr>
</tbody>
</table>

DESIGN CONSIDERATIONS

Certain conventions should be adopted when designing walls with BuildRadius. The forms are designed around the 90° arc length of the curve, rather than a true even radius. It is necessary to refer to the chart in this manual for proper layout dimensions.

When integrating each end into a straight wall, use the outer panel as the reference. The larger arc forms work best when integrated using a 90°corner. If starting the radius from a straight wall section, a custom cut match the arc is required. See detail 65G for reference.

BUILDADIUS INSTALLATION

2-FOOT RADIUS AND 4-FOOT RADIUS

The 2-foot and 4-foot BuildRadius forms are designed to be used much like a 90° corner form, and will stack and interlock with BuildBlock, BuildLock, and GlobalBlock forms of the same core width.

Joining to Straight Walls

Molded straight panel sections on each form blend into the curve so these forms provide the standard 12" offset (running bond) similar to standard BuildBlock corners. The 2-foot form has an 18" section on one end and a 6" section on the other to ensure a strong connection. The 4-foot form has a 12" section at one end. The top and bottom course should be spot glued at the ends.
Stacking Strategies

The forms should be alternated at each course to establish the 12" offset (running bond) for the straight blocks along the wall. No additional cuts will be necessary with these two forms, as they inherently provide their own overlaps.

Coming Full Circle

Continuing a curve beyond the 90° arc molded into the forms will require removal of the straight sections of the blocks. It may also be necessary to cut the forms on every other course, at the 45° cut line to provide the correct overlap.

8-FOOT, 12-FOOT, 16-FOOT, 20-FOOT:

The 8-foot and larger radius forms are designed to stack in a running bond and to create curved walls at any amount of angle, but preferably in 90° increments.

Joining to Straight Walls

Larger BuildRadius forms do not include a straight block section. These will not integrate an existing running bond and will form a common seam or (stack joint). Common seams should be adequately strapped with wood or Masonite strips and braced appropriately. These will conform to the curve and provide resistance against spreading. All seams should also be glued with foam to assist in maintaining position and to limit concrete leakage.

Centerline (CL) Cuts

The larger radii, 8-foot, 12-foot, 16-foot, and 20-foot require half block cuts every other course when stacking against a straight wall. The Center Line (CL) is marked on the forms, for easy cutting. Cut forms may be used on each end of a course when making 90°, 180° and 270° curved walls eliminating any waste.

Stacking Strategies

Forms should be stacked with a 12" overlap to maximize the strength of the wall during the pour. Foam glue should be applied at the stack joint along with Masonite strapping for a smooth transition to the radius. Sufficiently brace all vertical seams.

Coming Full Circle

If a full circle tower is desired, forms do not need to be trimmed. The 12" overlap can be easily established by offsetting the form above aligning the edge to the centerline (CL) of the form below, and alternating rows as you continue stacking the wall.
BUCKS AND PLATES
Bucks and plates will be cut as sections of the curve. They may be constructed of plywood, dimensional lumber or timberstrand material. Cuts may be made as curves or as trapezoidal sections fitted together. Brace appropriately.

Bulkheads should be strapped back onto the wall with wood, Masonite, or other flexible support material to conform to the curve of the wall. Add additional bracing and strapping as necessary.

REBAR
Bending rebar to conform to the curve will require trial and error to ensure that the spring-back in the bar is not greater than the curve of the form. It will be necessary to bend the curves incrementally, and also to bend the bar past the curve to control the spring-back. A template may be made if a number of bars are required for the project, making the results more consistent.

For example, it may prove advantageous to use #3 bar and place one bar every course, rather than a #4 bar every other course.

BRACING
In addition to strapping at common seams, standard ICF bracing should be installed at 4ft or 5ft intervals. Closer spacing may be necessary to provide support for walkboards on tighter walls. If using walkboards on the bracing, ensure that all walkboards are secured appropriately.

POURING & CONSOLIDATION
There is little difference in pouring the radius forms compared to straight walls or other specialty forms. Use caution at all vertical seams at the transitions from other forms. Treat these forms as you would any other corner form and pour appropriately.

FINISHING
Finishing with EIFS, stucco, or plaster will require no special treatment. Interior finish with drywall may require the use of a thinner drywall layered to maintain thickness. This will allow the drywall to conform to the curve.
# BuilddRadius Product Specification Table

The table below provides critical dimensions for planning the radius in your project. The preformed arc radius forms deliver precision each and every time.

