

"Where imagination becomes reality!"

Johnson County Foam, Inc. GFRC Division 565 Airport Drive Mansfield, TX 76063 817-477-5061

Johnson County Foam, Inc. Submittal Package



Jim and Sally Nation Hall @ Dallas Baptist University

Johnson County Foam, Inc.

In 1989, Bill and Sarah Lewis started Johnson County Foam together, and in 2001 expanded creating multiple other divisions including CNC machining, GFRC, Rubber, Cast Stone, and in 2015 began Water Jet Machining. To learn more information about our completed commercial, residential, and landscaping projects visit our website at <u>www.jcfcompanies.com</u>.

Our materials have been used on buildings for small businesses to large complexes. We have a variety of styles, colors, and sizes to choose from in a large array of products.

Some of JCF's GFRC projects include the following:

St. Martin Church, Prosper Texas Gaylord Texan, Grapevine Texas Lauren James, Plano Texas Museum of Nature and Science, Dallas Texas Jim and Sally Nation Hall @ Dallas Baptist University, Dallas Texas Dr. William B. Dean Learning Center @ Dallas Baptist University, Dallas Texas Sky Canyon Wine Bar, Dallas Texas Tanger Outlets, San Marcus Texas Fort Worth Dome, Fort Worth Texas The Sorrento, Dallas Texas Heritage Nursing Home, Paris Texas Post Oak Mall, College Station Texas Trend Tower, Rockwall Texas

Included in the submittal package are:

1.) MSDS

2.) Material Supplier Info3.) G.F.R.C. Guide Specifications4.) G.F.R.C. Portfolio

Thank you for your time and consideration of Johnson County Foam, Inc. as your suppliers. We strive for excellence in customer service and the highest quality in our GFRC materials.

Material Safety Data Sheet



Section 1: Hazardous Ingredients - In Raw Form

Portland Cement (TXI002) CAS # 65997-15-1 TLV: 10 mg total dust/³ – Portland Cement, Gypsum, Limestone, Blast Furnace Slag, Silica, Crystalline, Quartz Chemical Family: n/a PEL: 15 mg total dust/m³ – Portland Cement, Gypsum, Limestone, Blast Furnace Slag, Silica, Crystalline, Quartz

White Sand (Formula (SiO₂) 55% Silica CAS # 14808-60-7 TLV: ACGIH TLV (* hr TWA) .1 mg/m³ Chemical Family: Crystalline Silica (quartz) 90-99.9& wt/wt PEL: Respirable Dust: 10mg,m³ (divided by % siica in the dust plus 2)

Section 2: Additional Material Data

Latex CAS # 98-82-8 Components: Polymer, Sufactant, Water Chemical Family: Acrylic

Alkali Resistant Glass Fiber CAS # 65997-17-3 Components: SiO2, ZrO2, RO(MgO+CaO), (MgO), (CaO), TiO2, Al2O3, R2O (Li2O+Na2O+K2O), (Li2O), (Na2O), (K2O)

Section 3: Physical Data

Odor	Cement: none; Sand: none; Latex: Acrid odor; Alkali Resistant Glass Fiber: none
Gravity	<u>Cement:</u> 3.05 – 3.20; <u>Sand:</u> 2.55 – 2.80; <u>Latex:</u> Heavier than Water; <u>Alkali Resistant Glass Fiber:</u> 2.8 (bare glass)
Boiling Pt	<u>Cement:</u> >1000°C; <u>Sand:</u> At 1 Atm – n/a; <u>Latex:</u> 212°F; <u>Alkali Resistant Glass Fiber:</u> . 820°C (softening point)
Vapor Density	<u>Cement:</u> N/A – Does not apply; <u>Sand:</u> (In Air=1); <u>Latex:</u> N/A – Does not apply; <u>Alkali Resistant</u> <u>Glass Fiber:</u> N/A – Does not apply
Vapor Pressure	<u>Cement:</u> N/A – Does not apply; <u>Sand:</u> mmHg@200° C=0; <u>Latex:</u> N/A – Does not apply; <u>Alkali</u> <u>Resistant Glass Fiber:</u> N/A – Does not apply
_% Volatile By Volume	Cement: n/a; Sand: n/a; Latex: 53%; Alkali Resistant Glass Fiber: n/a
Evaporation Rate	<u>Cement:</u> Does not apply; <u>Sand:</u> Does not apply; <u>Latex:</u> Slower than Butyl Acetate; <u>Alkali</u> <u>Resistant Glass Fiber:</u> n/a Section 3: Physical Data continued from page 3

