

A woman with long dark hair, wearing a dark blazer, stands in the foreground looking at a tablet. The background is a blurred city skyline at night with many lights. A large, semi-transparent, stylized line-art house icon is on the left side of the image.

SAINT-GOBAIN

The Saint-Gobain logo, which consists of a stylized line-art house icon above the company name.

SAINT-GOBAIN

SAINT-GOBAIN'S MISSION

We bring **well-being** to people by creating great living places and **improving daily life** by **designing**, **manufacturing** and distributing **materials** and **solutions** which combine **comfort** and **sustainability**.

SAINT-GOBAIN: MATERIALS THAT POWER LIFE

ABRASIVES & COMPOSITE SYSTEMS



LIFE SCIENCES



MOBILITY



CONSTRUCTION INDUSTRY



CERAMICS



HIGH PERFORMANCE SOLUTIONS

One global entity serving industrial markets

DISTRIBUTION



MORTARS



BUILDING GLASS



GYPSUM



EXTERIOR PRODUCTS



INSULATION



CEILING



PIPE



REGIONAL BUSINESSES

Serving habitat and construction markets from four consolidated regions

Put our capabilities to work solving your problems. Saint-Gobain excels at:

**FAST RESPONSE
TO NEEDS**



**MATERIAL
EXPERTISE**



CO-DEVELOPMENT





INDUSTRIAL PRODUCTS AND CAPABILITIES:

MEDICAL TUBING SOLUTIONS

ELASTOMERIC TUBING

SILICONE TUBING



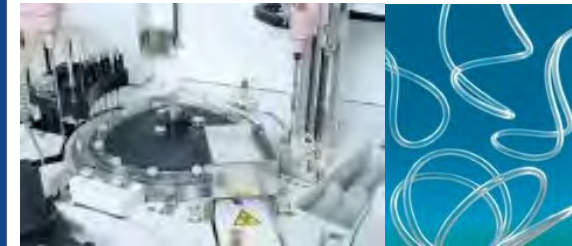
- Specialty formulated Pump Tubing
- Ventilator and breathing hoses
- Lab tubing for Diagnostics
- Transfer tubing

TPE TUBING



- Specialty Pump Tubing
- Multi-Layer constructions

PVC TUBING



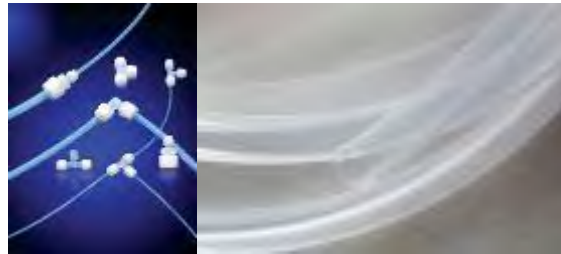
- Lab tubing for diagnostics
- Specialty Pump tubing
- IV Transfer Tubing
- Respirator Hose (Brazil)

Contact: Kristina Dempsey
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MEDICAL TUBING SOLUTIONS

OTHER TUBING

FLUOROPOLYMER TUBING



- Components for Test Lab equipment
- Components for Autoclaves
- Transfer tubing for high purity

CUSTOM



- Wire coated
- Specialty Co-extrusions
- Specialty profiles

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SPECIALTY CLOSURES

LAMINATES/TAPES



- Silicone adhered to polypropylene or PTFE, could be used in a number of devices.
- Chromatography – central testing equipment for COVID19
- Tapes for sterile connectors

LINED CLOSURES



- Polypro cap with PTFE and Silicone Septa for diagnostics.
- Other Specialty septa products

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MEDICAL CUSTOM MOLDED COMPONENTS

MOLDING MATERIALS

THERMOSET



Medical Grades (Class VI) Wide Durometer Range LSR & HCR

- In-house tool room for custom tooling, maintenance
- Robust quality & validation processes for sustainable, repeatable manufacturing
- High volume molding
- Tight tolerances
- Dedicated Applications Engineer for your project focused on co-development, design for manufacturability & project management from start to finish

THERMOPLASTIC



Medical Grades (Class VI)

- Engineering & High Temp Polymers such as:
 - PEEK • PC
 - PTFE • POM
 - ETFE • ...&
 - PA More

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MEDICAL CUSTOM MOLDED COMPONENTS

