



40,000 CFM Scrubber

# Spunstrand®

*Delivering the difference!*



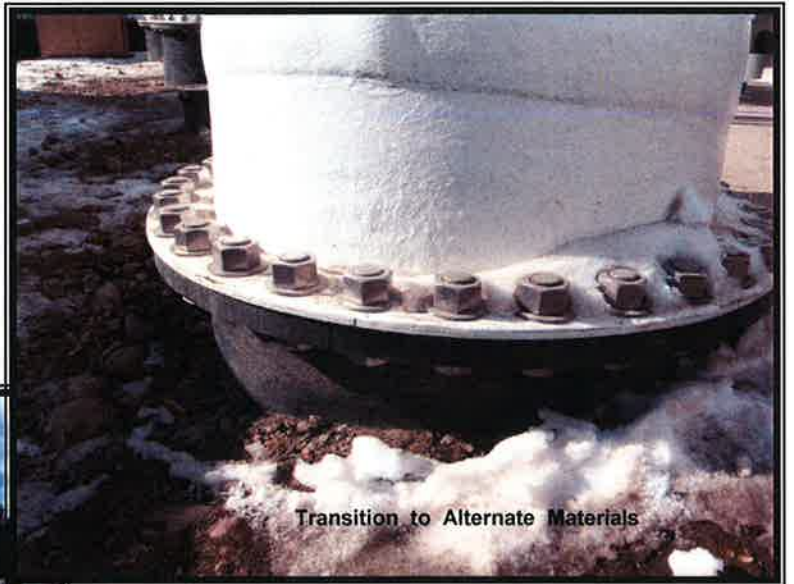
Spunstrand Product at a Water Reclamation Facility



FRP Duct Manifolds



Two Stage Mist / Grease Filtration Unit



Transition to Alternate Materials



Spunstrand Product at a Water Reclamation Facility



H<sub>2</sub>O Buried FRP Ductwork

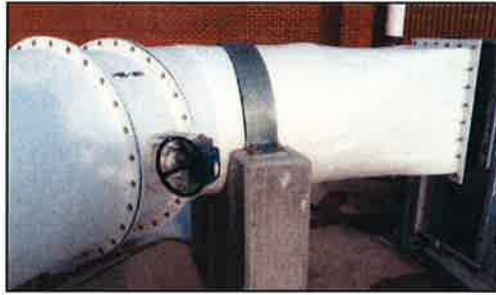
**MUNICIPAL / INDUSTRIAL PRODUCTS**

# MUNICIPAL / INDUSTRIAL

**S**punstrand® Inc. has been manufacturing filament wound fiberglass reinforced plastic ductwork systems for commercial and industrial applications for over fifty years. The standard guide specifications we use are based in the National Bureau of Standards PS 15-69, the SMACNA Thermoset FRP Duct Manual and the RTP-1 applicable standards. We also manufacture to ASME, ASTM, ANSI, Military spec and many custom applications.



40,000 CFM Carbon Scrubber



Isolation Damper



FRP Manifold

## APPLICATIONS

- Wastewater Treatment
- Automotive Industry
- Micro-Electronics Plants
- Clean Rooms
- Petrochemical Plants
- Marine Exhaust Systems
- Pulp and Paper Industry
- Plating & Metal Finishing
- Laboratory Exhaust
- Food Processing Facilities
- Aerospace Industry

## CAPABILITIES

- Polyester, Vinylester, Epoxy, Phenolic Duct and Piping Systems
- Factory Manifolding
- Round Sizes Standard from 2" - 120"Ø
- Liners: Glass, Synthetic and Halar®
- Insulated Duct
- Round, Rectangular and Square Sizes
- Flanges, Blast Gates, Access Doors
- Zero-Leak Isolation Dampers
- Colored Resin or Coating Options

## MUNICIPAL / INDUSTRIAL FITTING OPTIONS

Accessories include the necessary wet joint material for the standard field butt joints. Spunstrand® Inc. duct can be fabricated for bell and spigot field joint connections, or with flanges all in accordance with SMACNA standards and/or NBS voluntary Product Standard PS 15-69. Factory fabricated standard fittings include elbows, (one piece smooth radius through 30"Ø) saddle taps and laterals, tees, crosses, concentric and eccentric reducers, flanges, volume dampers and end caps. Centerline or tangent takeouts are available.

## JOINT SYSTEMS

Butt and Wrap Joints; Bell and Spigot Joints; Flanged Joints; Mechanical Couplings; Mechanical Flanges.

