ROTHTEC®

GRAVURE SLEEVES

Introduction

- TERRY LINDSEY
  RSMP MANAGER

ROTHTEC SLEEVES

Rothtec nickel sleeves are the ideal solution for gravure printing. These highly-durable, electrical conductivity, corrosion resistant, and accurate seamless sleeves act as an interface between the printing cylinder and flexible printing plates, bringing you several clear advantages.

SLEEVE FLOATS ON AIR POCKET

ROTHTEC SLEEVES

Sleeves are used in combination with a printing plate on an air cylinder, as opposed to a solid steel cylinder. The sleeve/printing plate combination is much lighter than an entire cylinder, and is consequently far easier to replace in transport.

ROTHTEC SLEEVES

Your change over times are also shortened as a result, which means more efficient production.

ROTHTEC SLEEVES

The sleeve and printing plate are removed from the cylinder and stored while still joined together, which makes storage more efficient and reprinting a lot easier.

QUICK REMOVAL

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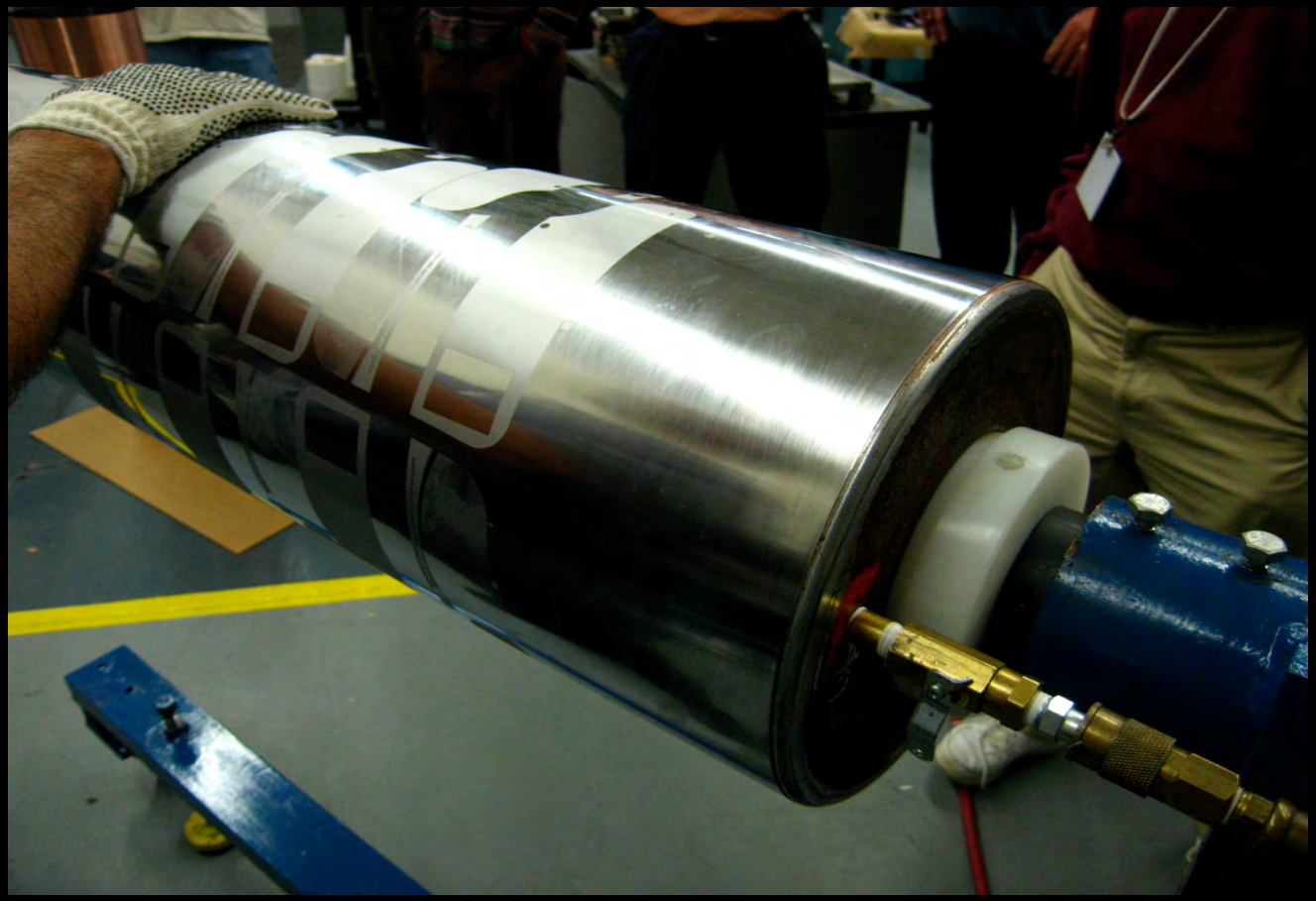
The sleeves are positioned on the air cylinder with the help of compressed air (80 PSI). The air is fed into the cylinder (a printing cylinder with an air feed and air outlet holes). When the sleeve is slid onto the cylinder, the air outlet holes are covered up and an air cushion is created under the sleeve, which allows it to be positioned relatively effortlessly.