MOLDING TECHNOLOGIES

MICROMOLDING



Mass down to 0.001g
Thin Walls (<.0015")
Intricate features on larger parts

TWO SHOT MOLDING



TP + TPE

Thermoplastic + Silicone

- CFlex® + Polypropylene
- PEEK
- PC
- Polyimide
- Phenolic
- Polyester
- Polysulphone
- ABS

OVERMOLDING








Silicone + Substrate

- Standard silicones need mechanical locking design
- Self-bonding formulations yield a covalent bond
- Substrate must have high softening temperature

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3D PRINTING CAPABILITIES

					
Unique Features	Larger build volumes up to 0.4 x 0.4 x 0.4m	Continuous fiber (<i>carbon fiber, Kevlar, fiberglass</i>)	High viscosity inks, high resolution	Broad materials, powder-based feedstock	High-resolution metal 3D printing
3D PRINTER	Fortus 450mc	Markforged X7	Admaflex 130	ExOne Innovent	Portage
Technology	Industrial FDM	Industrial FDM	UV-DLP	Binderjet	DMLS
Materials	10 thermoplastic materials	chopped fiber reinforced nylon, nylon	Ceramics, Metal, Graded Materials	Metal & Ceramic powders	Aluminum, stainless steel, Inconel, others
General Use	Functional prototypes	Functional prototypes	DDM, development	Visual prototypes, molds, development	Molds, dies, & functional prototypes

Additional 2 Stratasys FDM Printers Operational in Beaverton, MI facility.

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MEDICAL FILTRATION



FLUID FILTRATION



- Hospital shower water
- IV Filters for drug delivery
- Cleaner water for temporary hospitals
- Water for Autoclaves

GAS AND AIR FILTRATION



- Ventilators
- Exhaust Filters on COVID19 Testing Equipment
- HEPA Filters in devices

CO-DEVELOPMENT MODEL

Disc



Cartridge



Capsule



Custom



- Co-Developed solutions for Liquid and Gas
 - Housing Geometries
 - Connectivity
 - Filter Media
- Rapid-Prototyping
- Cartridge, Capsule and Disc Configurations
- Filtration Retention from 0.05µm to 200 µm

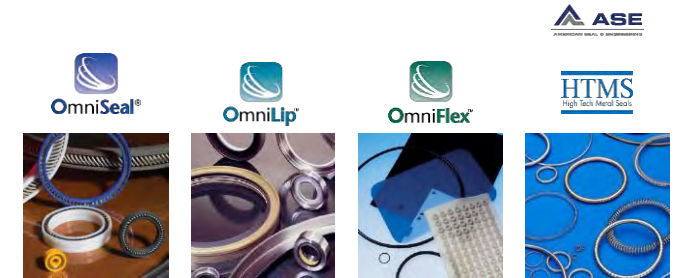
- Filtration Membrane / Media
- PES
- PTFE
- Nylon (Neutral and Charged)
- Polypropylene
- Glass Fiber
- Nylon Screen
- PE
- Carbon Fiber
- Depth Cellulosic
- Polyester Screen

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SEALS

Contact: Ronelle Decker
Ronelle.Decker@saint-gobain.com

- Spring Energized Seals: *Variety of spring options: advanced pitch to cantilever, extended spring, and more*
- Radial Lip Seals
- Elastomer O-rings and Metal Seals
- Diaphragms



Analytical equipment



- Seal in high pressure and harsh chemical chromatography
- Centrifuge

Pharmaceutical Manufacturing



- Fast rotating lip seal in dry environment
- Reactors, stirring systems,...