## ACCESSORIES

Balancing Dampers; Zero-Leak Dampers; Manual, Gear, or Motorized Actuators; Flex Connectors; FRP Silencers and Scrubbers.

## EXTERIOR FINISHES

Plain Wound Finish; C-Veil Finish; Colored Gelcoats; Intumescent Paint; Polyurethane Coating.

# MUNICIPAL / INDUSTRIAL SPECIFICATIONS \*

## SMACNA 10

### ***Industrial and Municipal applications, rated at a minimum of 10" negative pressure.***

Filament wound and rated at design pressures of 30 inches water column pressure and 10 inches water column vacuum. Minimum wall thickness shall be in accordance with SMACNA SI table 5-7 combination at .145 for 2" - 30"Ø, S3 at .180 for 32" - 42", S5 at .220 for 48" - 60", and S7 at .260 for 72". A minimum structural safety factor of 4 shall be used in the design of ducting. Corrosion Liner: Inner surface shall contain one ply of 10 mil thick minimum C-glass surfacing veil saturated with vinylester resin. Two layers of 1 1/2 ounce/sq. ft. chopped strand mat shall follow surface veil layers. Total liner thickness to be 100 mils. Liner shall pass ASME RTP-1 Table 6, level II visual inspection. Total glass content 25 to 30%. Structural layer shall be filament wound with premium grade, vinylester resin and Type E 250 strand yield continuous glass roving. Glass content 55 to 65%. Winding angle shall be  $65^{\circ} \pm 2^{\circ}$  for increased vacuum service.

## SMACNA 30

### ***Industrial and Municipal applications, rated at a minimum of 30" negative pressure.***

Filament wound and rated at design pressures of 60 inches water column pressure and 30 inches water column vacuum. Minimum wall thickness shall be in accordance with SMACNA table 5-7 combination S1 at .145 for 2" - 14"Ø, S3 at .180 for 16" - 22", S5 at .220 for 24" - 30", S7 at .260 for 32" - 36", S9 at .300 for 42" - 48", S11 at .340 for 54" - 60", S14 at .380 for 72", S15 at .420 for 84" and S17 at .460 for 96"Ø. A minimum structural safety factor of 4 shall be used in the design of ducting. Corrosion Liner: Inner surface shall contain one ply of 10 mil thick minimum C-glass saturated with vinylester resin. Two layers of 1 1/2 ounce/sq. ft. chopped strand mat shall follow surface veil layers. Total liner thickness to be 100 mils. Liner shall pass ASME RTP-1 Table 6, level II visual inspection. Total glass content 25 to 30%. The structural layer shall be filament wound with premium grade vinylester resin and Type E 250 strand yield continuous glass roving. Glass content 55 to 65%. Winding angle shall be  $65^{\circ} \pm 2^{\circ}$  for increased vacuum service.

## NBS PS 15-69

### ***Standard for lab exhaust or waste water treatment.***

Filament wound rated at 20 inches water column pressure and 12 inches water column vacuum. Minimum wall thickness shall be .125 for 2" - 22"Ø, .187 for 24"-36", .250 for 42" - 60". Rectangular ductwork thickness shall be determined by substituting the long side dimension for the round equivalent diameter thickness 1/16 inch and greater. A minimum structural safety factor of 5 to 1 shall be used in the design of the ducting. Corrosion Liner: Inner surface shall contain a 20 mil thick minimum surface veil saturated with polyester or vinylester resin consisting of approximately 90% resin and 10% glass content by weight. The surface veil shall be overlapped a minimum of 1". The structural layer shall be filament wound of premium grade polyester or vinylester resin and glass as required for the specific working pressure. Glass content to be 55 to 65% winding angle to  $65^{\circ} \pm 5^{\circ}$ .

## LAB HOOD DUCTWORK

### ***Medium duty pressure application for general fume hood exhaust.***

Filament wound and rated at design pressures of 12 inches water column pressure and 5 inches water column vacuum. Nominal wall thickness shall be .090 for 2" - 18"Ø, .105 for 20" - 24", .130 for 26" - 36", .180 for 42", .212 for 54", .225 for 60", .250 for 72" and .325 for 84". Rectangular ductwork thickness shall be determined by substituting the long side dimension for the round equivalent diameter thickness. The grade type shall be Type 1, Grade 2 RTRP polyester, Class E per ASTM D 2310. A minimum structural safety factor of 5 shall be used in the design of the ducting. Corrosion Liner: Inner surface shall contain a 10 or 20 mil thick minimum surface veil saturated with polyester resin consisting of approximately 90% resin and 10% glass content by weight. The surface veil shall be overlapped a minimum of 1". Structural layer shall be filament wound of type A premium grade vinylester or polyester resin and glass as required for the specific working pressures and design conditions.

