

SECTION 9F

CONCRETE ICE RINK FLOOR

9F.01 GENERAL, SUPPLEMENTARY AND SPECIAL CONDITIONS: "General Conditions", "Supplementary General Conditions" and "Special Conditions" bound herewith are a part of this Specification and this Contractor shall consult them in detail for instructions pertaining to his work.

9F.02 WORK INCLUDED: All labor, materials, and equipment necessary to provide and install concrete ice rink floor finish in Coliseum, Unit C, consisting of concrete fill and concrete topping, as shown on the Drawings and herein specified.

9F.03 WORK NOT INCLUDED: Concrete structural slab; butyl rubber waterproofing; premoulded membrane waterproofing; joint backing and sealant; water stops; thermo-setting insulation; brine piping and supports; floor inserts; steel trench covers and frames; steel reinforcing rods and wire mesh reinforcing.

9F.04 MANUFACTURER AND INSTALLER: Floor finish shall be 3/4" thick Kalman Absorption Process Concrete Floor Topping applied to concrete fill surrounding the brine piping. Fill, including reinforcing, and topping shall be furnished and installed by the Kalman Floor Co. Floors of other manufacturers will be considered provided they are, in the opinion of the Architect, equal in materials, finish, performance and warranty to that specified.

9F.05 SUPERVISION: All work to be done under this Section of the Specifications shall be under the direct supervision of a competent superintendent thoroughly familiar with this type of installation and the materials and methods used.

9F.06 COORDINATION AND SCHEDULING WORK: The floor topping Contractor shall coordinate his work with the work of all other trades involved. Installation of the fill and topping shall be scheduled so as not to delay or conflict with the work of others.

9F.07 CONCRETE FILL:

- (a) Preparation - Prior to starting work this Contractor shall inspect surfaces on which fill is to be placed. The Architect shall be notified if defects are found that would adversely affect the placing of fill or finish floor, and such defects shall be corrected by the proper trades before fill is placed.

- (b) Materials for Fill - Concrete fill shall have a minimum compressive strength of 3000 p.s.i. at the age of 28 days. Aggregate shall be sound, clean sand, high in silica content, with no more than 5% passing #30 screen uniformly graded, all passing #4 screen, and clean sound gravel or crushed stone, graded from #8 to 3/4". The mix shall be designed to produce a concrete with minimum shrinkage characteristics, relatively high in coarse aggregate, and low in fine aggregate. Water content shall be approximately 5 gals. per sack of cement, adjusted to produce a slump not to exceed 2".
- (c) Reinforcing Steel - Steel reinforcing rods and welded wire mesh will be furnished and installed by others. Wire mesh will be wired to brine piping.
- (d) Placing Fill - During the placing of concrete fill the Contractor shall exercise care so as not to displace or damage piping, piping supports, inserts, etc. This Contractor shall be held responsible for the repair and replacement of all such items damaged or displaced as the results of his operations.

Concrete fill for the entire ice rink floor shall be placed in one continuous monolithic pour, without joints of any kind, and to the thickness required. Concrete fill shall be vibrated and/or spaded to completely surround cooling coils, and reinforcing steel struck off with a vibratory straight edge. The surface of the concrete fill slab shall be prepared to receive topping by brooming, or other approved methods.

9F.08 CONCRETE TOPPING:

- (a) General - During the installation and curing period of the floor topping, all openings in exterior walls adjoining the area being finished shall be closed, and the interior temperature shall be maintained at 50° F or above.
- (b) Preparation of Fill Surface - Remove laitance, dust, and all other materials that would adversely affect bonding of the topping to the fill surface, and leave the surface clean and rough to insure proper bonding.
- (c) Materials for Topping and Mixing - Materials for cement finish shall consist of: Portland Cement complying with the Standard Specification for Portland Cement as last adopted by the American Society for Testing Materials. Fine aggregate, consisting of clean sand or screenings from hard crushed stone or gravel, free from injurious quantities of clay, loam or vegetable matter, using only such Portions as will pass No. 4 sieve.

Coarse aggregate, consisting of clean, hard, tough crushed basalt, diabase or granite, free from injurious quantities of clay, loam or vegetable matter, ranging in size from 1/8 to 3/4 inch. The mix for finish shall be one part Portland Cement, one part fine aggregate, and two parts coarse aggregate, mixed with sufficient water to produce a workable flowing mixture.

The concrete surface shall be wet at the time finish is laid. Immediately before laying finish, the concrete surface shall be treated with cement grout, thoroughly brushed and worked into the surface.

As soon as the finish has been spread and rodded to true level, the water used for workability shall be withdrawn by the Kalman Absorption Process. To achieve maximum water removal the drier material used in the Absorption Process shall be vibrated.

Immediately after the dehydration technique, the topping shall be thoroughly compacted and the surface returned to a workable state, using the proper power driven machinery. This compaction shall be followed by an additional straight edging at which time high or low points in the surface shall be corrected, troweling operations, as required, shall bring the finish to a smooth, hard, polished, impervious surface, free from marks and blemishes.

- (e) Curing of Topping - Within twenty-four hours after final troweling, the finished surfaces shall be thoroughly saturated with water, covered with asphalt impregnated paper, and kept in saturated condition from 7 to 14 days thereafter.

9F.09 USE OF FLOOR: For at least five days after completion of troweling, use of the floor shall not be permitted and thereafter only light use shall be permitted for an additional ten day period.

9F.10 TOLERANCE IN FINISH FLOOR LEVEL: The ice rink finish floor shall not vary in elevation more than 1/8" in 10'-0" in any direction, and not more than 1/4" over the entire freezing area.

9F.11 INITIAL FREEZING PERIOD: The Refrigeration Contractor is responsible for the proper initial freezing period procedures. The topping Contractor shall consult with the Refrigeration Contractor about such procedures in order to avoid placing undue sudden stresses on the concrete fill and topping during the initial freezing period.

9F.12 PROTECTION OF ADJOINING WORK: This Contractor shall be responsible for properly protecting all floors, walls, and other surfaces in the immediate vicinity of the ice floor that might be marred or damaged as the results of his operations.

9F.13 WARRANTY: The Contractor shall furnish the Owner with a written warranty stating that the concrete fill and topping installed under this Section of the Specifications is free from defective materials and workmanship, and that the topping will adhere to the concrete fill and remain hard and sound, and that the topping will remain free from self-disintegration for a period of three (3) years after completion of the work.