**DESIGNER SPECIFICATION**

**SECTION 13 11 00**

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**SWIMMING POOL SPECIFICATION**

**SECTION 13 11 00**

1. **Suction Outlet Fitting Assemblies (SOFA’s): Main Drains, Sumps, Frame and Grates** Suction outlet fitting assemblies (SOFA’s, i.e., main drains, sumps, frame and grates) must be certified APSP-16 2017 as a SOFA, with specific sizes as indicated on the drawings. Grate covers must have a minimum Service Life of 25-Years and the sump must have a minimum Service Life of the Life of the Aquatic Facility, with a minimum 10-year Manufactures Warranty.
	1. Sumps/drains shall be a fiberglass fabricated suction outlet fitting assembly (SOFA) that is corrosion resistant, non-conductive, non-magnetic, high strength 8oz fiberglass matt with marine grade white gel coat applied inside. SOFA shall have a 1.5” water stop around the outside perimeter 5” below the top lip and a 1.5” FRP brace around the outside perimeter for strengthening. The sump shall come with two (2) 2” sch-40 female threaded adapters installed on the bottom for hydrostatic connection and allow for single or multiple configurations of suction ports. The SOFA shall be supplied complete with frame and grate. The complete SOFA shall have been tested and labeled by the manufacturer in compliance with APSP-16 2017, Suction-Outlet Fitting Assemblies for Use in Swimming Pools.

The SOFA shall have the manufacturers’ name stenciled on the outside to be visibly clear during piping inspections.

All sumps/drains and grates/covers to be USPC® certified.

Sizes as shown on the drawings. (24x24x12, 24x24x30, {24x48x34\*}, 18x36x24, 18x36x25, 18x36x28, 18x36x34, 18x54x24, 18x54x27, 18x54x28, 18x54x29, 18x54x34)

* DalMAX-SG/FG-24x24x30 - *(max. 12” suction side port size, max. 24” bottom port size)*

FLOOR sump/drain - flow rate of 1734 GPM.

WALL sump/drain - flow rate of 1600 GPM.

* \* DalMAX-SG/FG-24x48x34 - *(max. 16” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - flow rate of 3342gpm.

(requires RDP sign off – contact Daldorado for details)

* DalMAX-SG/FG-18x36x24 - *(max. 8” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - certified max. flow rate of 1,984 GPM.

WALL sump/drain - certified max. flow rate of 1,440 GPM.

* DalMAX-SG/FG-18x36x25 - *(max. 8” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - certified max. flow rate of 1,984 GPM.

WALL sump/drain - certified max. flow rate of 1,440 GPM.

* DalMAX-SG/FG-18x36x28 - *(max. 10” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - certified max. flow rate of 2,480 GPM.

WALL sump/drain - certified max. flow rate of 1,909 GPM.

* DalMAX-SG/FG-18x36x34 - *(max. 16” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - certified max. flow rate of 2,869 GPM.

WALL sump/drain - certified max. flow rate of 2,080 GPM.

* DalMAX-SG/FG-18x54x24 - *(max. 10” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - certified max. flow rate of 2,872 GPM.

WALL sump/drain - certified max. flow rate of 2,872 GPM.

* DalMAX-SG/FG-18x54x27 - *(max. 10” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - certified max. flow rate of 2,872 GPM.

WALL sump/drain - certified max. flow rate of 2,872 GPM.

* DalMAX-SG/FG-18x54x28 - *(max. 12” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - certified max. flow rate of 2,944 GPM.

WALL sump/drain - certified max. flow rate of 2,872 GPM.

* DalMAX-SG/FG-18x54x29 - *(max. 12” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain - certified max. flow rate of 2,944 GPM.

WALL sump/drain - certified max. flow rate of 2,872 GPM.

* DalMAX-SG/FG-18x54x34 - *(max. 16” side suction port size, max. 24” bottom port size)*

FLOOR sump/drain – certified max. flow rate of 4,412 GPM.

