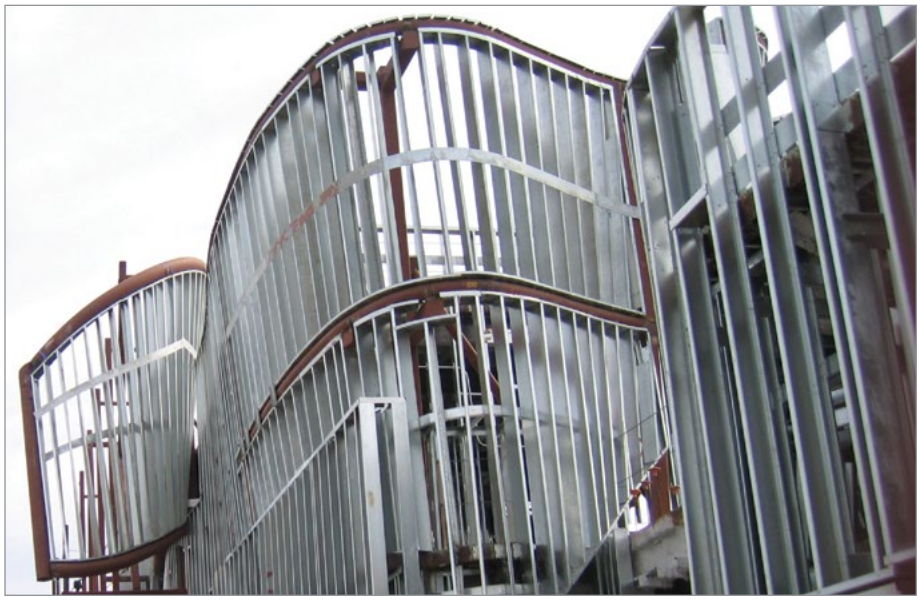
radiustrack®

THE ART AND SCIENCE OF SIMPLIFYING THE CURVE

Structural Metal Framing



Los Angeles Trade-Technical College (LATTC) / Los Angeles, CA

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1. Product Name

Radius Track® Custom Pre-Curved Solutions
· Curved-Right® Custom Framing
· Engineered Domes
· Complex Surface Framing

Radius Track Design Services
· BIM Technology & 3D Design

2. Manufacturer

Radius Track Corporation
3340 Winpark Drive
Minneapolis, MN 55427
888-872-3487 Toll Free Phone
763-795-8885 Local Phone
763-795-8884 Local Fax
info@radiustrack.com
www.radiustrack.com

3. Product Description

BASIC USE

Radius Track Corporation provides the means to easily and cost-effectively build any type of curved surface no matter how simple or complex, including:

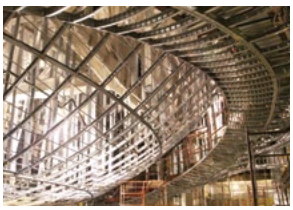
- Walls
- Soffits
- Curved Staircases
- Clouds
- Acoustical Deflectors
- Curved Risers
- Box Beams / Headers
- Top Cord Trusses
- Over Cord Trusses
- Arched Doorways
- Arched Windows
- Exterior Domes
- Interior Domes
- Barrel Vaults
- Groin Vaults
- Canopies
- Parapits
- Curved Facia
- Quonset Huts
- Spheres
- Furdowns
- Compound Curves
- Splines
- Ellipses

CURVED-RIGHT® CUSTOM FRAMING

Radius Track Corporation preformed steel curving offers installed pricing that is among the lowest available for structural framing jobs of all sizes, shapes, lengths and gauges.

Radius Track Corporation is able to custom pre-curve multiple types of cold-formed steel products into exact radius profiles. These profiles meet specification and tolerance requirements for almost any structural curved framing architectural design.

The product can be shipped right to the jobsite and will arrive on time, as promised, absolutely accurate and marked for quick, easy and simple installation. Getting a quote is simple…you can provide us the material list for what you need, or provide us the drawings and our designers will do the work for you.



Kauffman Center for the Performing Arts Kansas City, MO

Radius Track Corporation uses a patented bending process to cold form continuous framing members. After forming, the steel is then cut to exacting tolerances and curved accurately and consistently to client specifications. The result is a solid, continuous piece with a smooth, uniform curve.

COMPLEX SURFACE FRAMING SOLUTIONS

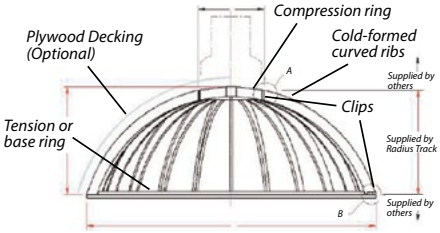
Through our advanced use of BIM technology and 3D design, Radius Track Corporation can dramatically simplify the process of building a surface with complex curves. Accurately dimensioned steel framing arcs, splines, ellipses, free-form 3D rule surfaces and compound shapes are generated from architectural drawings and cold formed to client specifications, resulting in an affordable and time-saving method of producing complex curving profiles.