<table>
<thead>
<tr>
<th>PRODUCT ID</th>
<th>BBR-602</th>
<th>BBR-604</th>
<th>BBR-608</th>
<th>BBR-612</th>
<th>BBR-616</th>
<th>BBR-620</th>
</tr>
</thead>
<tbody>
<tr>
<td>90° ARC LENGTH</td>
<td>2ft / 60.96 cm</td>
<td>4ft / 121.92 cm</td>
<td>8ft / 243.84 cm</td>
<td>12ft / 365.76 cm</td>
<td>16ft / 487.68 cm</td>
<td>20ft / 609.6 cm</td>
</tr>
<tr>
<td>BLOCK ANGLE</td>
<td>90°</td>
<td>90°</td>
<td>22.5°</td>
<td>15°</td>
<td>11.25°</td>
<td>9°</td>
</tr>
<tr>
<td>OUTER ARC LENGTH</td>
<td>24 in / 60.96 cm</td>
<td>48 in / 121.92 cm</td>
<td>24 in / 60.96 cm</td>
<td>24 in / 60.96 cm</td>
<td>24 in / 60.96 cm</td>
<td>24 in / 60.96 cm</td>
</tr>
<tr>
<td>INNER ARC LENGTH</td>
<td>20.1875 in / 51.27 cm</td>
<td>30.68 in / 77.94 cm</td>
<td>19.75 in / 50.16 cm</td>
<td>21.125 in / 53.65 cm</td>
<td>21.0125 in / 53.40 cm</td>
<td>22.25 in / 56.51 cm</td>
</tr>
<tr>
<td>STRAIGHT LEG</td>
<td>18 in / 6 in 45.72 cm / 15.24 cm</td>
<td>12 in / 0 30.48 cm / 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PANEL HEIGHT</td>
<td>16 in / 40.64 cm</td>
<td>16 in / 40.64 cm</td>
<td>16 in / 40.64 cm</td>
<td>16 in / 40.64 cm</td>
<td>16 in / 40.64 cm</td>
<td>16 in / 40.64 cm</td>
</tr>
<tr>
<td>OUTER PANEL SURFACE AREA</td>
<td>5.333 ft² 0.4951 m²</td>
<td>6.667 ft² 0.6193 m²</td>
<td>2.667 ft² 0.2477 m²</td>
<td>2.667 ft² 0.2477 m²</td>
<td>2.667 ft² 0.2477 m²</td>
<td>2.667 ft² 0.2477 m²</td>
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<tr>
<td>INNER PANEL SURFACE AREA</td>
<td>4.91 ft² 0.4561 m²</td>
<td>4.743 ft² 0.4406 m²</td>
<td>2.194 ft² 0.2038 m²</td>
<td>2.347 ft² 0.2180 m²</td>
<td>2.424 ft² 0.2251 m²</td>
<td>2.472 ft² 0.229 m²</td>
</tr>
<tr>
<td>CONCRETE VOLUME</td>
<td>0.056296 yd³ 0.043041 m³</td>
<td>0.105645 yd³ 0.080771 m³</td>
<td>0.045099 yd³ 0.03448 m³</td>
<td>0.04642 yd³ 0.03549 m³</td>
<td>0.04715 yd³ 0.036048 m³</td>
<td>0.047606 yd³ 0.036397 m³</td>
</tr>
<tr>
<td>OUTER DIAMETER</td>
<td>2.55 ft / 30.56 in 77.72 cm</td>
<td>5.09 ft / 61.12 in 155.14 cm</td>
<td>10.19 ft / 122.23 in 310.59 cm</td>
<td>15.28 ft / 183.35 in 465.73 cm</td>
<td>20.37 ft / 244.46 in 620.88 cm</td>
<td>25.46 ft / 305.58 in 776.02 cm</td>
</tr>
<tr>
<td>OUTER RADIUS</td>
<td>1.27 ft / 15.28 in 38.81 cm</td>
<td>2.55 ft / 30.56 in 77.72 cm</td>
<td>5.09 ft / 61.12 in 155.14 cm</td>
<td>7.64 ft / 91.67 in 232.87 cm</td>
<td>10.19 ft / 122.23 in 310.59 cm</td>
<td>12.73 ft / 152.79 in 388.01 cm</td>
</tr>
<tr>
<td>INNER DIAMETER</td>
<td>0.71 ft / 8.5 in 21.64 cm</td>
<td>3.26 ft / 39.125 in 99.36 cm</td>
<td>8.35 ft / 100.25 in 254.51 cm</td>
<td>13.45 ft / 161.375 in 409.96 cm</td>
<td>18.54 ft / 222.5 in 565.1 cm</td>
<td>23.63 ft / 283.625 in 720.24 cm</td>
</tr>
<tr>
<td>INNER RADIUS</td>
<td>0.36 ft / 10.97 cm 1.63 ft / 49.68 cm</td>
<td>1.63 ft / 49.68 cm 4.18 ft / 127.41 cm</td>
<td>6.72 ft / 204.82 cm 18.82 ft / 57.92 cm</td>
<td>9.27 ft / 282.54 cm 27.82 ft / 84.8 cm</td>
<td>11.82 ft / 360.27 cm 45.82 ft / 139.1 cm</td>
<td>80 ft / 24.384 m</td>
</tr>
<tr>
<td>CIRCUMFERENCE</td>
<td>8 ft / 2.4384 m</td>
<td>16 ft / 4.8768 m</td>
<td>32 ft / 9.7536 m</td>
<td>48 ft / 14.6304 m</td>
<td>64 ft / 19.5072 m</td>
<td>80 ft / 24.384 m</td>
</tr>
<tr>
<td>EPS FOAM DEPTH</td>
<td>2.5” / 6.35 cm Total 6.35 cm / 12.7 cm Total</td>
<td>2.5” / 6.35 cm Total 6.35 cm / 12.7 cm Total</td>
<td>2.5” / 6.35 cm Total 6.35 cm / 12.7 cm Total</td>
<td>2.5” / 6.35 cm Total 6.35 cm / 12.7 cm Total</td>
<td>2.5” / 6.35 cm Total 6.35 cm / 12.7 cm Total</td>
<td>2.5” / 6.35 cm Total 6.35 cm / 12.7 cm Total</td>
</tr>
</tbody>
</table>
NOTES:
BUILDRadius FORMS ARE SIZED BY
THE LENGTH OF THE OUTER PANEL AT
A 90° ARC. THE RADIUS AND DIAMETER
OF THE FORMS ARE GIVEN IN THE
ACCOMPANYING CHART.
THIS FORM INTEGRATES WITH
Sraight FORMS AND DOES NOT
REQUIRE CUTTING TO PROVIDE 12 INCH
OFFSET.
BLOCK COURSING IS 1'-6".

