

LOW EMISSIVITY CEILING INSTALLATION BID SPECS – BODE ICE ARENA

CITY OF ST. JOSEPH IS REQUESTING PROPOSALS FOR PURCHASE AND INSTALLATION OF LOW EMISSIVITY CEILING AT THE BODE ICE ARENA, 2501 SW PARKWAY, ST. JOSEPH, MISSOURI

1.01 Scope of Work

1. Contractor shall furnish and install a complete overhead suspended Low Emissivity Ceiling in the Bode Ice Arena, 2501 SW Parkway. The ceiling shall cover an area of 19,855 square feet consisting of 95 feet in width and 209 feet in length. The system shall be RADIANT ICE Low “E” material as manufactured and distributed by Sport Systems Unlimited Corporation or approved equal.
2. Contractor shall also include in his bid a list of a minimum of five (5) previous RADIANT ICE Low “E” installations, which have been installed by the Contractor. Included in this list must be the facility address, phone number and contact name.

1.02 Materials

1. RADIANT ICE Low “E” laminate is composed of Two 0.0003 inches (7.6 micron) of aluminum foil laminated with a special flame resistant adhesive to a 0.0005 inches (12.7 micron) of Polyester. A 4 x 4 fiberglass scrim is interposed for added strength. Emissivity of the aluminum facing shall not exceed 0.03.

The system specified is based solely upon the characteristics and standards listed herein. The listed criteria have been established as the minimum acceptable values for any low emissivity ceiling system to be offered on this project. As all aspects and equipment within the ice rink have been designed to utilize the low emissivity ceiling principle, products not meeting the minimum requirements listed will not be accepted as they could adversely affect the performance of the rink.

Additionally, only those materials meeting or exceeding the following ASTM values and ULC/UL surface burning characteristics shall be acceptable.

Physical Properties:

Weight	18 lbs./1,000 sq. ft.	88 grams/m ²
Tensile Strength	55 lbs./inch width (MD)	9.6 kn./m (MD)
	55 lbs./inch width (XD)	9.6 kn./m (MD)
Panel Width	54 inches (standard)	137.2 cm
Color (exposed face to ice)	Silver	Aluminum

Surface Burning Characteristics: (CAN ULC-S102MA & UL-723)

	Foil Exposed	Film Exposed
Flame Spread	<u>15</u>	15
Smoke Developed	<u>10</u>	10

2. **Clamping.** Each individual ceiling section shall be terminated at each end by using a 3/16” OD (4.76mm) Aircraft cable and Sport Systems Unlimited Corp. Rigid Vinyl Extrusion Clip or approved equal.

3. **Suspension System.** Individual ceiling sections shall be supported by a suspension system, consisting of lightweight galvanized aircraft cables 3/32" (2.38mm) diameter plastic-coated 3/16" (4.76mm) OD, 7 x 7 construction on approximately 6' centres. Cables shall have a minimum breaking strength of 920lbs (4100N).

Cables shall be secured at each end to the elements of the building structure. Each cable shall be installed with one (1) turnbuckle, in order to allow adequate tensioning. All cable connections shall be secured with a minimum of two (2) clamps, 30' – 0" (9.1m) c/c to reduce sag.

If the RADIANT ICE Low "E" laminate is terminated at a suspension cable, the cable shall be installed to reduce side deflections to a maximum of 4" (10cm). Use standard 3/32" (2.38mm) PVC-coated cable, as above, with appropriate tiebacks to building elements or by using 3/16" (4.76mm) OD 7 x 19 plain galvanized aircraft cable, properly tensioned. Tieback may not be required using this heavier cable.

4. **Netting System. (Optional)** For ceiling heights less than 30 feet (9m), Sport Systems Unlimited Corp. netting system can be installed to prolong the low emissivity ceiling and maintain appearance. Netting system shall consist of a white treated nylon knotted mesh, with 1.25 x 1.25 openings. Netting system shall cover a minimum of (2) bays (approximately 50 feet or 15 meters) at each end of the ice surface.

1.03 **Installation**

1. Panels are required to be installed below the open web steel bar joist under the roof of the arena, but above the level of the light fixtures
2. Laminate panels shall be overlapped minimum of 6" (15cm).
3. Panels shall be tensioned so that overlapping edges are even and without appreciable gaps or sags.
4. Slits shall be cut in the panels to accommodate obstructions such as lights, fans, sprinklers etc.
5. All edge cuts shall be supported by the adjacent panel and shall be taped with aluminum tape, suitable for the service conditions.

1.04 **Detailed Drawings**

1. Successful contractor to provide detailed drawings showing clamping system, suspension system, intermediary supports, end connections and material installation techniques upon request.

1.05 **Warranty**

1. Entire ceiling system shall be warranted against defects in material for a period of five (5) years and workmanship for the period of one (1) year from the date of completion of the installation.

1.06 **Manuals**

1. Upon completion of low emissivity ceiling, Contractor to provide one (1) operating manual and instruct rink personnel on the proper operation, refrigeration system adjustments and maintenance associated with the new ceiling.

1.07 **Special Instructions**

1. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from project site.
2. All necessary equipment and tools to complete the job must be provided by the contractor.
3. Care will be taken to protect dasher boards, dasher board glass, ice arena fixtures, bleachers, scoreboard, any finished building surfaces, and ground level concrete surfaces.

Vendor Requirements:

1. Vendor will be required to enter a Contract for Construction, sample is attached.
2. If awarded the contract, the vendor will be required to provide a Performance and Maintenance Bond and a Payment Bond in the full amount of the project cost, in accordance with the General Conditions and Contract for Construction.
3. Vendor will be required to provide insurance in accordance with Article 13 of the General Conditions.

Please submit two (2) copies of the proposal, one of them being unbound, to the following address by 5:00P.M. on April 23, 2019:

City of St. Joseph
Purchasing – Room 201
1100 Frederick Avenue
St. Joseph, Missouri 64501

TIMETABLE

The City will use the following approximate timetable:

April 7, 2019	Advertise for Bids
April 23, 2019	Project bids due by 5:00pm
May 20, 2019	Up for City Council approval
May 27, 2019	Notice to Proceed