

Sierra Stained Glass Studios

Domes

PATENTED, U.S. PATENT OFFICE, Patent No. 5,130,915

1153 Yale Ave Modesto CA 95350-5850 209-448-0350 FAX: 209-529-0632 e-mail: sierradomes@pacbell.net
www.sierradomes.com The Dome™ is our 4' octagonal frame; SupraDomes™ are larger frames, 5' - 12' (12-, 16-, or 24-sided)

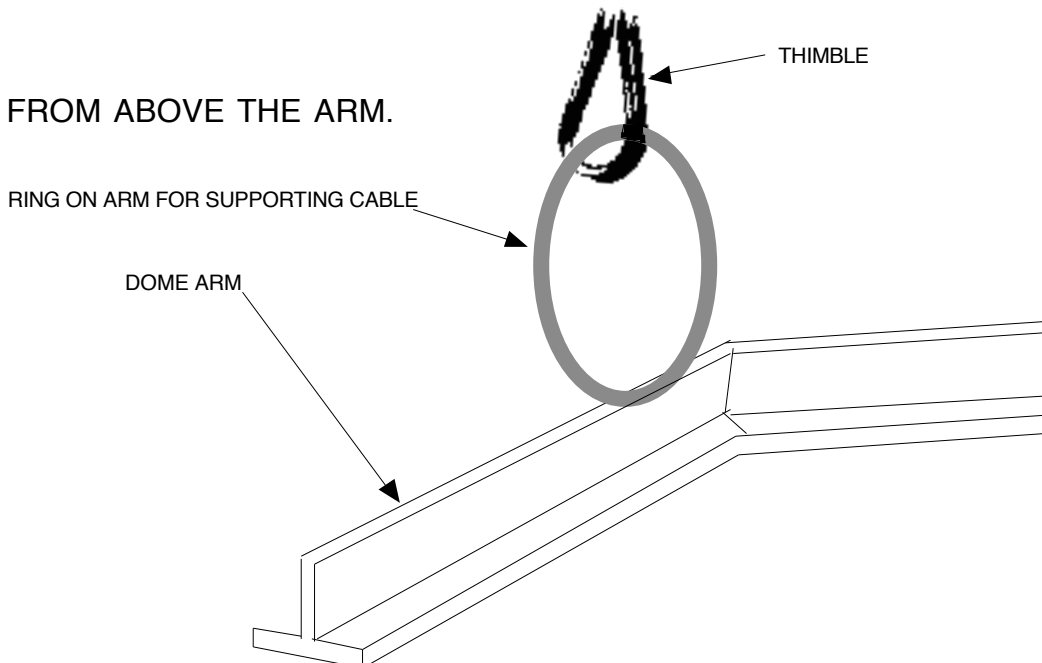
Use of THIMBLES for Wire Cable Support of Large Domes

Your dome requires cables to support each of the dome's arms. Without these cable supports, the top center ring would sag in the center--the cables prevent this. Use 1/16" or 5/64" steel cable*.

Insert a thimble through each ring welded to each arm, usually near the highest bend, for the cables. Loop the cable through the loop on arm so the thimble is between the top of the ring and the cable. (The thimble prevents chafing of the cable that could be caused over time by common vibrations.) Secure the cables so they can't come loose. (You may need to obtain some cable tie-off clamps.) The cable should be taut without the glass panels in frame. Be careful not to overtighten which might distort the frame's proper alignment. **See next page for Typical Cable Systems and parts list.*

Be sure the elevation of the entire top center ring (Top Plate) is suspended evenly after the cables are attached. If not, adjust the length of each cable until the top plate is level in all directions.

VIEW: FROM ABOVE THE ARM.



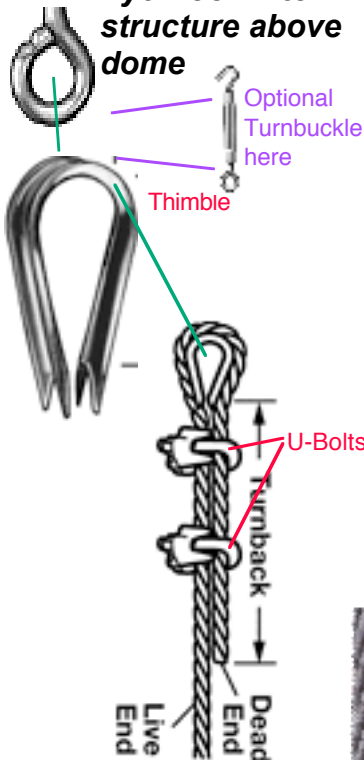
The cables should be attached BEFORE INSTALLING GLASS PANELS.