MOUNTING FINISHED GRAVURE SLEEVE

ROTHTEC SLEEVES

Once the sleeve is in the correct position, the air supply is turned off, the sleeve contracts and clamps tightly around the cylinder, because its diameter is a fraction smaller. The printing plate is then attached to the sleeve, and you are ready to print.

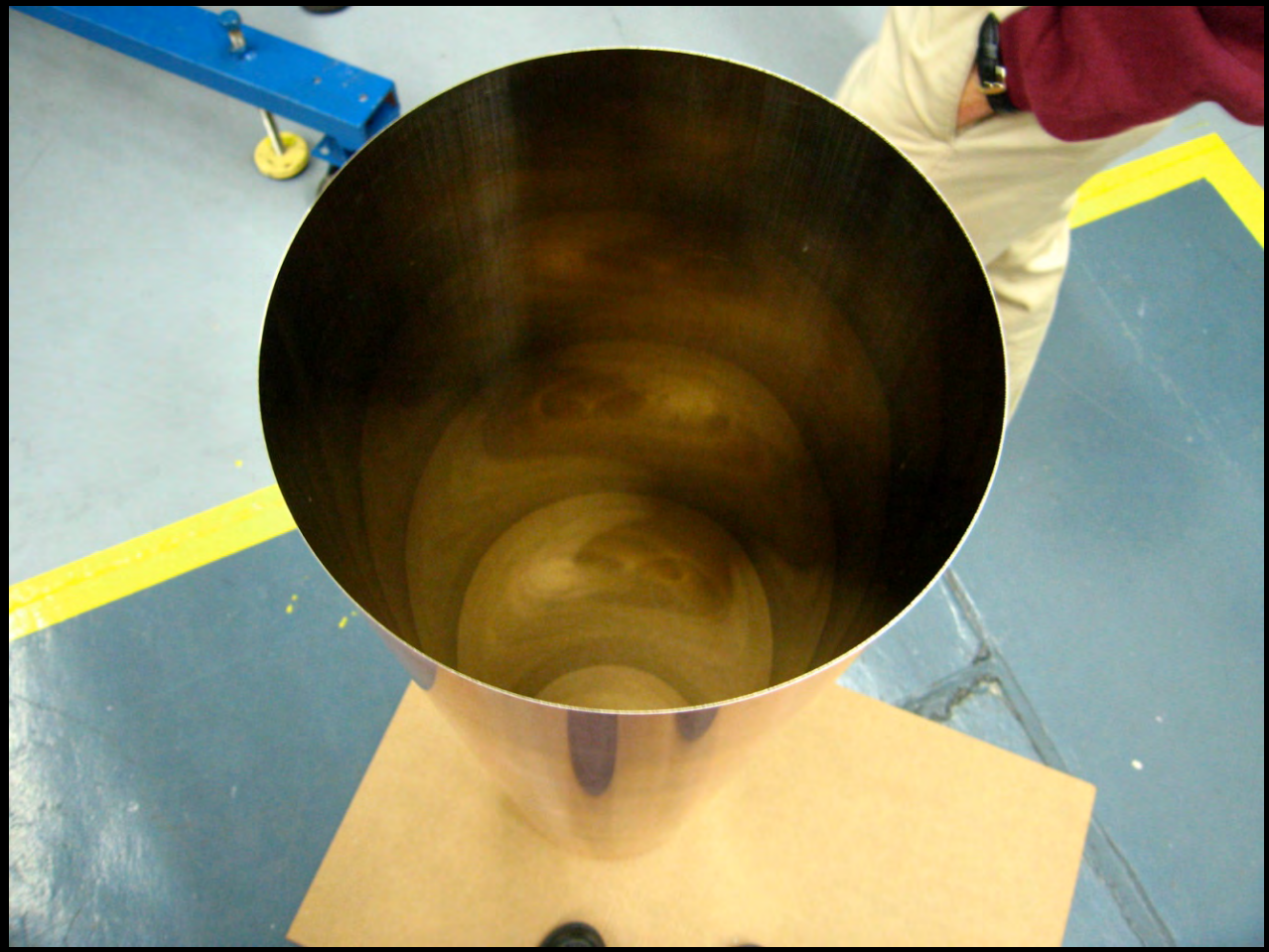
SLEEVE NOW MARRIED TO AIR MANDREL READY FOR PRESS



ROTHTEC SLEEVES

Mounting procedure preparing to print using a sleeve is a straightforward and physically undemanding procedure. The first step is to mount the sleeve on the air cylinder. The air cylinder should be clean, dry and free of any ink or other surface residue before the mounting procedure begins.

