### Precision Rollers You Can Rely On<sup>™</sup>



Manufacturing and Reconditioning Rollers for Converters, Manufacturers and Commercial Printers.

DUCTS INC

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### Why You Should Choose Imperial

We know you have options, and that others are interested in doing business with you.

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So it's up to us to clearly answer the question, "why Imperial?"

> Here are the top three reasons our customers say they're glad they chose Imperial:

> > **Superior Quality**

**On-time Shipping** 

Responsive Customer Service

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#### **Corporate Profile**

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Imperial Rubber Products Manufactures and Reconditions Rollers for Converters, Manufacturers and Commercial Printers.

For almost 20 years Imperial Rubber Products, Inc. has earned an international reputation as a high-quality source for new and repaired rollers.

We focus on serving customers with west coast and national footprints who use our rolls in their most demanding applications, where attention to quality matters the most. Printers, converters and manufacturers use our rollers to convert, coat, paint, emboss, laminate, and squeegee. They typically work with primary materials such as paper, plastic, steel, aluminum, wood, glass, non-wovens, and textiles.

We offer considerable product development and custom capabilities, working in an array of materials including rubber, polyurethane, silicone, nylon, Teflon™, Rilsan™, chrome and copper.

> Our processes focus on developing a thorough understanding of your application and delivering what you need, when you need it. Give us a try and you will see why customers tell us they choose Imperial.

- Superior Quality
- On-time Shipping
- Responsive
   Customer Service

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#### Industrial & Graphic Arts Applications

We focus on select "Industrial" markets, primarily the production and conversion of steel, aluminum, plastics and coatings. The select "Graphic Arts" applications we emphasize include Offset Web (heat-set, open web, newspaper), Flexography and Rotogravure.

### Standard Capabilities

#### Our factory handles:

- Lengths up to 300 inches
- OD (Outside Diameter) up to 60 inches

#### We produce:

- Extruded roll covers with no seams, using virtually the entire range of synthetic elastomers
- Cast and extruded polyurethane
- Chrome plated rolls with finishes to 1µ inch Ra

#### We offer:

- New roll manufacturing
- Roller reconditioning (repair) and covering
- Emergency services for customers with urgent needs
- Dynamic balancing to ISO-1940, ANSI and MIL-SPEC standards

#### **Our facility includes:**

- A complete machine shop
- CNC (Computer Numerical Control) crowning (parabolic, cosine, barrel, tapered) and grinding
- CNC grooving with exceptional precision
- Hi-Pressure autoclave technology (6' x 32' in length)
- Live steam autoclave (4' x 16' in length)
- Automated extrusion roll builders
- Vacuum static polyurethane system

#### **Capabilities**

#### **Production Processes**

To ensure consistent quality, our experienced staff is trained to implement clearly defined Standard Operating Procedures (SOPs) in our manufacturing processes, which span:

- Precision grinding
- Reconditioning, recovering
- Extruding
- Vulcanizing/Curing
- Journal, Shaft and I.D. Bore (Socket) repairs and replacement
- Polishing

#### **Standard Products and Services**

The majority of our production is tailored to specific requirements unique to each customer. Our core offering includes:

#### **Products:**

- Standard rollers (rubber, chrome, copper, etc.)
- Composite (graphite) rollers
- Cast and extruded polyurethane
- Rexnord Link-Belt® bearings (we are an authorized OEM source)
- Large inventory of various other bearings

#### Services:

- Complete roll manufacturing
- Core, shaft and journal repairs
- Regrinding
- Roll covering
- Dynamic balancing
- Chemical compatibility testing
- Physical testing of materials

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- Superior Quality
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Customers repeatedly tell us that the superior quality of our products is a key reason why they choose to do business with Imperial.

"Their technical expertise marks them above the rest."

"Their product quality is unmatched."

#### **Superior Quality Mechanisms**

Imperial utilizes a variety of industry best practices and tools to ensure that our products meet our customers' most exacting requirements. The key to our success is our people, many of whom have been with the company for 10 years or more. Our front office and manufacturing personnel are cross-trained to ensure that we always have additional resources to handle critical functions.