Once we have completed the design, we produce 2D shop drawings from our 3D models to clearly show that our understanding of design intent is consistent with the designer's. Each component is uniquely marked to match detailed installation instructions to make the jobsite assembly quick and easy. At Radius Track Corporation, we have the capacity to pre-assemble panelized framing for your project. We work with you to identify the best approach for each specific jobsite condition to ensure best fit, delivery method and economy. We tailor our components to match the installation methods you prefer.

ENGINEERED DOMES

Now exterior domes of multiple sizes and shapes can be framed quickly and economically. Radius Track Corporation makes is easy to economically frame different sized domes with our complete structural exterior dome framing solutions. You'll find our dome ribs for smaller spans include precisely curved and cut pieces that are accurate and easy to install. For larger domes (> 45' in diameter) we offer cold-formed steel infill components still precisely curved to your requirements used in combination with structural steel (red iron) "super structure" framing.

When you order a dome solution from Radius Track Corporation you'll receive all of the pre-shaped structural parts ready for assembly.



This side view illustrates the parts supplied in a typical Radius Track solution:

- Compression Ring
- Ribs
- Angle Clips
- Tension Ring (if applicable), or base ring
- Rib Cross-Bracing (not shown in diagram)

As an option Radius Track offers pre-cut, plywood sheathing. For easy installation the sheathing is contour-cut into sections to match the rib structure of the dome and sized for your specific application.

Al-Hidaya Mosque Dome / Latham, NY

Radius Track domes cost up to 30% less than domes made using other construction methods. Typical dome types and shapes include (but are not limited to):

- 12-Sided Dome
- Standard Exterior Dome
- Large Interior Dome
- Exterior Elliptical Dome
- Onion Dome
- Large Dome with Windows
- Interior Elliptical Dome
- Large ½ Dome
- Bell Shaped Dome

PRECAUTIONS

Domes

- To ensure the most reasonable rates and the most timely delivery of components, consult Radius Track Corporation as early in the project planning phase as possible.
- Allocate adequate time for applicable structural engineering on all dome projects as the engineering and approval process can take up to 4 weeks depending on dome size, complexity and project data availability.
- In order to accommodate specific mounting needs, Radius Track must be notified in advance if cupolas, finials or other elements will be mounted atop dome structures.
- Radius Track Corporation does not supply fasteners for securing structural dome angle clips.

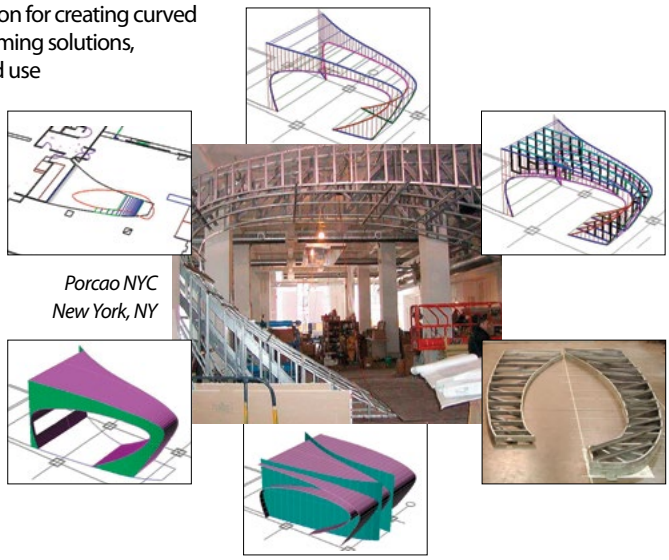
BIM TECHNOLOGY AND 3D DESIGN

Radius Track Corporation has developed a prominent reputation for creating curved cold-formed steel framing solutions, enabled by advanced use of BIM technology and 3D design.

The key advantage of our BIM technology and 3D design service is how collective communication with members of the project team helps avoid re-work and changes, provides conflict avoidance and helps increase productivity and efficiency to dramatically save both time and money. This allows all project participants to be on the same page for better collaboration and visualization every step of the way, making it easier to see what needs to be done.

Whether from PDF files or optimally from CAD (.dwg generated files), we work to translate 2D images and other information into 3D models. Because of our expertise in both interior and exterior cold-formed steel framing, we identify where small changes make powerful positive impacts that merge with your construction methods and materials planning. We interface with our structural engineering team in cooperation with the Structural Engineer of Record to test profiles size, validate corresponding framing depths and identify connection requirements to ensure compatibility and proper fit.

