

## Tuff Temp and Hi-Temp Fabricated Pads

At Tuff Temp Corp. we have a fully equipped fabricating shop which is capable of producing highly customized pads (i.e. scoop pads, vacuum pads, etc.), liners, seals, gaskets and expansion joints to meet your unique high

temperature needs. Our on site technicians can provide customized form cutting, hole punching, sewing and slitting to meet your unique specifications.

## No Charge Samples

Please allow us the opportunity to **prove our value** to you by providing you with **no charge** samples of any of our products, which you can then test head to head against your current high temperature materials. All that we need are your material specifications, and we will then gladly

forward TUFF TEMP product samples direct to your plant, anywhere in the world. In addition, TUFF TEMP has local Agents and Distributors located throughout the world, ensuring quick and responsive service to your high temperature needs, without language and/or cultural barriers.

## For Any High Temperature Handling Application TUFF TEMP Is The Ideal Product Of Choice

TUFF TEMP's unique high performance properties make it ideal for a truly diverse wide range of high temperature applications. For example, our TUFF TEMP high temperature resistant conveyor belting is used to convey all of the following types of products:

- Hot Glassware
- Hot Soft and Hard Alloy Aluminum Extrusions and Other Metals
- Hot Cement
- Hot Sand
- Hot Chemicals

- Hot Carbon Black
- Hot Welding Flux
- Hot Wood Paneling
- Hot Washing Machine Lids

The above list is just a small sampling of the types of high temperature conveyance and handling applications where TUFF TEMP is the ideal product of choice. Please feel free to contact one of our highly qualified Sales Engineers to see how our TUFF TEMP conveyor belting can be used for your unique high temperature application.

## TUFF TEMP Woven Materials

### CHEMICAL, THERMAL & PHYSICAL PROPERTIES

<i>Temperature Resistance</i>	Up to 1000°F / 540°C Continuous Up to 1400°F / 760°C Intermittent
<i>Thermal Conductivity</i>	0.04 Btu.in/(h.ft <sup>2</sup> .°F)
<i>Abrasion Resistance</i>	Excellent
<i>Cut Resistance</i>	Good
<i>Chemical Resistance</i>	Good resistance to acids and alkalis Excellent solvent resistance Degraded by strong mineral acids and bases Excellent resistance to mildew and aging



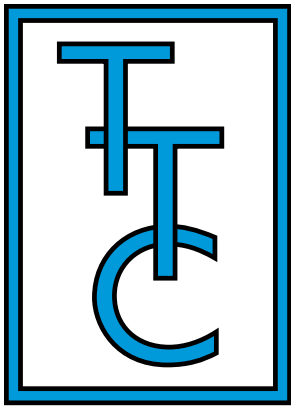
# TUFF TEMP CORPORATION

— HEAT RESISTANT TEXTILES AND BELTING —

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**MANUFACTURING EXTENDED-LIFE HIGH  
TEMPERATURE RESISTANT AND WEAR  
RESISTANT TEXTILE PRODUCTS SINCE 1974.**



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## COMPANY PROFILE

TUFF TEMP CORP. was formed in 1974. At that time the United States was realizing the serious health risks inherent in the use and handling of asbestos, and governmental health agencies soon mandated the elimination of all asbestos related products. This created a need within the glass industry, where asbestos had long been used as a heat resistant material within the hot end of many plants.

TUFF TEMP CORP. helped solve the problem of replacing asbestos by developing a family of high quality, ultra high temperature resistant non-asbestos conveyor belting, narrow tapes, seamless tubings and fabricated pad products (under the trade names of TUFF TEMP and HiTemp).

Each of our woven TUFF TEMP and HiTemp products have been uniquely engineered to meet the critical needs of handling hot end manufacturing processes such as primary and secondary glass manufacturing, and soft and hard alloy aluminum extruding. TUFF TEMP has proven temperature resistance up to 1,400°F (760°C), and our HiTemp line of products has shown even greater temperature resistance. TUFF TEMP in particular, is very effective in high wear applications, where fiberglass and other brittle high temperature materials are inadequate. HiTemp products are more ideal for static, ultra high temperature pad and gasketing applications.