Our production schedule is computer-based, leveraging a key benefit of the ERP (Enterprise Resource Planning) software we invested in to help us run the business. This allows us to plan and produce in the most efficient manner. Exceptions (emergency services) are managed directly by our Director of Manufacturing.

We handle new products and new customers following specific procedures which we have developed to ensure that we thoroughly understand your application, so you receive exactly what you need.

Every step in the manufacturing flow follows welldefined, written Standard Operating Procedures (SOP's) to ensure that products are made with proven, repeatable processes. Our people are continually trained in these SOPs and frequent communication keeps them apprised of any changes, which are governed by a formal Engineering Change Order (ECO) procedure.

Taken together, these steps help us ensure that the products you order are made to completely satisfy your specific requirements, consistently from order to order.

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#### Automated Roll Covering, Extrusion Process

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#### What this is:

• Advanced method for covering rollers with rubber

#### Who this is for:

- Paper, film and foil coaters and laminators
- Tissue and towel embossing lines
- Corrugated box and folding carton plants
- Wood and lumber processing lines
- Steel, aluminum and red-metals processing lines
- Rotogravure printers
- Offset printers

#### What problem this solves:

- Virtually eliminates the problems most often associated with the wrapped, layered (calendered) method of roll covering using thin sheets of rubber wrapped around the roll core
- The extrusion process prevents entrapped air cells and blisters creating localized low spots
- Reduces process variability and enables consistency in repeat orders
- Enhances the rubber-to-core bond between the rubber covering and the roller core, because the rubber is applied under pressure to the bare core
- Filters out most foreign particles or contaminants in the rubber during the extrusion process
- Allows tougher rubber compounds to be applied to the roller that would otherwise not be suitable using the calendered method

#### Why this is special:

• Creates a homogenous, monolithic roll covering after the rubber is vulcanized

## Availability, and when it can be delivered:

- Standard product; Imperial Rubber has two automated roll builders which provide scheduling flexibility to meet your needs
- Capable of covering rolls to 60 inch diameter and 300 inches in length
- Emergency services available

#### Comparison to competitive products:

- The conventional calendered method of roll covering frequently entraps air in the layers causing localized low spots that may appear only when the roll is placed in service. The extrusion system virtually prevents this from occurring by virtue of it's method of application.
- Rubber applied to the roll core using the calendering process cannot be filtered thus leaving contaminant particles in the roll. These may be fall out during roll use leaving pin holes in the roll surface.
- Calendered roll covers frequently have significant seam lines that cause problems in coating and laminating processes. These seams are also a point of weakness in the covering if the roll is under a substantial operating load.
- Calendered rolls inherently have significant roll-to-roll variability due to the wide variations in manufacturing methods used to apply the rubber. The automated extrusion process provides for a repeatable manufacturing method documented on work order routers providing roll-to-roll and order-to-order consistency.
- The calendering process applies the rubber to the roll core at room temperature. However, rubber does not want to adhere to a surface when cool. The automated extrusion process heats the rubber to a process temperature that creates a tacky surface when forced against the roll under pressure by the extrusion applicator head. This promotes a stronger bond between the rubber and the core.

#### Features:

- Monolithic roll covering without layers or seams
- Improved bonding of rubber to roll core
- Contaminant free working surface of roller
- Tougher rubber formulations can be used

#### **Typical Applications:**

- Coater applicator rolls
- Laminating and nip rolls
- Ink and water form rollers
- Flexo metering and wiper rolls
- Gravure impression rolls
- Glue and adhesive spreader rolls
- Squeegee and wringer rolls
- Bridle & turn rolls
- Pinch & table rolls
- Feed & pull rolls
- Impression rolls
- Embossing rolls
- Wire and felt rolls

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### Precision Rollers You Can Rely On<sup>™</sup>

Microprocessor controlled dispensing system accurate to 0.01g provides uniform and repeatable process.



Polyurethane rolls processed in pressurized room using class 100,000 filtered air.



#### Vacuum Static Cast Polyurethane System

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One of the many things that set Imperial apart from the crowd is our ability to develop new products that meet customers' most demanding quality specifications. An example is our ability to deliver high performance vacuum-static cast polyurethanes.