<table>
<thead>
<tr>
<th>BUILDRadius 2-FOOT ARC RADIUS PRODUCT DETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATE/REV</strong></td>
</tr>
<tr>
<td><strong>NOTES</strong></td>
</tr>
</tbody>
</table>
BUILDING SYSTEMS

BUILDRADIUS 4-FOOT ARC RADIUS PRODUCT DETAIL

DATE/REV 8/2016 SCALE NTS DETAIL SHEET

NOTES:
BUILDRADIUS FORMS ARE SIZED BY
THE LENGTH OF THE OUTER PANEL AT
A 90° ARC. THE RADIUS AND DIAMETER
OF THE FORMS ARE GIVEN IN THE
ACCOMPANYING CHART.
THIS FORM INTEGRATES WITH
STRAIGHT FORMS AND DOES NOT
REQUIRE CUTTING TO PROVIDE 12 INCH
OFFSET.
BLOCK COURSING IS 1'-4".

<table>
<thead>
<tr>
<th>4FT BUILDRADIUS FORM SPECIFICATIONS</th>
<th>IMPERIAL</th>
<th>METRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLOCK ANGLE 90°</td>
<td>6.67 FT²</td>
<td>0.693 M²</td>
</tr>
<tr>
<td>OUTSIDE PANEL AREA 4.73 FT²</td>
<td>0.6406 M²</td>
<td></td>
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<tr>
<td>OUTER PANEL ARC LENGTH</td>
<td>4-FT 0-IN</td>
<td>121.92 CM</td>
</tr>
<tr>
<td>INNER PANEL ARC LENGTH 2-FT 6-11/16-IN</td>
<td>78 CM</td>
<td></td>
</tr>
<tr>
<td>OUTER RADIUS 2-FT 6-9/16-IN</td>
<td>77.62 CM</td>
<td></td>
</tr>
<tr>
<td>INNER RADIUS 1-FT 7-9/16-IN</td>
<td>49.88 CM</td>
<td></td>
</tr>
<tr>
<td>STRAIGHT SECTION LENGTHS 12-IN</td>
<td>30.5 CM</td>
<td></td>
</tr>
<tr>
<td>CONCRETE VOLUME 0.05645 YD³</td>
<td>0.080771 m³</td>
<td></td>
</tr>
</tbody>
</table>