DISCLAIMER: Selection of Sierra Stained Glass products to conform to all local applicable laws, ordinances, building codes, and safety requirements is the sole responsibility of the architect, house/building owner and/or contractor. Proper installation of our products is the responsibility of the customer. Sierra Stained Glass Studios has no responsibility in these regards.

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Typical Cable Systems - Supporting Dome Frames over 10' diameters

Eye Hook into structure above dome



Dome frames over 10' in diameter and elongated domes longer than 10' are not self-supporting. They require cables for stabilization of center top ring. Shown here is typical cable system to stabilize the frame. Relatively thin wire cable is needed. For example, each arm in a 12' dome is supporting just 25 - 30 lbs. Hence, 1/16" steel cable is used. For humid climates, we recommend the stainless steel parts shown below. For dry climates where corrosion is not a problem, galvanized steel can be used. Optionally, turnbuckles can be used for fine adjustments. If using turnbuckles, use at top eye hook into structure, not at frame's loop to prevent hook from jumping out of loop if frame bumped.

We provide only the **Thimbles** and the **welded loop** on each arm.

You need to provide the remaining parts shown here for a 24-side round dome frame. All these parts can be purchased from McMaster-Carr. Their catalog numbers are shown in **blue**, along with quantity you will need. *For elongated frames, quantities will differ.* Length of cable depends on your site's dimensions.

You can order online: www.mcmaster.com
(Prices shown are as of January 2008)

IF in PDF file, you can **CLICK** to go to web. Then search for part numbers shown below.

1/16" Type 304 Stainless Steel Wire Rope 1x7 Strand

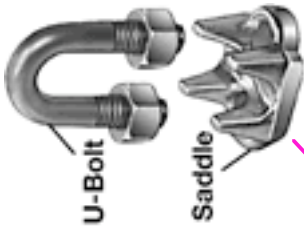
500 lb. Breaking Strength
3458T11 300 ft. @ 0.14 = **\$42.00**



-or-

1/16" Galvanized Steel Multipurpose Strand Rope 1x19 Strand

500 lb. Breaking Strength
3498T61 300 ft. @ 0.11 = **\$33.00**



Cast Wire Rope Clips (Not for Lifting)

Galvanized Malleable Iron

For Rope Diameter: 1/16" with Rope Turnback of 4-3/4", 2 required for each loop (see diagram) **tightened with 3 ft-lbs of Torque**

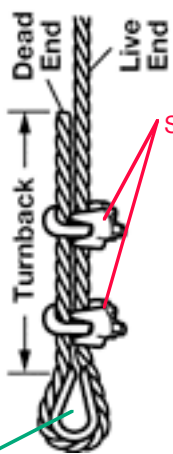
Saddles # 30325T23 96 @ 0.23 = **\$22.08**

For humid climates where corrosion may be a problem, you may want to paint the galvanized wire rope clips after installation for added long-term corrosion resistance.

About Wire Rope Clip Installation

Wire rope clips must be installed correctly to obtain maximum holding power. The clip size should equal the wire rope diameter. The wire rope diameter also determines the number of clips required, the amount of wire rope turnback on which to apply the clips, and the torque needed to properly tighten the nuts. Wire rope clips are not rated with work loads; the work load limit is determined by the wire rope.

To install **single saddle clips**, position the saddle on the "live" or long end of rope, and the U-bolt on the "dead" or short end of the rope.

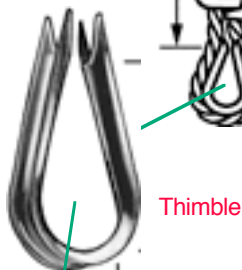


Light Duty Thimbles (provided)

For Wire Rope Diameters: 3/64", 1/16", 5/64", 3/32"

8914T22 5 (pkg. of 10) @ 3.13 = **\$15.65 (Stainless Steel)** -or-

8914T12 5 (pkg. of 10) @ 1.93 = **\$ 9.80 (Zinc-Plated Steel)**



Thimble

LOOP welded on dome frame's arm (provided)

NOTE FOR ELONGATED FRAMES: The cables may instead be connected to the top center ring. See assembly instructions for your elongated frame.

OPTIONAL: Turnbuckle - Closed Aluminum Body with Zinc-Plated Steel End Fittings

Work Load = 90 lbs. # 30125T4 24 @ 1.50 = **\$36.00**



Use at top eye hook into structure, not at frame's loop