### Vacuum Static Cast Polyurethane System

#### What this is:

Rollers made of cast polyurethane

#### Who this is for:

- Paper, film and foil coaters and laminators
- Tissue and towel embossing lines
- Corrugated box and folding carton plants
- Wood and lumber processing lines
- Steel, aluminum and red-metals processing lines
- Rotogravure printers
- Offset printers

#### What problem this solves:

- Dramatic increase in roll life compared with conventional urethanes and rubber
- Can deliver a more precise film in certain coating applications
- Exceptional cut resistance in harder durometers
- Better vibration dampening than rubber
- Abrasion resistance that exceeds almost all rubber compounds
- Folder split nips that outperform other products with our "gapless" technology

#### Why this is special:

- Fewer roll changes reducing downtime
- Better coating laydown across the web, strip or sheet
- Sharp edges of metal or wood cause less wear or roll damage
- Roll shape is maintained longer, reducing frequency of roll changes
- Commercial printers using split nips receive an immediate performance increase

# Availability, and when it can be delivered:

- Standard product; a wide inventory of molds provides flexibility to meet your scheduling needs
- Emergency services available

#### Comparison to competitive products:

- Imperial Rubber designs its own urethane formulas to suit your application
- The purity of these rolls is unsurpassed by other polyurethane rolls we have measured from any other source
- Unmatched batch-to-batch consistency means you receive the most consistent results from every roll you use
- Our mixing technology and reaction kettles, coupled with state-of-the-art filtering methods provide you with rolls free from contaminants

#### Features:

- Ultra pure cast polyurethane polymers
- Virtually contaminant free throughout roll
- Hardness from 15 Shore A to 65 Shore D
- Uniform hardness across the roll face
- Film-grade materials
- Exceptional consistency from roll to roll
- Rolls processed in pressurized room using class 100,000 filtered air
- Microprocessor controlled dispensing system accurate to 0.01g provides uniform and repeatable process
- You can specify virtually any color at no additional charge

#### **Typical Applications:**

- Coater applicator rolls
- Gravure impression rolls
- Bridle rolls
- Pinch & table rolls
- Feed & pull rolls
- Impression rolls
- Embossing rolls
- Split nips and scores

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### Precision Rollers You Can Rely On<sup>™</sup>

Carbon Fiber Composite Tube with Sacrificial White Resin Layer Protecting Structural Fibers



#### **Composite Rollers**

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### Composite (Carbon Fiber and Glass Inforced Epoxy) Rollers

#### What this is:

• Carbon fiber (filament wound) and glass reinforced epoxy composite rolls

#### Who this is for:

- Converting machinery
- Cast and blown film extrusion lines
- Coating lines, Paper, film and foil
- Steel mills

#### Why this is special:

- Our people have been trained to assemble the composites by a company that builds aircraft quality composites. The Imperial designs have a sacrificial "white" layer that protects the composite from damage during the recovering process. Most composite manufacturers do not offer this and every time their roll is recovered, the structure is weakened when the old rubber is stripped off.
- Imperial composite rolls last longer; this extended life reduces the frequency with which you need maintenance performed
- Reduced weight compared with aluminum or steel rolls provides better tension control and quicker responses to changes in web or strip speeds
- Lighter weight consumes less horsepower and makes more efficient use of existing drives
- Reduced bearing load increases bearing life reducing maintenance costs
- Greater stiffness may reduce deflection and prevent web tracking issues

#### Availability, and when it can be delivered:

• A fast-track engineering program delivers a working design in a short amount of time. Some composite rolls can be produced in as little as 15 days after receipt of order.

#### Comparison to competitive products:

- Some competitors fasten the shaft to the core with a pin, which weakens the assembly. Imperial does NOT pin the shaft to the composite. Our "best-practices" construction methods use aerospace bonding technology to secure the steel or aluminum shaft assembly to the tube.
- Most other roll companies promote their ability to "furnish" carbon fiber composite rolls; what they mean is that they purchase them from an outside source. The Imperial difference is that while we have the composite tube engineered and manufactured by our qualified supplier, we manufacture the journal assemblies in-house, to our customers' specific requirements, and take full responsibility for ensuring your complete satisfaction with the final product. We have assembled hundreds of carbon graphite composite rolls and proven them in the field with very satisfied customers.
- Filament wound composites superior in strength, lower in deflection for the same size as "braided composite composites" (ask us and we can explain more about how to tell the difference).