INSIDE OF SLEEVE MUST BE VERY CLEAN



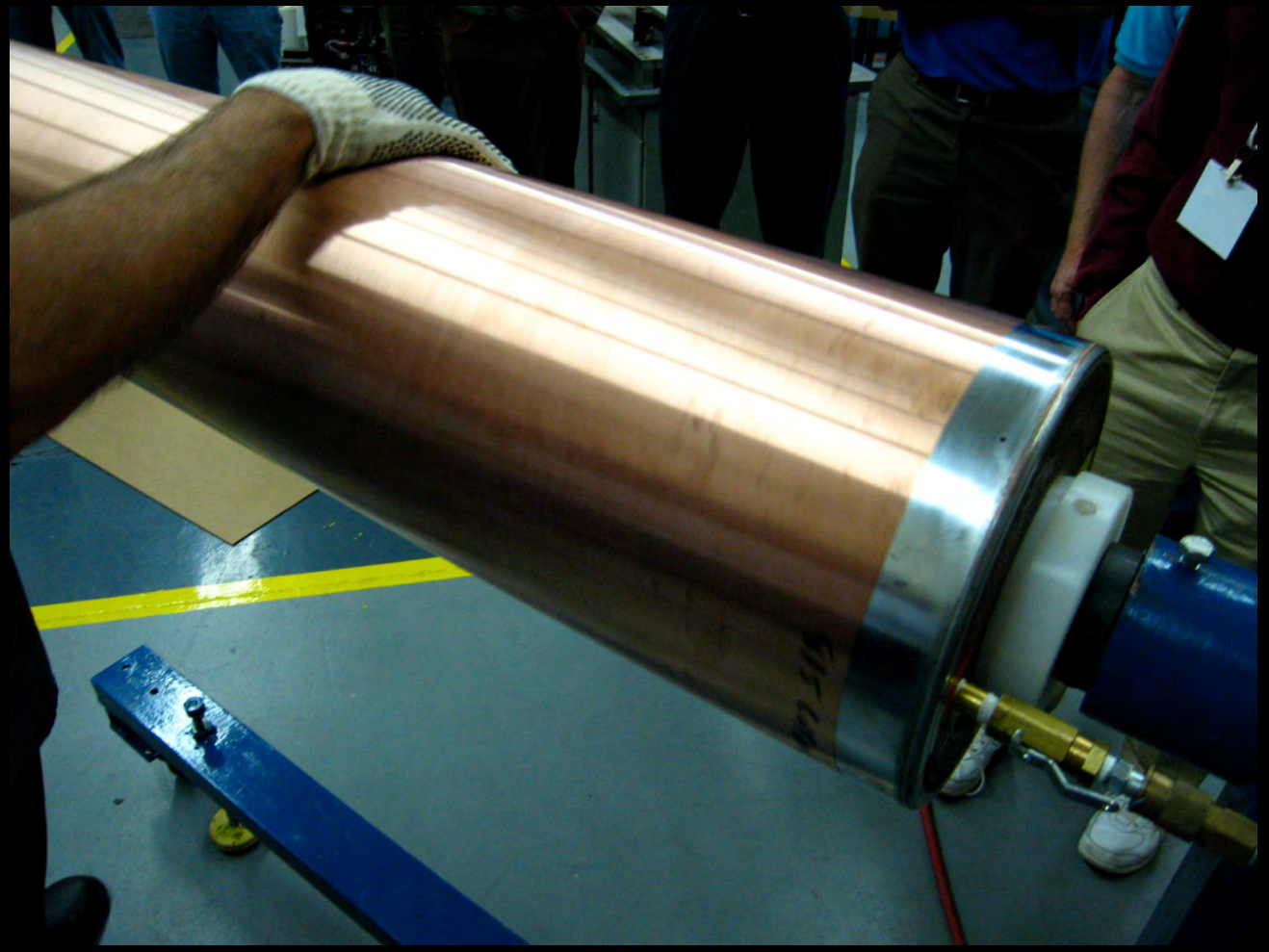
MANDREL SURFACE MUST BE VERY CLEAN

EXTRA CARE NEEDED TO CLEAN MANDREL

ROTHTEC SLEEVES

Slide the sleeve onto the chamfered end of the air cylinder until the leading edge of the sleeve fully covers all air holes. Turn on the air supply for 10 to 15 seconds. This will create an air cushion underneath the sleeve, effectively causing it to 'inflate'. Carefully slide the sleeve into position, taking particular care not to uncover the air holes.

INSTALLING SLEEVE EXTRA AIR HOLE ON OPPOSITE END JUST IN CASE



ROTHTEC SLEEVES

Disconnect the air supply when the sleeve is in its final position. The sleeve will now be clamped securely onto the air cylinder, and will remain in that position until the air supply is turned on again. Tip: To minimize loss of sleeves due to accidental deflation, you can also drill a set of auxiliary air holes at the opposite end of the air cylinder which can be used if required.