Solubility	<u>Cement:</u> Slight (0.1%-1.0%); <u>Sand:</u> Negligible; <u>Latex:</u> Dispersible; <u>Alkali</u>
In Water	<u>Resistant Glass Fiber:</u> Insoluble
Reactivity In Water	Will not evolve flammable or toxic gases

Section 4: Fire and Explosion Data

Flashpoint	<u>Cement:</u> will not ignite <u>Sand:</u> will not ignite <u>Latex:</u> Non-Flammable, Greater than 200°F <u>Alkali Resistant Glass Fiber:</u> Non-Combustible
Extinguishing Agents	<u>Cement:</u> Not combustible. <u>Sand:</u> Not combustible. <u>Latex:</u> For dried solids use water, foam, CO2 or dry chemical fire fighting equipment. <u>Alkali Resistant Glass Fiber:</u> Any of the extinguishing agents, including water, carbon dioxide gas, foam, dry chemicals and powder are effective.
Unusual Hazards	<u>Cement:</u> none <u>Sand:</u> Contact with oxidizing agents may cause fire/explosion <u>Latex:</u> Closed containers exposed to heat may rupture due to pressure build up. <u>Alkali Resistant Glass Fiber:</u> Glass Fiber itself is not combustible. But the bindings or surface treating agents on glass fiber are generally combustible and give off little hazardous by-products other than carbon monoxide, carbon dioxide and water on combustion.

Section 5: Health Information

Eye ContactCement: (Acute/Chronic) Exposure to airborne dust may cause immediate or delayed irritation or
inflammation of the cornea. Eye contact by larger amounts of dry powder or splashes of wet
Portland cement may cause effects ranging from moderate eye irritation to chemical burns and
blindness.
Sand: May cause echanical abrasion, pain, redness and swelling, do not rub eyes, seek
Medical attention if does not eliminate with water on open eyelids.
Latex: May cause irritation to eyes.
Alkali Resistant Glass Fiber: Contact with fibers can cause temporary irration or itching to eyes.

Skin ContactCement: (Acute) Exposure to dry Portland cement may cause drying of the skin with consequent
mild irritation or more significant effects attributable to aggravation of other conditions.
Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure.
(Chronic) Dry Portland cement coming in contact with wet skin or exposure to wet Portland
cement may cause more severe skin effects, including thickening, cracking or fissuring of the
skin. Prolonged exposure can cause severe skin damage in the form of chemical (caustic) burns.
(Acute/Chronic) Some individuals may exhibit an allergic response upon exposure to Portland
cement. The response may appear in a variety of forms ranging from a mild rash to severe skin
ulcers.
Sand: May cause mechanical abrasion and dryness, seek medical attention if worsens.
Latex: may cause irritation to skin.
Alkali Resistant Glass Fiber: Contact with fibers can cause temporary irration or itching to skin.

Ingestion	<u>Cement:</u> (Acute/Chronic) Internal discomfort or ill effects are possible if large quantities are swallowed. <u>Sand:</u> Expectation of practically non-toxic, wash mouth. Large amounts will cause gastro-			
	intestinal problems or blockage			
Inhalation	 <u>Cement:</u> (Acute) Exposure to Portland cement may cause irritation to the moist mucous membranes of the nose, throat and upper respiratory system. Pre-existing upper respiratory and lung diseases may be aggravated by inhalation of Portland cement. (Chronic) Inhalation exposure to free crystalline silica may cause delayed lung injury including silicosis, a disabling and potentially fatal lung disease, and/or cause or aggravate other lung diseases or conditions. <u>Sand:</u> Dust may irritate ENT by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following excessive exposure. Silica sand can lead to silicosis, lung cancer, tuberclosis, autoimmune diseases, non-malignant respiratory diseases. Seek medical attnetion if necessary. <u>Latex:</u> Excessive, or prolonged exposure to vapors may be irritating to nose, throat, and respitory 			
	tract producing symptoms of dizziness, headache or nausea. <u>Alkali Resistant Glass Fiber:</u> Contact with fibers can cause temporary irration or itching nose and throat.			
Potential Dangers	<u>Cement:</u> (Acute Exposure) Dust from the product may cause irritation to the skin, eyes, and nasal passages. Prolonged exposure could result in alkali burns.			
(Raw Materials)	<u>Potential Carcinogens:</u> Portland cement is not recognized as a carcinogen by NTP, OSHA, or IARC. However, it may contain trace amounts of heavy metals recognized as carcinogens by these organizations. In addition, IARC classifies crystalline silica, a trace constituent, as a known human carcinogen (Group I). NTP has characterized respirable silica as "reasonably anticipated to be a carcinogen."			
Section 6: Reactivity Data				
Stability	Stable			
Incompatibility	<u>Cement:</u> Wet Portland cement is alkaline. As such, it is incompatible with acids, ammonium salts and aluminum metal. <u>Sand:</u> powerful oxidizing agents may cause fire and/or explosion <u>Latex:</u> Avoid acids, bases & other reactive matericals.			