*\* For complete specs see the Spunstrand® Inc. catalog.*

# SPUNSTRAND<sup>®</sup> INC. LINE CARD

MAKING YOUR PROJECT OUR PRIORITY SINCE 1959!

SPUNSTRAND<sup>®</sup> INC. 620 N. Post Street Post Falls, ID 83854 208.777.7444 ph www.SPUNSTRAND.com



## COMMERCIAL & RESIDENTIAL UNDERSLAB HVAC DUCTWORK

Since 1959 Spunstrand<sup>®</sup> Inc. has been manufacturing underslab HVAC ductwork in both FSK and pre-insulated designs for underground applications. Spunstrand<sup>®</sup> Inc. duct is manufactured using the filament wound method to provide the greatest strength for direct burial applications. A foil scrim kraft, or FSK, inner surface liner provides a UL class 1 rating for this product when used in underslab applications. It is available in standard round sizes 2" diameter through 96" diameter. Rectangular duct and FRP boots are options. Factory pre-insulated duct with listed and code approved R-values of R-4, R-6, R-8, R-10 & R-12. ICC Approval Link: [http://www.icc-es.org/reports/pdf\\_files/ESR-1681.pdf](http://www.icc-es.org/reports/pdf_files/ESR-1681.pdf)

## INDUSTRIAL & MUNICIPAL FUME EXHAUST AIR DUCT

Spunstrand<sup>®</sup> Inc. filament wound industrial products are manufactured using standard guide specifications based on the National Bureau of Standard PS 15-69, SMACNA Thermoset FRP Duct Manual, and the RTP-1 applicable standards. They are also manufactured to ASME, ASTM, ANSI, Military specs, or for your custom application.

## ZERO LEAK & BALANCING DAMPERS

Spunstrand<sup>®</sup> Inc. manufactures both Zero-Leak (ZL) and Balancing Dampers (BA) for the corrosive fume handling industry for a variety of environments and applications. These dampers can be used to regulate air-flow, or isolate a particular part of a system. They are constructed of FRP providing a durable corrosion resistant product for numerous applications.

## CARBON SCRUBBERS (Vertical & Horizontal Bed)

After decades of manufacturing standard horizontal bed scrubbers, Spunstrand<sup>®</sup> Inc. Pioneered a complete line of FRP vertical bed scrubbers. These scrubbers eliminate the need for crawling into a hazardous space to service carbon beds. In addition, the vertical bed design provides the lowest visual profile and greatest design flexibility in the carbon scrubber industry. Designs include a four bed single pass unit sized for 40,000 CFM. Standard horizontal bed designs are available.

## MIST / GREASE ELIMINATORS

Horizontal airflow FRP Grease / Mist Eliminators are made to handle 99% removal efficiency for moisture and 80% removal efficiency for grease. Both filter medias are removable for on-the-spot cleaning.

## SILENCERS

Fibersonic Silencers<sup>®</sup> are made of fiberglass reinforced polyester and can be used where corrosive air prevents the use of standard metal silencers. Available in sizes up to 72" ID and 144" in length. Tested in accordance with ASTM E-477.

## FRP STORAGE TANKS

Chemical or water FRP Storage Tanks are filament wound and manufactured to ASTM & ASME specifications. They are available in sizes 2' diameter - 14' diameter.

## MINE & TUNNEL VENTILATION DUCT

In 1960, our company built the first filament winding machine to produce FRP mine ventilation duct, and started an entirely new industry. These first non-metallic ducts were a big improvement over the heavier and conductive metal ducts. Our mine and tunnel ventilation ducts maintain a MSHA approval as a Class 1 rated duct system, and have been used in mining and tunneling applications now for 54 years. Spunstrand<sup>®</sup> Inc. has a variety of duct configurations available to suit the needs of most any situation our customers may encounter.

## SPECIALTY PRODUCTS

Spunstrand<sup>®</sup> Inc. is capable of meeting your needs with a variety of customized products where composite materials solve challenging problems of your customers. We are the premier custom fabricator for duct design and engineering. ***If you can draw it, we can build it!***



**WARNING:** This product can expose you to chemicals including benzene and formaldehyde, which are known to the State of California to cause cancer, and benzene which is known to the State of California to cause birth defects or other reproductive harm. For more information go to: [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).