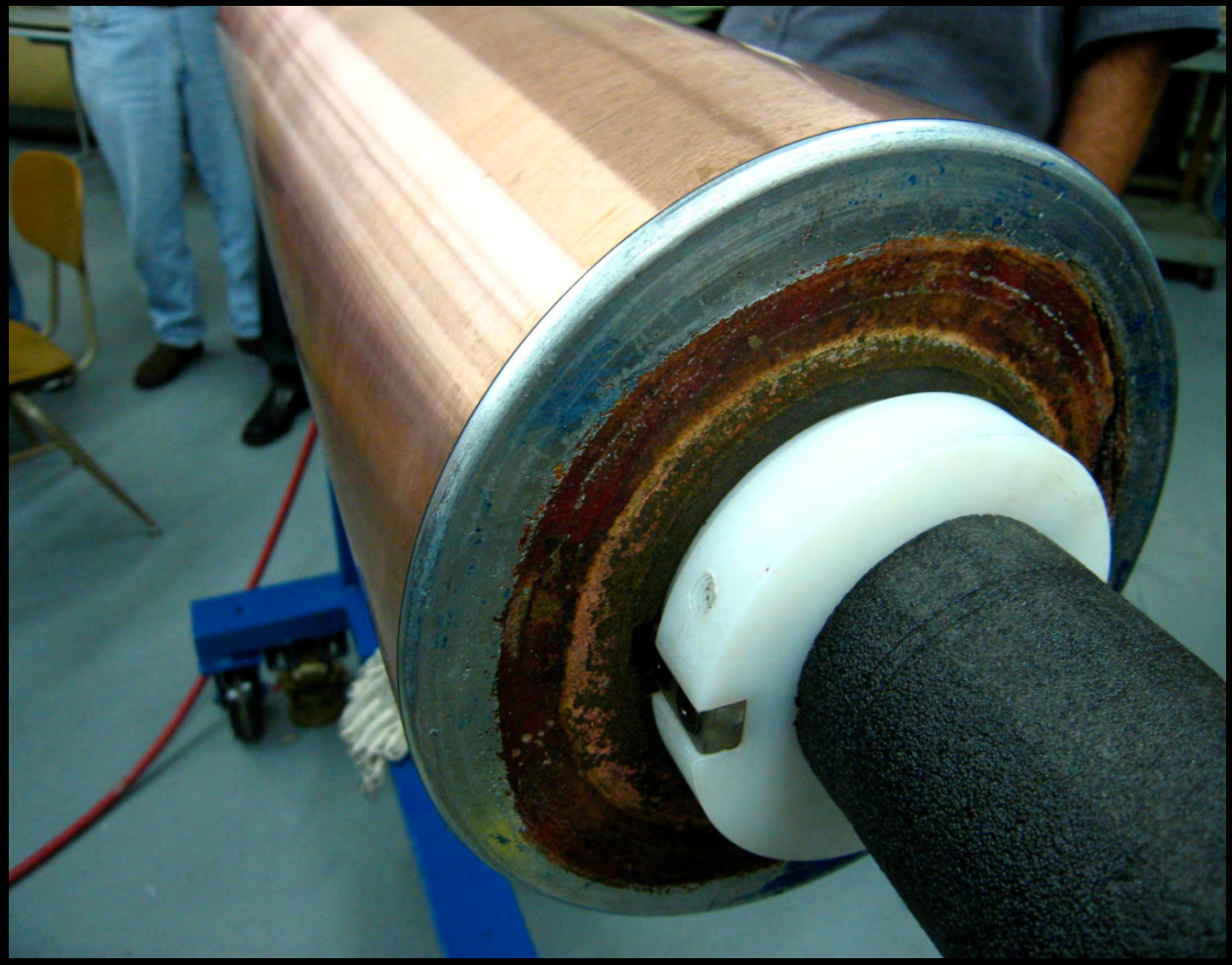
CHROME SURFACE FOR SMOOTH WARE RESISTENT MOUNTING

CLEAN NITRE GLOVES

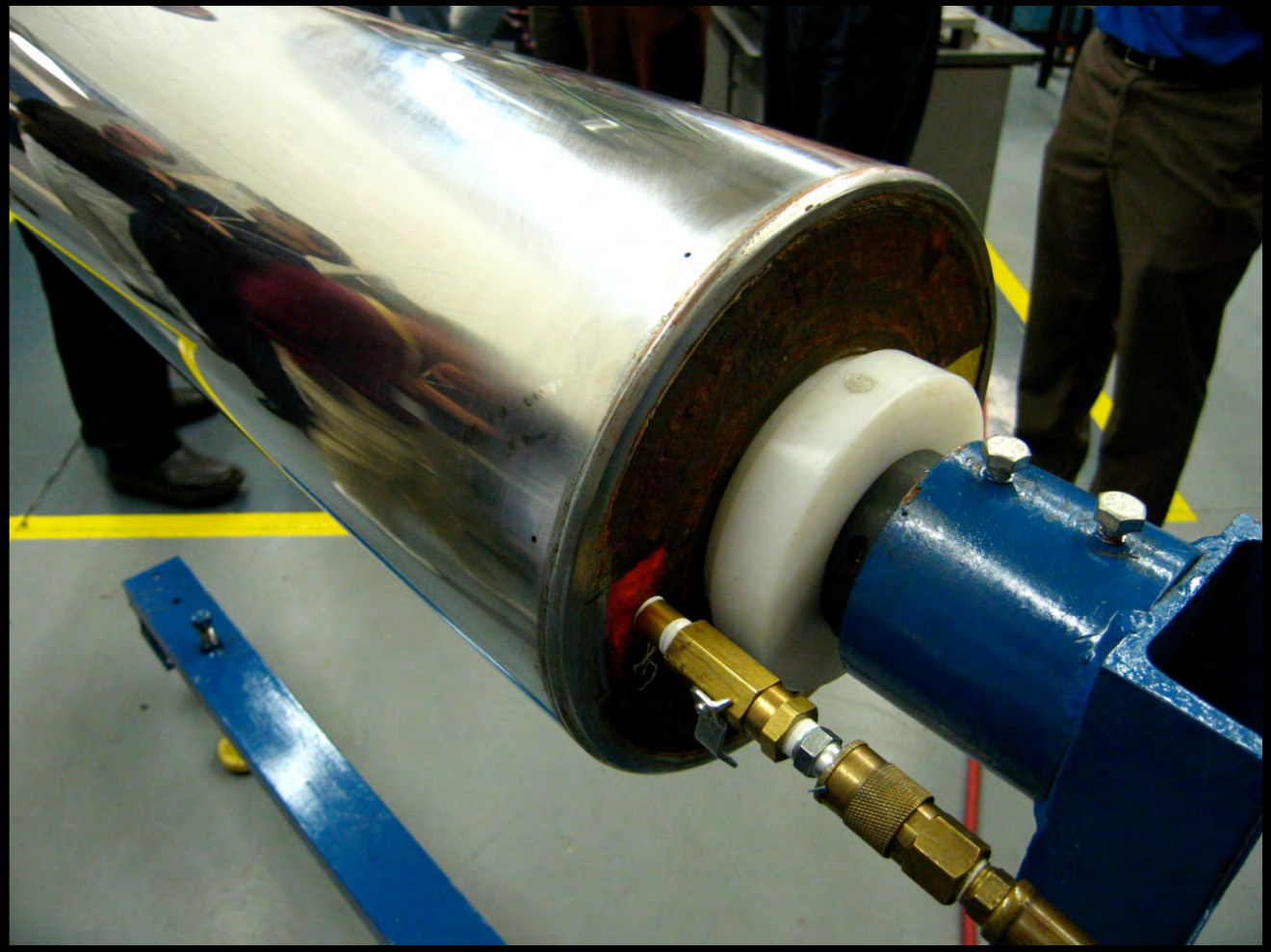
ROTHTEC SLEEVES

Simplifying mounting and removing sleeves, a cylinder mounting stand is recommended. This stand will hold the air cylinder firmly in place while allowing complete access to one end, making the process of mounting and removing sleeves much easier. Using a mounting stand also eliminates the need for a second person to hold the cylinder steady during the mounting procedure.