Chemical Valve Systems



- High purity, long lasting diaphragm for valves

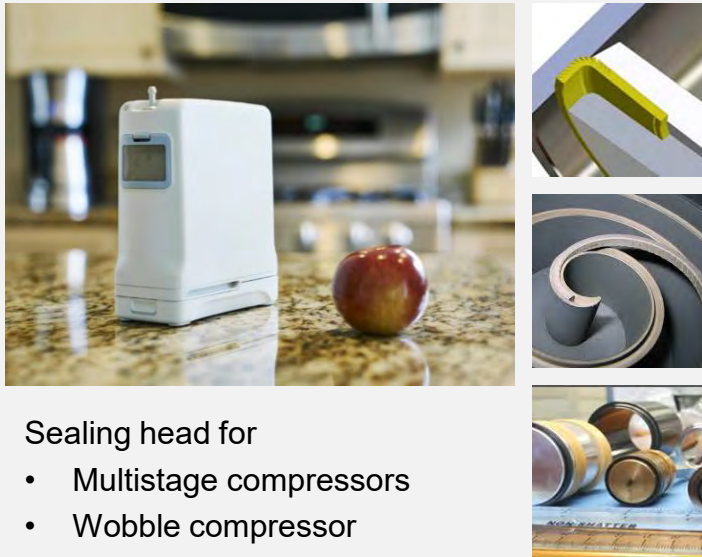
SEALS: FRICTION CONTROL

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Ronelle.Decker@saint-gobain.com

- Bushings, Bearings, Films & Custom Parts
- Low Friction Material in Dry Environment
- Best Resistance in High Load, Temperature and Speed
- Access to the Largest Material & Process Options in the Market *Machining, Stamping, Forming, Laminating, Molding (Hot and Cold), Injection Molding, Skiving, Direct Forming, Welding*



Respiratory Equipment

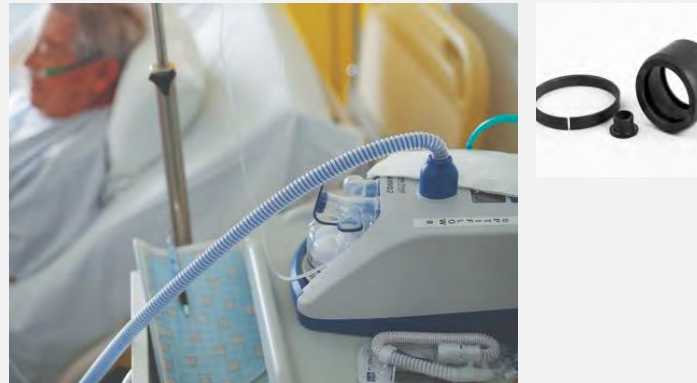


Sealing head for

- Multistage compressors
- Wobble compressor
- Scroll compressor

Cup seal, split seal and tip seal

Ventilators



Plastics under load or friction in

- Valves, (turbo) pumps,
- Fluid transfer, connectors
- Motors

PPE



Harsh chemical resistant components :

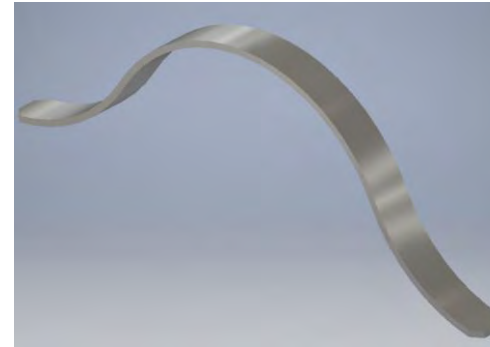
- High sterilization resistant
- Stamped PTFE rings

BEARINGS

A CONCEPT TO APPLY CURRENT CAPABILITIES TO A NEED



Aluminum nose clamp



- First forming tool ready in 3 days from launch
- Second tool ready 5 days from launch
- Raw material available
- Slit material ready 3 days from launch
- Forming capacity available
- Full production capable in one week

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FILMS & FABRICS

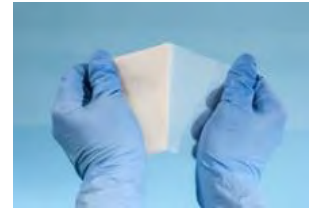
PHARMACEUTICAL, MEDICAL & BIOPROCESS PACKAGING

MEDICAL AND BIO-PROCESS PACKAGING



- Inert fluoropolymer films for culture and bio-process bags
- Release-coated films for vacuum molded trays in the surgical suite

PHARMACEUTICAL PACKAGING



- Rubber stopper liners to protect the purity of liquid pharmaceuticals
- Release coated films used to protect the pharmaceutical adhesive in transdermal systems

CHEMFILM®
High Performance Films

NORFILM™
Performance Coated Solutions



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SAINT-GOBAIN

FILMS & FABRICS

SURFACE PROTECTION & FABRICATED PROTECTION SOLUTIONS



SURFACE PROTECTION



- Fluoropolymer surface protection for inert protection and ease of cleaning for lab and medical facilities
- TPU films for ease of application to protect medical electronics