* 1. Grate/covers to be supplied complete with the sump/drain and in corresponding sizes to the sump. Grate/cover shall be formed of molded PVC sections that are UV stabilized and certified NSF/ANSI/CAN 50-2020. The top section shall have a raised design and be certified to APSP-16 2017. Grating shall be 0.20” (5mm) wide and an outside depth of 1.0” (25.4mm) with a middle depth of 1.45” (36.8mm) for load strength requirements. The grating shall be certified under APSP-16 2017. The space between the bars shall not exceed 0.39” (10mm). The grating shall provide at least 62% open space for unrestricted water flow. Fasteners shall be 316-SS or brass as tested to APSP-16 2017 and provided by the manufacturer with complete sump, frame and grate unit, no others shall be permitted. Grate/covers shall be USPC certified unblockable in 18”x18” multiples *(24”x24”).* Color: White only
* DalMAX-GO-1818 (single) x 2 or x 3.
* *DalMAX-GO-2424 (single)*
	1. SOFA shall not exceed the flow rates as tested and stated by the manufacturer in compliance with APSP-16 2017. Suction outlets, size, and numbers can be changed and specified and ordered through the manufacturer provided design flow rates as tested and certified by APSP-16 2017 are not exceeded.
1. All SOFA’s ports shall be slip couplings or female threaded adapters.
2. Each SOFA grate covering shall have a manufacturers minimum service life of 25-years. SOFA sump body shall have a service life of the life of the facility, and the SOFA shall have a manufacturer’s warranty of 10-years.SOFA shall be DalMAX-SG manufactured by Daldorado LLC. Ph: (888) 509-8128 or approved equal.

**Custom Large Area Custom Suction Grate**

The grate shall be formed of molded PVC sections that is UV stabilized and certified to NSF/ANSI/CAN 50-2020 with the top section having a raised herringbone design. Grating shall be 0.625” (15.9mm) wide and an outside depth of 1.0” (25.4mm) with the space between the bars not exceeding 0.375” (9.5mm). The grating shall have four (4) 15mm FRP rods and five (5) connector pins for load strength requirements. FRP rods shall be held in place with PVC caps that are glued on the ends. The grating gap shall provide at least 37.5% open area for unrestricted water flow. Fasteners shall be SS-316 and be provided by the manufacturer. The grating shall allow the insertion of the holding brackets between the grating and the gutter supports.

24 x 24 tested and certified to APSP-162017, all other sizes greater than 18 inches in one direction and/or 23 inches in the other direction shall have the maximum flow rate calculated using the “Q” formula as stated in the standard. This flow rate to be laser engraved on 2-ply acrylic and fastened to grate with 316-SS drive screws. Widths up to 24” do not need additional support.

Color to be selected by the Architect/Owner. Available in white *(bone; gray)*. The grating shall have a minimum 10-year manufacturer’s warranty.

Grating as manufactured by Daldorado LLC. Ph: (888) 509-8128, or approved equal.

**Perimeter Custom Width Straight Grate**

The grate shall be (X-inches *(6 to 30)* wide) formed of molded PVC sections that are modular, interlocking 24” sections, UV stabilized and certified NSF/ANSI/CAN 50-2020 with the top section having a raised herringbone design. Grating shall be 0.625” (15.9mm) wide and an outside depth of 1.0” (25.4mm) with the space between the bars not exceeding 0.375” (9.5mm). The grating shall have four (4) 15mm FRP rods and five (5) connector pins for load strength requirements. FRP rods shall be held in place with PVC caps that are glued on the ends. The grating gap shall provide at least 37.5% open space per foot for unrestricted water flow. Fasteners shall be 316-SS and be provided by the manufacturer. The grating shall allow the insertion of the holding brackets between the grating and the gutter supports.

Color to be selected by the Architect/Owner. Color: available in white, bone, and gray. The grating shall have a minimum 10-year manufacturer’s warranty.

Grating as manufactured by Daldorado LLC. Ph: (888) 509-8128 or approved equal.

**Custom Non-Suction Flat Grate**

The grate shall be (X-inches *(12” minimum* wide) formed of molded PVC sections that are modular, interlocking 24” sections, UV stabilized and certified NSF/ANSI/CAN 50-2020 with the top section having a raised herringbone design. Grating shall be 0.625” (15.9mm) wide and an outside depth of 1.0” (25.4mm) with the space between the bars not exceeding 0.375” (9.5mm). The grating shall have four (4) 15mm FRP rods and five (5) connector pins for load strength requirements. FRP rods to be held in place with PVC caps that are glued on the ends. The grating gap shall provide at least 37.5% open space per foot for unrestricted water flow. Fasteners shall be 316-SS and provided by the manufacturer. The grating shall allow the insertion of the holding brackets between the grating and the gutter supports.