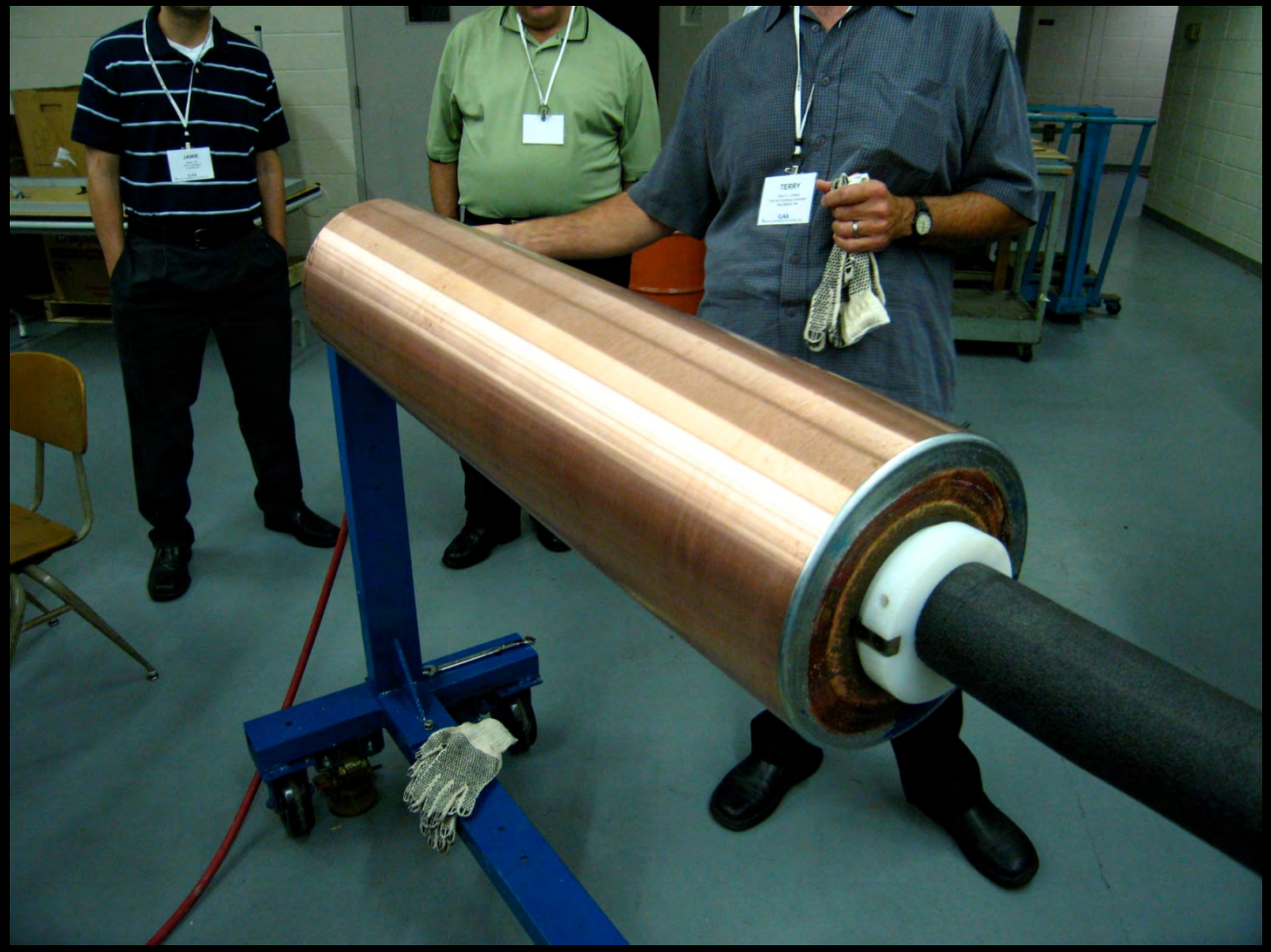
NOTE ¼” RADUIS FOR EASY MOUNTING



VERY CLEAN AIR SUPPLY



PORTABLE STAND FOR MOUNTING SLEEVES



ROTHTEC SLEEVES

Easy storage provides a special carton for storing the sleeves and attached printing plates when not in use. The rigid construction of these storage cartons means they can be stacked without the need for supporting racks. The cartons are also resistant to ultraviolet light, which helps prolong the lifespan of the sleeve/plate. Cartons can be arranged by job number and color breakdown to simplify retrieval for repeat orders.

ROTHTEC SLEEVES

ROTHTEC SLEEVES

SOME ADVICES OF SLEEVES COMPARED TO HEAVY STEEL MANDRELS

Transport and logistic huge reduction of costs in transportation sector by reducing the weight for over 95% possibility to pack the sleeves in card board boxes on palettes - no complex steel constructions

REDUCTION OF COSTS AT INVESTMENTS

When investing in a new printing machine you will only have once expenses for the production of the air cylinder and an air station.

We have carried out many calculations and we came to the conclusion that the costs will be reduced by 60% - 75% when using sleeves in comparison to investments in steel bases.

REDUCTION OF COSTS AT INVESTMENTS

The additional expenses for air cylinder and air station will be regained already after 6-10 jobs (set of printing cylinders)

If a client needs 300 - 800 new cylinders per year a cost advantage of $100.000,00 up to $250.000,00 will result very quickly

SERVICE AND TECHNICAL SUPPORT

Of course for the presentation you need the essential support for the start of such a project. Especially for mounting of the sleeves and for other handling it is important to know that the air cylinder should have a special structured surface to avoid dust particles between the surface of the air cylinder and the sleeve will be mapped onto the printing.

- **MAXIMUM FLEXIBILITY**
- The sleeve provides an alternative method of getting the
- image to the press. For example, the sleeve may be imaged
- at one common site and shipped to multiple locations.

- **EASY HANDLING**
- An average engraved sleeve weighs only 15 pounds, allowing
- printers to move sleeves easily from one location to another.

- **INVENTORY REDUCTION**
- Printers can greatly reduce their inventory of bases. For example, an eight color press requires one set of cylinders per repeat for the press. To increase efficiency, one extra set of bases could be utilized for off press mounting and imaging of sleeves. This translates into a huge warehouse cost savings generated by eliminating the need for a large cylinder inventory, and the labor and equipment necessary to maintain this facility.

- **ADAPTABLE**
- New bases are not always necessary for a sleeve system
- implementation. Existing bases can be undercut and used
- as a mounting base. Utilizing existing bases that are becoming
- obsolete is just one cost effective solution.