FABRICATED PROTECTION SOLUTIONS



- Chemical protective clothing for Military and First Responders
- Fire-survival hoods for commercial aircraft
- MASH-type medical tents for use in chemical warfare

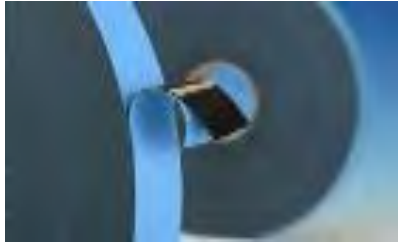


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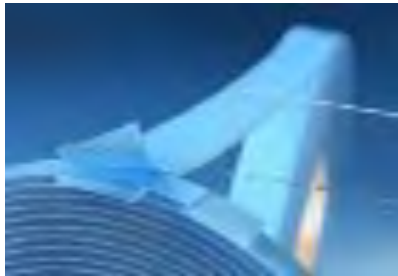


BONDING PRODUCTS

POLYURETHANE FOAM TAPE



ACRYLIC FOAM TAPE



NORBOND. 

FEATURES:

- Durable acrylic adhesive for strong, long-lasting bond
- Viscoelastic foam core with enhanced elongation capability
- Excellent environmental resistance
- Shock and stress absorption

APPLICATIONS:

- Signage and display bonding
- Bus, truck, and emergency vehicle trailer skin bonding
- Glass partition wall and translucent/clear substrate attachment
- Permanent fastener replacement (rivets, welds, liquid adhesives)

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SEALING & GASKETING PRODUCTS

Contact: Scott Yudkin
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(203) 645-7375

NORSEAL



SILICONE FOAM:

- Flame retardant UL 94 V-0 in thickness $\geq 1/16"$ (1.59mm)
- Passes key industry standards like FAR 25.853, Bombardier SMP 800-C, NFPA 130
- Passes requirements of FDA extractables 21.CFR177.2600 – extremely clean elastomer for use in non-direct food contact applications
- Smooth both sides is available on F-20 for Excellent Sealing attributes. Smooth one side / slight texture opposite side is the standard for F-12, however smooth both sides can be offered as a custom item
- Excellent compression set resistance
- Excellent resistance to ultraviolet light, ozone and extreme temperature ranges for long-term aging properties
- Weather, moisture, ozone, UV and fungus resistant - perfect gasketing material for outdoor applications
- (F-20) closed cell foam passes AMS 3195
- (F-20) is recognized to UL 50E, gasket and seals for electronic enclosures.

SILICONE SPONGE:

- Wide temperature range, from -100°F to + 500°F (-73°C to + 260°C)
- Superior mechanical properties than competitive products for higher strength applications
- Various firmness available to match compression deflection forces of gasketing requirements
- Ozone and UV resistant for both indoor and outdoor applications
- Uniform closed cell structure for dust, moisture and weather tight seals
- Can be supplied with either silicone or acrylic pressure-sensitive adhesive for ease of application
- Post-cured - low out-gassing for clean gasketing and sealing
- New UL 94 V-0 (R-10404) flame retardant versions available
- Products designed to meet numerous customer, government and military specifications

SILICONE SOLIDS:

- Post cured products - clean low out-gassing products in application
- Can be fabricated into gaskets and cushion pads = ease of application
- Can be supplied with either silicone or acrylic pressure-sensitive adhesive for ease of application
- *Excellent compression set resistance - quick recovery in gasketing applications*
- *Excellent long-term aging properties - gasket reliability often outlasts final product*
- *Weather, moisture, ozone, UV and fungus resistant - perfect gasketing material for outdoor applications*
- EC-102 is electrically conductive for static bleeding and ESD protection

SEALING & GASKETING PRODUCTS (CONTINUED)

NORSEAL



**Polyurethane
Foams**



PVC Foam Tape



PVC Foam Extrusions

PU FOAMS:

- High resiliency performance over complete compression range
- Energy absorbing - protects sensitive components from unwanted vibration
- Shock isolation - dissipates impact energy
- Remains conformable and flexible even at low temperatures
- Excellent elastic recovery
- Easy to die-cut
- With and without pressure sensitive adhesives

PVC EXTRUSIONS:

All Norseal extrusions are resistant to weather and oxidation and remain flexible at low temperatures. Custom-designed profiles allow Saint-Gobain to tailor the properties to meet your needs. We have the flexibility to adjust density, shape, color and spool length. Profiles are also available as foam only (without adhesive) or with optional pressure-sensitive adhesive to facilitate the assembly process.