Color to be selected by the Architect/Owner. Color: available in white, bone, and gray. The grating shall have a minimum 10-year manufacturer’s warranty.

Grating shall be manufactured by Daldorado LLC. Ph: (888) 509-8128.

***Note to Specifier:***

1. *Grate greater than a 24-inch span shall require additional structural support.*

***Possible Application for large area grate covers – including but not limited to;***

1. *catch basins*
2. *water-slide run-out overflow grate*
3. *water play area gravity flow grate*
4. *bulk heads*

**(ADDITONAL NOTES TO SPECIFIER)**

**Information required in other Sections in the Project Specifications are as follow:**

**SUBMITTAL Documents for Daldorado Product**

* Certifications support the QUALITY of a product, NSF/ANSI/CAN 50-2020, STRENGTH of a product, SLIP RESISTANCE of a product.

If, as a designer, or customer, you require a **QUALITY** product then specify and request the appropriate Laboratory Testing Certifications for each specified product to be submitted during the submittal process.

Daldorado Submittal and Certification documents can be obtained and downloaded from the Daldorado LLC website at: [www.daldorado.com](http://www.daldorado.com)

**WARRANTY and CERTIFICATIONS for Daldorado Product**

* Warranty information supports the manufacturer’s warranty on life expectancy of the product. Life expectancy on grate “25-year service life”; Life expectancy on sumps “life of the facility”; 10-year minimum manufacturer’s warranty on product.
* Certifications support the QUALITY of a product, NSF/ANSI/CAN 50-2020, STRENGTH of a product, SLIP RESISTANCE testing of a product.

If, as a designer, or customer, you require a QUALITY product then request the appropriate Laboratory Testing Certifications for each product to be submitted during the submittal process.

Daldorado Warranty information, Certifications and Submittal supporting documents can be obtained from the Daldorado LLC website at: [www.daldorado.com](http://www.daldorado.com)

**OPERATION and MAINTENANCE Manuals**

Please request and ensure that the Swimming Pool Contractor supply all documentation as supplied by the **SOFA** (sump, frame and grate) manufacturer and additional documentation as required by **APSP-16 2017** at completion and sign-off of the finished project to the Owner of the facility.

This documentation shall include but not be limited to General Certificate of Conformity (GCC), Installation Instructions, and General Safety Guidelines for each SOFA as required by 16 CFR Part 1450. This must include attachment points and installation of compliant fasteners as supplied by the SOFA manufacturer and as certified under the requirements of **APSP-16 2017.**

**SOFA (Suction Outlet Fitting Assembly) – Labelling and Documentation**

**SOFA Installation Information** - (manufactured sump, frame, grate).

Each manufactured SOFA cover/grate shall be supplied complete and packaged with a label made from materials designed to exceed the service life of the cover/grate, and be of sufficient size and format to be legibly filled-in by the contractor/installer at the time the cover/grate is installed.

Instructions shall be provided with the label requiring the cover/grate contractor/installer to fill-in the balance of the information required before giving the label to the pool owner.

The label instructions shall be permanently posted as near as feasible to the pump control, and that an additional copy of this information shall be provided to the pool owner, to be kept with other important pool related documents and/or included in the Operations and Maintenance Manuals at completion of construction.

**This Documentation shall include:**

* Manufacturers name.
* Cover/grate part number.
* Service life of the cover/grate.
* The certified Cover/grate flow rating(s), as they are permanently marked on the grate by the manufacturer.
* The certified flow rating specific to the SOFA configuration and installed orientation (wall or floor) for cover/grates permanently marked “For Flow Ratings”.
* Location of the installed SOFA, such that it can be successfully identified in the future.
* The date the cover/grate was installed in the pool, where the month and year indicators on the label are easily identified in the field.

**END OF DOCUMENT**