9705 N. BROADWAY EXTENSION, SUITE 200, OKLAHOMA CITY, OK 73114
OFFICE: 405-840-3386 | TOLL FREE: 866-222-2575 | FAX: 831-597-0792
BUILDBLOCK.COM

CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE
LOCAL AND NATIONAL CODES. ALL DRAWINGS ARE SUBJECT TO
CHANGE WITHOUT NOTICE.
NOTES:
BUILD RADIUS FORMS ARE SIZED BY
THE LENGTH OF THE OUTER PANEL AT
A 90° ARC. THE RADIUS AND DIAMETER
OF THE FORMS ARE GIVEN IN THE
ACCOMPANYING CHART.
TO CREATE A RUNNING BOND WHEN
INTEGRATING WITH A STRAIGHT BLOCK
WALL, CUT THE FORM IN HALF,
VERTICALLY AT THE CENTERLINE (Ø)
USING ONE HALF OF THE BLOCK AT
EACH END ON EVERY OTHER COURSE.
BLOCKS STACK @ 1'-4" INCREMENTS

<table>
<thead>
<tr>
<th>8 FT BUILD RADIUS FORM SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IMPERIAL</strong></td>
</tr>
<tr>
<td>BLOCK ANGLE</td>
</tr>
<tr>
<td>OUTSIDE PANEL AREA</td>
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<tr>
<td>INSIDE PANEL AREA</td>
</tr>
<tr>
<td>OUTER PANEL ARC LENGTH</td>
</tr>
<tr>
<td>INNER PANEL ARC LENGTH</td>
</tr>
<tr>
<td>OUTER RADIUS</td>
</tr>
<tr>
<td>INNER RADIUS</td>
</tr>
<tr>
<td>STRAIGHT SECTION LENGTHS</td>
</tr>
<tr>
<td>CONCRETE VOLUME</td>
</tr>
</tbody>
</table>
NOTES:
BUILDADIUS FORMS ARE Sized By
THE LENGTH OF THE OUTER PANEL AT
A 90° ARC. THE RADIUS AND DIAMETER
OF THE FORMS ARE GIVEN IN THE
ACCOMPANYING CHART.
TO CREATE A RUNNING BOND WHEN
INTEGRATING WITH A STRAIGHT BLOCK
WALL, CUT THE FORM IN HALF,
VERTICALLY AT THE CENTERLINE (X)
USING ONE HALF OF THE BLOCK AT
EACH END ON EVERY OTHER COURSE.
BLOCKS STACK @ 1'-4" INCREMENTS
NOTES:
BUILD RADIUS FORMS ARE SIZED BY
THE LENGTH OF THE OUTER PANEL AT
A 90° ARC. THE RADIUS AND DIAMETER
OF THE FORMS ARE GIVEN IN THE
ACCOMPANYING CHART.
TO CREATE A RUNNING BOND WHEN
INTEGRATING WITH A STRAIGHT BLOCK
WALL, CUT THE FORM IN HALF,
VERTICALLY AT THE CENTERLINE (A)
USING ONE HALF OF THE BLOCK AT
EACH END ON EVERY OTHER COURSE.
BLOCKS STACK @ 1'-4" INCREMENTS