PVC FOAM TAPE:

Norseal Foam Gaskets are offered in a wide range of thicknesses, widths and compressibility values. Each one is engineered to solve a range of needs and is available with or without adhesive.

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ADHESIVE FILM TAPES

Fluoropolymer Film/Fabric Tape



FLUOROPOLYMER FILM TAPE:

- CHR FEP tapes: high temperature magnet coil and capacitor wrapping, composite bonding, electronics and industrial masking, and conveyor release linings.
- CHR PTFE tapes: high temperature magnet coil and capacitor wrapping, composite bonding, electrical wire and cable insulation and bundling, electronics and industrial masking, and conveyor release linings.

POLYIMIDE TAPE:

- CHR Polyimide Adhesive Tapes: high temperature electrical insulation, capacitor, transformer, and magnet coil wrapping, electronic assembly fastening and masking, and wave solder protection.
- CHR KCL: protective masking to minimize handling damage in the electronics, aerospace, and automotive industries.

POLYESTER FILM TAPE:

- Excellent dimensional stability
- High Tensile, tear, and impact strengths
- Ultimate elongation up to 120% original dimensions
- Low moisture absorption
- Resistance to oil, grease, strong acids, organic solvents
- Retention of dielectric strength and DK properties over wide temperature ranges
- Service temperatures of -100°F to +350°F (-73°C to 177°C)
- Available in colors for easy identification

Polyimide Tape

Polyester Film Tapes



CHRTAPE. 

Contact: Joe MacDonald
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518-788-5194



COMMERCIAL BUILDING SOLUTIONS:

A TRUST-BUILDING RANGE OF SOLUTIONS

Core & Shell

Smart Electrochromic Glass
Glass & Glazing
Facades, gaskets & tapes
Architectural Membranes
Thermal Insulation
Low Slope Roofing
Solar & Security Glass & Films
Sheathing

Interiors

Specialty Ceilings
Acoustic Ceilings & Sealants
Interior Glass & Glazing
Acoustic & HVAC Insulation
Performance Wall Coverings
Solar, Security, & Air Barrier Films
Wallboard & Accessories