Radius Track Corporation has the capability of modeling your project in 3D before any steel beam and cold-formed framing members are fighting over the same space 40 feet in the air on your jobsite. This type of hard clash (two or more objects occupying the same space) is resolved using BIM techniques and clash detection well before anything is fabricated. Soft clashes (when two or more objects are impractically close to each other) hamper construction and create delays, and are another type of clash that BIM techniques help eliminate. Corrections can be made in the 3D model – saving time, headaches, sleepless nights and antacid. It also moves construction away from a "problem/solution" process toward a simpler "assembly" process. RFI's (requests for information) are reduced, field fixes and change orders are reduced and projects get delivered on (or ahead of) time, and on (or under) budget.



Porcao NYC
New York, NY

4. Benefits

CURVED-RIGHT CUSTOM FRAMING

- Available with typical lead times of 1-2 weeks.
- The framing process minimizes onsite labor and associated costs.
- Signed and sealed structural engineering calculations available when needed.
- Curved profiles meet exacting tolerances.
- Materials are marked for quick and easy installation.

COMPLEX SURFACE FRAMING SOLUTIONS

- Affordable and cost effective.
- Formed with precision to specifications.
- Detailed installation instructions and easy to-understand assembly documents are provided for clarity and ease of assembly
- Optional pre-assembled panelized framing saves additional installation time.

ENGINEERED DOMES

- Kits can be delivered directly to the jobsite.
- Structural cold-formed steel and infill framing are both available.
- Custom cut plywood can be provided to exactly match the steel framing.
- Quick and easy to install.
- Cost up to 30% less than other dome construction methods.
- Profiles can be curved to any size or shape (deemed structurally sound) per client specifications.

BIM TECHNOLOGY AND 3D DESIGN

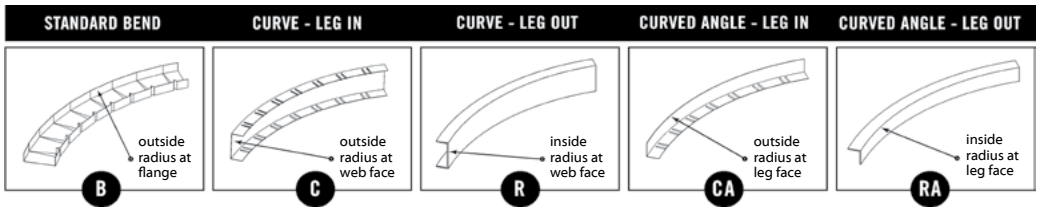
- Mitigates time-consuming issues on the jobsite.
- Preserves the architect's design intent.
- Allows for more accurate cost estimates with no unnecessary cost contingencies required.
- Eliminates clashes and design errors with other trades before they become jobsite problems.
- Can reduce construction costs by as much as 20%.
- Allows for better collaboration and visualization.

5. Specifications

CURVED-RIGHT®
CUSTOM FRAMING*

GAUGES:	25, 22, 20, 18, 16, 14	**TOLERANCES:**	1/8" over 10'
WEB WIDTHS:	Up to 12"	**MINIMUM RADIUS:**	12"
FLANGES:	Up to 3"	**COATINGS:**	G40, G60, G90
MATERIAL TYPES:	Track, Stud, Angle, Slotted Slip Track, Furring (Hat) Channel, Cold Rolled Channel (CRC)	**KSI:**	33, 50
LENGTHS:	Up to 35'		
BEND TYPES:	**SEE CHART 1.0 FOR CURVE TYPE CLARIFICATION**		

CHART 1.0



B = Standard Bend
C = Curve Leg In
R = Curve Leg Out

BSP, CSP, or RSP = Spline
RB, RC, or BC = Compound Curve
FI = Flange-In (Hat Channel)
FO = Flange-Out (Hat Channel)

* Not all listed gauges, web widths, flange sizes and material lengths are available in or with all material types or curve types. Listed minimum radius does not apply to all material types, sizes, gauges and curve types. Please call Radius Track Corporation for specification details for your specific application: 1.888.872.3487.

6. Technical Data

APPLICABLE STANDARDS

American Iron and Steel Institute:

1. AISI S100 – North American Specification for the Design of Cold-Formed Steel Structural Members.
2. AISI S200 – North American Standard for Cold-Formed Steel Framing – General Provisions.
3. AISI S210 – North American Standard for Cold-Formed Steel Framing – Floor and Roof Systems Design.
4. AISI S211 – North American Standard for Cold-Formed Steel Framing – Wall Stud Design.
5. AISI S212 – North American Standard for Cold-Formed Steel Framing – Header Design.
6. AISI S213 – North American Standard for Cold-Formed Steel Framing – Lateral Design.