HazardousCement: Will not occur.DecompositionLatex: Various combustion products, including carbon oxides, nitrogen oxides and sulfur oxides.

Cement	Use dry clean-up methods that do not disperse dust into the air or entry into surface water. Material can be used if not contaminated. Place in an appropriate container for disposal or use. Avoid inhalation of dust and contact with skin and eyes.
Sand	Cleaning may generate respirable crystalline silica-contatining dust. Water may be necessary to clean up spill. Use dustless (HEPA) filter vacuum. Insure that snad does not inadvertently enter streams, drains, or sewers
Latex	Spill and releases of this material are not reportable under S.A.R.A. Title III, Sec. 313, Prevent spilled liquid from entering sewer, storm drains, or other unauthorized treatment/drainage systems and natural waterways. Dike Spill- Absorb with inert material and collect for disposal. Flush area with water. Prevent washings from entering waterways.
Alkali Resistant Glass Fiber	If spilled on the floor, clean quietly so that dust particles will not be dispersed and put into a container or bag.

Section 8: Personal Protection Information

Eyes	<u>Cement and Sand:</u> Immediately flush eye thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately. <u>Latex:</u> Holding the lids apart, flush contaminated eye(s) with a gentle stream of water for 15 mins. If irritation or redness develops and persists, seek immediate medical attention. <u>Alkali Resistant Glass Fiber:</u> Flush the eye with clean water for at least 15 minutes. Seek medical attention if irritation persists.
Skin	 <u>Cement and Sand:</u> Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns. <u>Latex:</u> Remove contaminated clothing and cleanse thoroughly with soap and water. Seek medical attention if irritation, swelling, blistering, or rednessdevelops and persists. <u>Alkali Resistant Glass Fiber:</u> Do not rub or scratch the affected areas. Rubbing or scratching may cause harsh iching or irritation. Rinse with running water first and then wash with warm water and soap. Bathing is an effective way to remove glass fiber.
Ingestion	<u>Cement and Sand</u> : Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. <u>Latex</u> : Seek medical advice if swallowed. <u>Alkali Resistant Glass Fiber</u> : Wash mouth with water thoroughly. Seek medical attentino if necessary.
Inhalation	 <u>Cement and Sand:</u> Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalation of large amounts of Portland cement require immediate medical attention. <u>Latex:</u> First aid is not required, normally. However, seek medical advise if any unusual symptoms develop. <u>Alkali Resistant Glass Fiber:</u> Gargle with lean water about ten times. Also, blow your nose gently. Seek medical attention if you feel some itching or irritation in the nose and/or throat.