<table>
<thead>
<tr>
<th>16FT BUILD RADIUS FORM SPECIFICATIONS</th>
<th>IMPERIAL</th>
<th>METRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLOCK ANGLE</td>
<td>11.25°</td>
<td>11.25°</td>
</tr>
<tr>
<td>OUTSIDE PANEL AREA</td>
<td>2.67 FT²</td>
<td>0.25 M²</td>
</tr>
<tr>
<td>INSIDE PANEL AREA</td>
<td>2.42 FT²</td>
<td>0.22 M²</td>
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<tr>
<td>OUTER PANEL ARC LENGTH</td>
<td>2FT 0IN</td>
<td>60.96M</td>
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<tr>
<td>INNER PANEL ARC LENGTH</td>
<td>1'-9 1/16 IN</td>
<td>55CM</td>
</tr>
<tr>
<td>OUTER RADIUS</td>
<td>10'-4 1/4 IN</td>
<td>310.47CM</td>
</tr>
<tr>
<td>INNER RADIUS</td>
<td>9'-1 3/4 IN</td>
<td>282.54CM</td>
</tr>
<tr>
<td>STRAIGHT SECTION LENGTHS</td>
<td>0'-IN</td>
<td>0-CM</td>
</tr>
<tr>
<td>CONCRETE VOLUME</td>
<td>0.04715 YD³</td>
<td>0.056058 m³</td>
</tr>
</tbody>
</table>
NOTES:
BUILD RADIUS FORMS ARE Sized BY THE LENGTH OF THE OUTER PANEL AT A 90° ARC. The RADIUS AND DIAMETER OF THE FORMS ARE GIVEN IN THE ACCOMPANYING CHART. TO CREATE A RUNNING BOND WHEN INTEGRATING WITH A STRAIGHT BLOCK WALL, CUT THE FORM IN HALF, VERTICALLY AT THE CENTERLINE (B) USING ONE HALF OF THE BLOCK AT EACH END ON EVERY OTHER COURSE. BLOCKS STACK @ 1'-4" INCREMENTS.
BUILD_RADIUS INSTALLED PERPENDICULAR TO STRAIGHT WALL. USING 90° CORNER FORM.

BUILD_RADIUS MAY BE FIELD CUT AND CONNECTED INTO A STRAIGHT WALL. REMOVE 6 INCHES FROM CONVEX PANEL OF BUILD_RADIUS FORM. FIELD CUT STRAIGHT FORM TO MATCH LOCATION OF RADIUS. EVEN AND ODD COURSES WILL HAVE ALTERNATING DIMENSIONS DUE TO RUNNING BOND OF BOTH STRAIGHT AND RADIUS WALL. STRAP AND BRACE COMMON SEAM AS REQUIRED. GLUE JOINTS USING SPRAY FOAM ADHESIVE.
The day for building your walls will come, the day for extending your boundaries.

Psalm 96:1

BUILDRADIUS PRODUCT & INSTALLATION MANUAL

The day for building your walls will come, the day for extending your boundaries.

Psalm 96:1

NORTH AMERICAN MANUFACTURING FACILITIES

BuildBlock Building Systems has fourteen manufacturing facilities across North America and plans to add locations for the next several years. This means we have the manufacturing capacity to meet your ICF needs now and in the future. Shorter shipping distances mean lower freight costs for you and your customers.

BuildBlock continually develops new products and technologies solving problems and meeting needs in residential, commercial, industrial, and institutional construction. We innovate with the goal of creating cost-effective techniques and products for our customers.

BuildBlock partners have facilities around the world to meet your needs including the Philippines, Cyprus, and Egypt and continue to expand. Choosing BuildBlock isn’t just about choosing the best ICF block on the market, it’s about finding a partner with a strong commitment to our customers, our business partners, and our industry.

MISSION

We envision a world where BuildBlock ICF technology delivers energy-efficient, safe, healthy, comfortable and sustainable ICF homes and buildings to millions of people worldwide through the uncompromising integrity of BuildBlock’s team of distributors, dealers and customers.

VISION

To harmoniously use the extraordinary gifts and talents of our distributors and dealers to fulfill the goals and dreams of millions of people who want to build better structures as reflected by our motto: “Build it once. Build it for life.”

To manufacture one of the most affordable and highest quality Insulating Concrete Forms available in the world today.

To build greatness by providing the resources and services needed for building successful ICF businesses and sustainable ICF structures.

To build an enduring, profitable company while conducting business with Godly character, fairness and integrity.

VALUES

INTEGRITY – We strive to balance the best interests of our distributors, dealers, customers, employees, and investors in an environment of Godly character and honesty.

EDUCATION – We seek to educate the public on the valuable benefits of ICF structures while recognizing that in order to expand the industry, we must educate installers, architects, and engineers in ICF best practices.

CUSTOMER SATISFACTION – We commit to building a team of employees that is inspired, empowered, and driven to meet the ever-changing needs of our distributors, dealers, and customers while we seek to distinguish ourselves in the marketplace by delivering exceptional customer satisfaction.

INNOVATION – We value and invest heavily in innovation while continually expanding our product line through the development of technologically advanced products.

QUALITY – We commit to producing the finest quality products. We stand by the belief that our brand embodies quality, consistency, user satisfaction, and service.

PROFITABILITY – We commit to the strong work ethic and financial prudence necessary to deliver financial results for our business partners and investors and to ensure a long-term profitable relationship.

EMPOWERMENT – We dedicate ourselves to empowering people to improve and enrich their lives and the world around them.