#### Features:

- Shaft is NOT pinned to the composite
- A thin, replaceable sacrificial white-layer protects the carbon filaments when recovered, and protects the integrity of the roll throughout its service life
- Covered in Imperial's vacuum static-cast polyurethane for exceptional wear resistance or by our continuousextrusion system for synthetic rubber
- Recovering process does not cause damage to carbon graphite core
- Ultra-light roll uses a direct bond method to fasten high-strength aircraft aluminum or steel shafts/ journals to the carbon graphite composite core for the ultimate in weight savings

• Table rolls

• Wire return rolls

• Felt rolls

#### **Typical Applications:**

- Idler rolls
- Nip rolls
- Dancer rolls
- Swing gate rolls

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Long-haul Tractor Trailer



#### **Facilities**

Imperial Rubber Products Inc. 5691 Gates Street Chino, California, 91710 USA www.imperialrubber.com

Phone: +1 (909) 393-0528 Fax: +1 (909) 393-9870 info@imperialrubber.com The company's primary office and manufacturing facility is in Chino, California (approximately 35 miles east of downtown Los Angeles). We also have sales and support offices in Phoenix, Arizona and Portland, Oregon; a depot with local support in Sacramento, California; and a fleet of local and long-haul trucks.



This map shows the location of our office and production facility in the Los Angeles area. You will find us just east of the 71 freeway, between the 10 and 91 freeways.



**Location of Facilities:** Portland, Oregon; Sacramento and Los Angeles, California; and Phoenix, Arizona

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#### Management

Founded in 1989 by our current President and CEO, Imperial Rubber Products, Inc. is a privately owned California corporation. The company is led by veterans of the roller industry including:

**Our Mission:** 

To understand

our customer's

needs thoroughly and to focus our

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resources on fulfilling those

needs consistently and profitably. As we accomplish this mission, we create opportunities

for all of us

to thrive.



#### Ron Hill

President and CEO ron@imperialrubber.com

Ron started Imperial Rubber Products 17 years ago, after almost two decades in the industry. He is responsible for setting the company's strategic direction and ultimately responsible for ensuring that every customer is fully satisfied with every interaction with the company.

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#### **Bob Schwartz** Vice President, Sales <u>bobs@imperialrubber.com</u>

Bob has over 25 years experience in the roller and associated industries and is well known to customers throughout the United States. He leads our direct sales effort and is responsible for matching customer needs with Imperial's production capabilities.



#### Mike Moreno Director of Manufacturing

mike@imperialrubber.com

Mike has worked with Ron Hill and Imperial Rubber for over 20 years in positions of increasing responsibility. He leads all the activities in the company's factory including Production, Quality Control and Shipping. He takes personal responsibility for ensuring that production of all new products and for new customers meets their exacting requirements.



#### Patricia Preston Controller

patricia@imperialrubber.com

Patricia has over 25 years experience in accounting positions in manufacturing companies similar to Imperial. She is responsible for all Finance, Human Resources and Administrative activities at the company.



#### Steve Huff

Technical Director steve@imperialrubber.com

Steve is a leading technical authority in the roller industry, with extensive experience in coating and process development. He holds a BA in Engineering Physics from Westmont College in Santa Barbara and a BS in Manufacturing Engineering from California State Polytechnic University, Pomona. Steve holds domestic and international patents in his field. He is the technical voice of Imperial and ensures that we have a thorough understanding of customer applications and technical requirements reflected in all our processes.



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	If you would like to fax us your request, please fill out the information on this form and fax it to us at: +1.909.393.9870. You may also use our web site to contact or request more information at: www.imperialrubber.com.	
Name:		
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Phone:/	Cell:/	Customer Servi
Email:		
My Question or Request:		

#### You May Also Email:

Customer Service New Inquiries Technical Inquiries General Inquiries wecare@imperialrubber.com sales@imperialrubber.com operations@imperialrubber.com info@imperialrubber.com Imperial Rubber Products Inc. 5691 Gates Street Chino, California, 91710 USA www.imperialrubber.com

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# **Precision Rollers You Can Rely On**<sup>™</sup>

#### **Corporate Headquarters**

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