Over the past 25 years, TUFF TEMP CORP. has become a global supplier, and today we are the world leader in

manufacturing and supplying heat and abrasion resistant textile products. Today, our various products have become the world standard for hot end handling and conveyance, in each of the following glass industry markets:

- Automotive Flat Glass Bending, Tempering and Laminating  
*(Windshields, Backlights, Sidelights, etc.)*
- Architectural Flat Glass Bending, Tempering and Laminating
- Lighting and Lamp Glass  
*(Automotive Headlamp Covers, Xmas Ornaments, Quartz, Incandescent Bulbs, Fluorescent Tubing & Rod, Halogen Light Covers, Envelope Bulb Blanks, etc.)*
- TV Glass  
*(For conveyance of both hot panel and funnel glass)*
- Miscellaneous Pressware  
*(Consumerware / Tableware, Ovenware, Opticalware & Ophthalmicware, Prisms, Meter Covers, etc.)*
- Container Glass  
*(Beer & Alcohol Bottles, Juice Bottles, Condiment Jars, Baby Food Jars, etc.)*
- Miscellaneous Holloware  
*(Perfume Bottles, Pharmaceuticalware, Scientificware, Cosmeticware, etc.)*
- Art Glass  
*(Tong Covers, etc.)*

## High Temperature Resistant Conveyor Belting

Tuff Temp Corp is a manufacturer of woven high temperature resistant, high-density conveyor belting, in multiple ply constructions, up to 3/8" (9.5 mm) thick.

**Tuff Temp conveyor belting is an ideal replacement for traditional chain and or metal belts, which typically require costly high energy burners to help prevent checks and marks. No burners are required when running TUFF TEMP belts, significantly reducing your**



**energy costs, while improving the surface quality of your ware. Add to this the complete elimination of toxic fumes from the use of gas burners, and you will have a cleaner, healthier work place environment.**

Tuff Temp Corp. has developed breakthrough high temperature resistant conveyor belting that has been designed for the hottest, heaviest, and most severe hot end conveyance applications.



We understand that you are typically running your manufacturing plants 24 hours a day, 7 days a week, 365 days a year. Any downtime that you experience in manufacturing is *unrecapturable*, permanently lost revenue. With that mindset, our focus is to supply you with the very longest lasting, most durable conveyor belts in the world, so that you can achieve the longest continuous production runs, with minimal costly maintenance down-time

## Oven Roller Tapes and Ropes

During the thermal tempering process glass is heated up in the range at temperatures nearing the melting point. Soon thereafter the glass exits the furnace and is rapidly quenched with cool air to strengthen it. As the glass exits the furnace it is conveyed over a series of cold metal rollers. These quench rollers are spirally wrapped with our TUFF TEMP Oven Roller Tape or Rope, which is used as a protective buffer material, preventing the hot glass from picking up any unacceptable thermal checks.

We have been supplying our products to the flat glass market for over twenty years, and today, TUFF TEMP Oven Roller Tapes and Ropes are supplied to almost all of the world's largest horizontal tempering range manufacturers. Our customers include the leading

horizontal tempering range OEM's in all corners of the world. In addition to supplying the OEM's, TUFF TEMP CORP. also directly supplies numerous secondary glass tempering companies. Our global customers include many of the world's largest flat glass manufacturers as well as many small and mid-size companies as well. Whether a multi-billion dollar multinational company, or a small local startup, all TUFF TEMP customers are treated with the very highest level of customer service.



**Quite simply, Tuff Temp has become the world's leading manufacturer and supplier of Oven Roller Tapes & Ropes because they provide the very longest wear life, unmatched durability, excellent heat & wear resistance, and are totally non-marking on even the most sensitive glass types.** In addition to superior life, TUFF TEMP Oven Roller Tapes and Ropes are highly resistant to deformation, ensuring even and consistent roller heights throughout your quench, even after extended time with running heavier weight glass.

## TUFF TEMP and TUFFNIT Tubing

Our TUFF TEMP and TUFFNIT Seamless Tubing are ideal for use as roller covers in hot end production processes such as automotive glass bending, tempering and laminating.

Our TUFFNIT tubing in particular, offers tremendous cost-saving opportunities for automotive glass manufacturers. TUFFNIT has been designed to be used as a 1-piece cover on the rollers. Traditionally, within most automotive glass bending and tempering ranges, two roller cover materials have been used on the individual rollers - an underlayer covering and an outerlayer covering. However, our new TUFFNIT tubing has been engineered to be used as a 1 piece covering, allowing you to eliminate all costs and man-hours associated with purchasing and handling an underlayer material. **This provides significant cost savings on time and materials.**

In addition to the front end purchasing and labor savings, TUFFNIT's material wear life has been proven to regularly exceed that of the two piece covering, thereby providing

**significant back end cost savings in production, as run time is extended, and downtime is reduced.**

Lastly, all of our TUFF TEMP and TUFFNIT seamless tubing products will adhere well to your rollers, with virtually no slack or creases, providing superior optics on even your most severe bent glass designs.