Section 9: Special Precautions / Additional Information

Ventilation	<u>Cement and Sand</u> : Adequate ventilation maintained. <u>Latex</u> : General mechanical ventilation may be sufficient to keep product vapor concentrations within specified time-weighted TLV ranges. <u>Alkali Resistant Glass Fiber</u> : Install localized ventilation units in workplaces where dusts are generated by cutting, grinding and so on, and powder products such as milled fibers are handled. If ventilation units can't be installed for some reasons, be sure to wear dust mask (approved by the government) during work. It is also preferable to provide facilities for washing the face and the body, gargling, changing and washing clothes.
Safety glasses	<u>Cement and Sand:</u> Wear safety glasses with side shields or goggles to avoid contact with the eyes. In extremely dusty environments and unpredictable environments, wear tight-fitting unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when handling cement or cement containing products. <u>Latex:</u> Working conditions and safety regimentation dictates eye protection when working with mists, dust or liquids. <u>Alkali Resistant Glass Fiber:</u> Safety glasses (goggle type).
Hygiene	<u>Cement and Sand:</u> wash exposed areas with soap and water before eating, drinking, smoking, or using toilet facilities. Wash clothes after use. Avoid breathing dust. Adequate ventilation.
Respirator	<u>Cement:</u> Use local exhaust or general dilution ventilation to control dust levels below applicable exposure limits. Minimize dispersal of dust into the air. If local or general ventilation is not adequate to control dust levels below applicable exposure limits or when dust causes irritation or discomfort, use MSHA/NIOSH approved respirators. <u>Sand:</u> HEPA type filtration recommended with prolonged use, be familiar with the dangers of Silica dust prior to using <u>Latex:</u> The use of respiratory equipment depends on vapor concentrations above the time- weighted TLV or PEL. <u>Alkali Resistant Glass Fiber:</u> Dust mask (approved by the government authorities: Replaceable/one-way).
Container	<u>Cement and Sand:</u> Keep in closed container. If possible, cool, dry, and well ventilated areas. <u>Latex:</u> Keep in closed container when not in use. Avoid extreme temperature ceriations and freezing.
Protective Gloves	<u>Cement and Sand:</u> Rubber, PVC, Neoprene, or plastic gloves (desired impervious). <u>Latex:</u> The use of gloves which are impermeable to the specific material handled is advised to prevent skin irritation and absorption. <u>Alkali Resistant Glass Fiber:</u> Gloves such as leather which don't' allow glass fiber to pierce.

Section 10: Disclaimer

The data on this sheet referes to material designated herein and is accurate to the best knowledge of Johnson County Foam, Inc. It is furnised wthout warranty, expressed or implied. Data may change depending on vendor and specific project requirements. Johnson County Foam, Inc. assumes no responsibility for the use or reliance upon this data. This information is designed for a brand general use of products related to the cast stone industry and is provided soleyly as a general reference and protection.



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Material Supplier List

Cement:

Lehigh Irving, Texas

Bonsal American Dallas, Texas

Sand:

Superior Silica Sands Kosse, Texas

> HJG Sand Pit Briar, Texas

Latex:

Nippon Electic Glass America, Inc. Grand Prairie, Texas

Alkali Resistant Glass Fiber:

Nippon Electic Glass America, Inc. Grand Prairie, Texas



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G.R.F.C. Guide Specifications

SECTION 03450-POLYMER MODIFIED GLASS REINFORCED CONCRETE (HEREINAFTER REFERRED TO AS G.F.R.C.)

PART 1 – GENERAL

1.01.A SCOPE

Furnish all labor, materials, equipment, and services necessary of incidental to completion of molded glass fiber reinforced concrete composites (G.F.R.C.) and associated work in accordance with the contract documents and all applicable building codes.

1.01.B WORK INCLUDED

Installer to provide all labor, materials, equipment and related services required for complete erection of the G.F.R.C. and joint treatment if required.

1.01.C RELATED WORK SPECIFIED ELSEWHERE:

A. Precast ConcreteB. Framing and SuspensionC. FinishesD. Joint TreatmentE. Pre-Cast Stone

1.01.D MANUFACTURER:

JCF Companies, Inc. 565 Airport Drive Mansfield, TX 76063 (817) 477-5061 (817) 473-4734 fax

PART 2 – PRODUCTS

2.01 MATERIALS:

- A. All materials to be manufactured per Ball Consulting Ltd guidelines.
- B. Glass Fiber Reinforced Concrete (G.F.R.C.) to be fabricated using long strand chopped glass fiber laminated with polymer modified Portland Cement.

- C. Embeds and reinforcement (if required by manufacturer to be galvanized steel of wood)
- D. G.F.R.C. members to be stored in climate controlled conditions for sufficient periods of time to ensure product stability before being shipped.
- E. All G.F.R.C. member to have identification marks, as indicated on shop drawings, clearly displayed on backside of part.
- F. Miscellaneous materials:
 - a. All other materials, i.e. screws, clips, adhesives, shims, hanger wire, ect., to be per manufacturer's shop drawings and/or job specifications and shall be supplied by installer of G.F.R.C. materials.