WE ARE SAINT-GOBAIN



vetrotech
SAINT-GOBAIN

SolarGard
SAINT-GOBAIN

Ecophon
SAINT-GOBAIN

SageGlass

CertainTeed
SAINT-GOBAIN

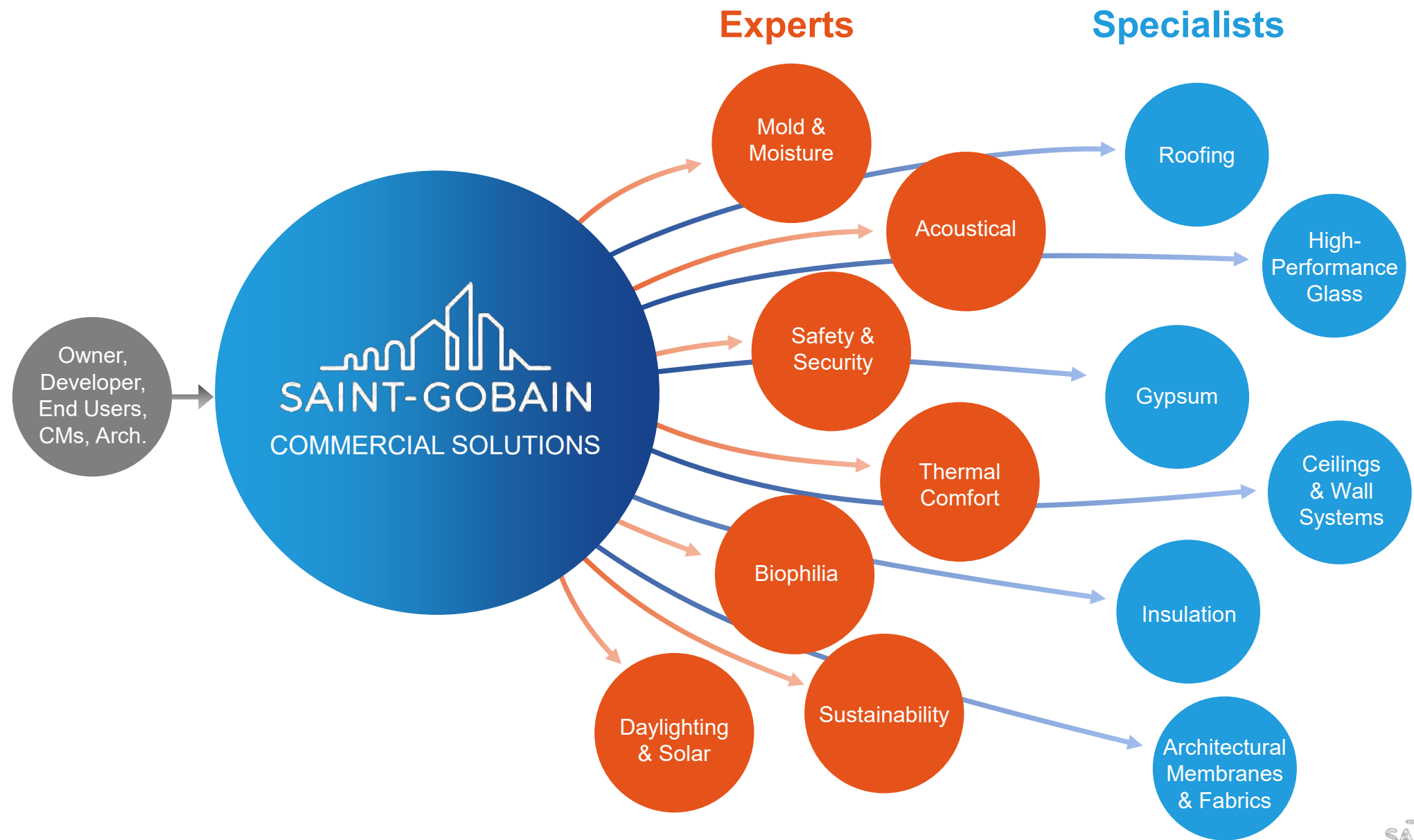
HunterDouglas
Ceiling & Wall Products
exclusively from CertainTeed

decoustics
SAINT-GOBAIN

ADFORS
SAINT-GOBAIN

SHEERFILL

ACCESS TO AN ARMY OF EXPERTS AND SPECIALISTS



EXPERT CONSULTATION GROUNDED IN SCIENCE

Service Areas include:

Acoustics

Albedo & Lighting

Biophilia

Building Codes

Building Science Principles

Durability

Moisture Analysis

Multi-Comfort

Sustainability & High Performance

Building



Saint-Gobain Commercial Solutions

Build the best building envelope with WUFI® modeling of the hygrothermal performance of building assemblies.

To know the effects of heat and moisture on a roof or wall over time is critical. To be able to accurately predict this through a series of computer simulations is priceless.

What if we could help you by performing these simulations based on your design and the location the building is to be built? What if such simulations could be used to help identify underperforming layers and help "test" alternate materials and solutions to improve performance without increasing costs? The ability to do just such analyses has been with us for some time and the simulation software continues to increase in functionality which improves the quality and accuracy of the results.

There is a lot of deep science and expertise involved in the creation and use of such modeling programs:

- The physics of heat, air, and moisture flow
- Climate science
- Materials science
- Construction knowledge

The good news is you don't have to already be an expert to find the answers.

You could get the information that you need to assure that your wall assemblies are going to perform for your specific project by simply making a phone call and working with one of our WUFI certified Building Science professionals. We can help you to understand the performance implications of changing building materials and systems without the cost of building and measuring the actual structure. "One size fits all" isn't called "one size fits well" because it doesn't. Together let's get specific about your project.

To schedule a consultation, contact:

Jennifer Vörberger
Mobile: (202) 251-1843
Jennifer.Vorberger@saint-gobain.com

Screen capture of WUFI modeling results. High quality data on assembly performance.

Saint-Gobain Commercial Markets
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SAINT-GOBAIN



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