ASTM International:

1. ASTM A 780 – Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
2. ASTM A 1003 / A 1003M – Standard Specification for Steel Sheet, Carbon, Metallic – and Nonmetallic-Coated for Cold-Formed Framing Members.
3. ASTM C 955 – Standard Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Applications of Gypsum Panel Products and Metal Plaster Bases.
4. ASTM C 1513 – Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.
5. ASTM E 329 – Standard Specification for Agencies Engaged in Construction Inspection and / or Testing.

American Welding Society:
1. AWS D1.1 / D1.1M – Structural Welding Code – Steel.
2. AWS D1.3 / D1.3M – Structural Welding Code – Sheet Steel.

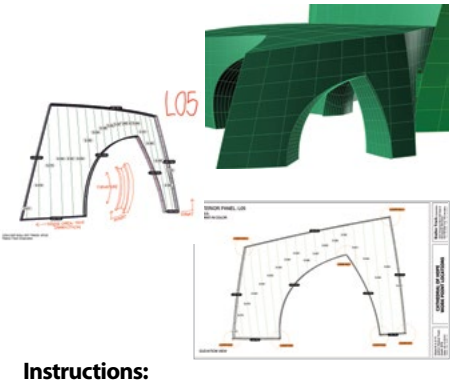
Green Seal:
1. GS GC-03 – Anti Corrosive Paints.

The Society for Protective Coatings:
1. SSPC Paint 20 – Zinc-Rich Primers (Type 1 – Inorganic and Type II – Organic).

Steel Stud Manufacturers Association:
1. SSMA Product Technical Information.

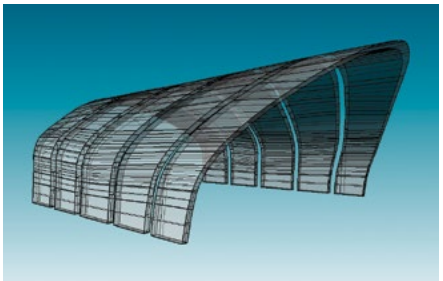
APPROVALS
Consult Radius Track Corporation for specific information concerning approvals by code bodies and other industry entities.

7. Installation
Radius Track Custom Pre-Curved Solutions.



Instructions:
Radius Track Corporation focuses on three objectives when providing installation instructions for custom pre-curved solutions:
1. Show you what we are delivering / color coded, labeled and listed.
2. Show how to locate it on your jobsite with x-y-z coordinates and / or dimensional layout coordinates and elevations as a reference.
3. Show you how the pieces go together with clear connection details carefully considered.

Cathedral of Hope, Interfaith Peace Chapel / Dallas, TX



Hard Rock Cafe / Tampa, FL

Radius Track Corporation provides thorough, easy-to-understand assembly documents for clarity and ease of assembly. Included are both 2D and 3D images of what the completed assembly should look like along with step-by-step instructions. By providing detailed assembly instructions contractors can make sure their crew is working instead of standing around trying to figure out how to assemble the components. Here are just a few examples of how we make assembly easier:
- Often ceilings are projected to the floor plane for easier layout then supplemented with z-coordinate elevations at major material intersections for simplified assembly.
- Layout drawings tie dimensions back to building grid lines – key points are located with two dimensions from two directions.
- Connection details are included to show you the locations of any clips, plates, or fasteners needed for successful installation.

Finally, Radius Track Corporation provides ongoing customer support for assembly throughout the construction process. We do not walk off the job until you walk off the job!

BUILDING CODES & STORAGE
Methods
Install in accordance with ASTM C754, manufacturer's instruction and approved shop drawings. Visit www.radiustrack.com for further application drawings and details.

Building Codes
Installation must comply with the requirements of all applicable local, state, and federal code jurisdictions.

Storage
Store materials protected from exposure to harmful environmental conditions.

8. Availability & Cost

AVAILABILITY
Radius Track Custom Pre-Curved Solutions are available for delivery anywhere in North American via local drywall supply channels or can be shipped directly to the project jobsite.

COST
Pricing information for Radius Track Custom Pre-Curved Solutions can be obtained by submitting a Request for Quote to Radius Track Corporation, or by contacting Radius Track Corporation directly by phone, fax, website or e-mail.

9. Warranty
Complete warranty terms and conditions are available on the Radius Track Corporation website: www.radiustrack.com.

10. Technical Services
Radius Track Corporation provides design, modeling and fabrication services for customers located anywhere in the world. Other services include:
- Schematic design
- Estimating
- System Integration
- Structural testing
- Architectural Detailing
- Value Engineering
- Coordinated Structural Engineering

Additional technical assistance, including more detailed information, product literature, test results, project lists, assistance in preparing project specifications and arrangements for application supervision, is available by contacting Radius Track Corporation or by visiting our website at www.radiustrack.com.

radiustrack®

888.872.3487 | www.radiustrack.com | info@radiustrack.com

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