2.02 PHYSICAL PROPERTIES:

- 1. Glass Fiber = 5-6% by weight
- 2. Shell Thickness = 3/8" norminal
- 3. Weight = $4 lbs/ft \pm$
- 4. Density = 115.7 lbs/ft 3
- 5. Finish = smooth
- 6. Tensile Strength (ASTM D790) = 1110 PSI
- 7. Flexural Strength (ASTM D790) = 2900
- 8. Compressive Strength (ASTM D695) = 9520
- 9. Impact (D256) = 12.51 ft. lbs/in

2.03 TOLERANCES:

- 1. Dimensions All directions $\pm 3/16$ "
- 2. Thickness $3/8 \pm 1/8$ "
- 3. Warpage or bowing 1/16" per foot

PART 3 – EXECUTION

3.01 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Handling:
 - a. All G.F.R.C. material shipped to be placed in specifically built crates, and shipped in a manner that will protect pieces from damage, dirt, moisture, and warpage.
 - b. Support pieces during shipment on nonstaining shock absorbing materials.
 - c. Lift and support pieces only at points indicated for attachment on drawings.

B. Storage:

- a. Once uncrated, material to be stored in an upright position on a flat, smooth and level surface. Avoid stacking and leaning of pieces as much as possible.
- b. Cover and protect pieces from excessive dirt, moisture, surface damage or other jobsite hazards.

3.02 INSPECTION

- A. Contractor shall be responsible for inspecting job conditions and providing lines, center, grades and marks in sufficient detail for correct installation.
- B. Installer will verify all marks and check jobsite conditions for clearance, working spaces and all marks provided before commencement of installation. Installer will also inspect all pieces prior to installation. Installer will be responsible for repairing all installed

pieces except manufacturing defects. All discrepancies affecting the installation of the G.F.R.C. members will be brought to the attention of the General Contractor and resolved before installation begins.

C. General Contractor to provide sufficient space for unloading and transport of pieces as required.

3.03 ERECTION

- A. Safety: Installer is responsible for handling and installing the G.F.R.C. material in a safe manner. Report and unsafe conditions immediately to the General Contractor.
- B. Installer will use experienced workmen to install the G.F.R.C. pieces. Material will be installed level and plumb and as shown in the approved shop drawings. All pieces will be securely anchored and joints finished as shown in the approved shop drawings.
- C. The installer will protect the G.F.R.C. members from damage by other trades during construction and until accepted by the General Contractor.
- D. After erection and acceptance of finished pieces, all damage and repair eill be the responsibility of the General Contractor.

3.04 FINISHING

- A. G.F.R.C. as made by JCF Companies, Inc. is shipped as a Natural Portland/Gray color or an optional White Portland color. Field finishing is required and should be treated as a masonry/concrete product.
- B. G.F.R.C. surfaces must be primed and sealed with Sherwin Williams Loxon A-24-W-300, or equivalent, designed for use on exterior cement. The material is compatible with many smooth or tectured paints and EIFS type coatings.
- C. It is recommended that any applied finish sealer or paint, such as Sherwin Williams ConFlex A-5-W-451 or equivalent allow water vapor to pass (breathable-system).
 Coating based on water based latex emulsions such as polyvinyl acetate co-polymers, (styrene) acrylic co-polymers and styrene butadience rubbers (SBR) are appropriate.
- D. Non-breathable systems such as epoxies or urethanes can be used if water vapor transport is limited. Exterior instattations should be designed with proper venting to prevent moisture buildup within the cavity of installed parts.
- E. Care must be taken to properly prepare the sureface using good painting particles by removing dust, greases, friable (loose) materials, ect. Joint areas should be wiped clean with acetone or other fast drying solents to assure a good bond. DO NOT USE OIL BASED SOLVENTS, MINERAL SPIRITS, PAINT THINNER, ECT. Rigidly follow the paint manufacturer's instructions for application.

PART 4 - WARRANTY

- A. Manufacturer will warrant all materials against defect for one (1) year after acceptance of materials.
- B. Installer will warrant installation of installed materials for one (1) year after acceptance of materials.
- C. The manufacturer will, at his discretion, repair or replace defective pieces subject to approval of architect.



GFRC Portfolio

We want you to feel confident that we have taken every measure available to ensure quality customer service and superior product. Whether it is an outside garden area in your backyard or a magnificent garden at your commercial location; a wonderfully decorated entry to your home, or an elegant fountain area as the entrance ti a church, hospital, school and library; or multi-million dollar business complex, we can provide you with a variety of ideas and stone concepts to enhance your commercial, residential, and landscaping projects.

Visit us <u>www.jcfcompanies.com</u> or come in our location at 565 Airport Dr Mansfield, Texas. Our team is ready to assist with any of your design needs. To contact us via telephone please call 817-477-5061.



Dr. William B. Dean Learning Center, Dallas Texas



The Sorrento, Dallas Texas



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Thank you for considering Johnson County Foam, Inc. G.F.R.C. Division.