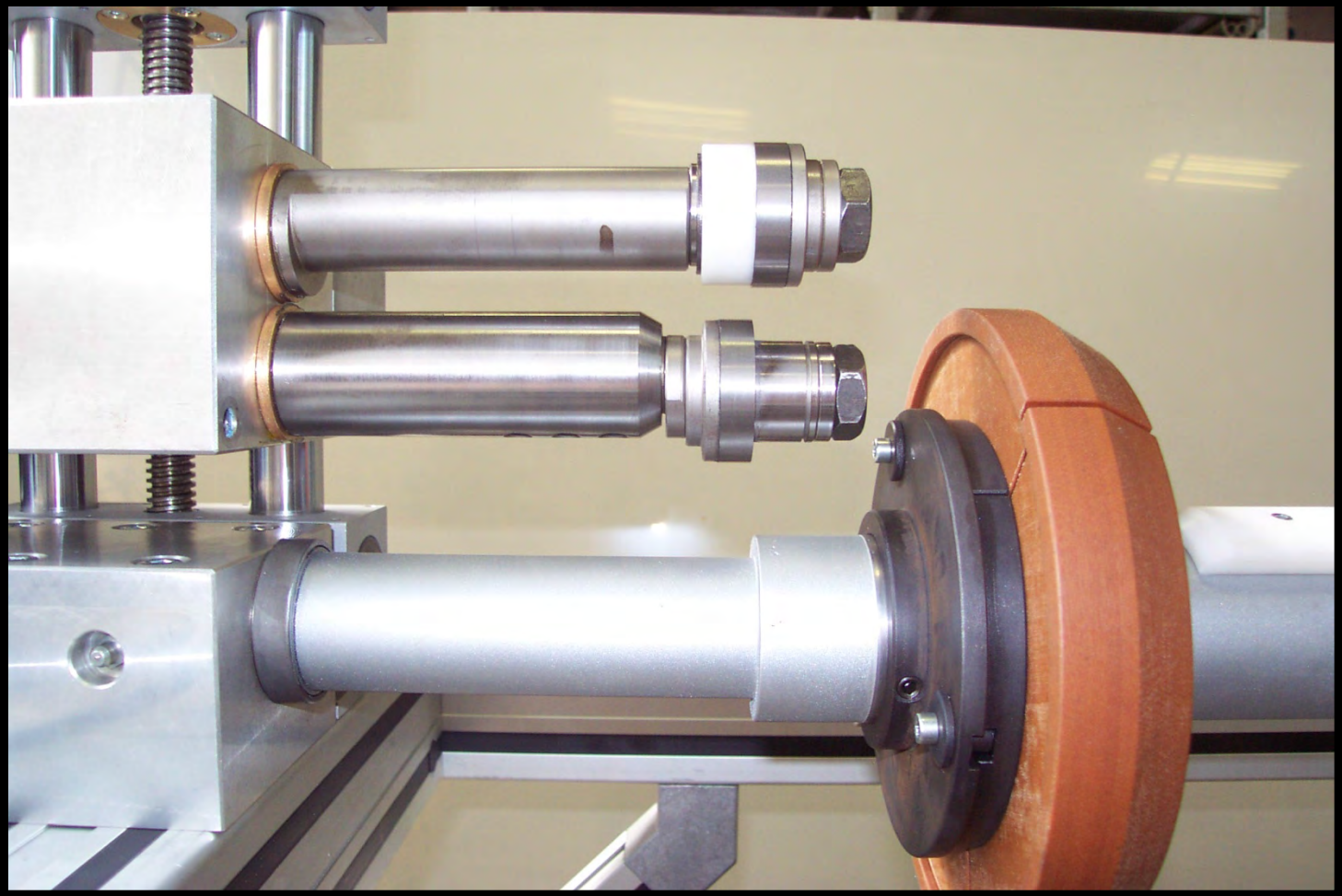
- **LOW SHIPPING COSTS**
- The reduced shipping costs associated with shipping sleeves
- versus bases is obvious. However, the ability to ship the
- sleeve by overnight carrier is another strategic advantage.

- **QUICK CHANGEOVER**
- Roththec sleeves also provide rapid job changeover on cantilevertype
- presses which are designed to accommodate sleeves
- without removing bases from the press.

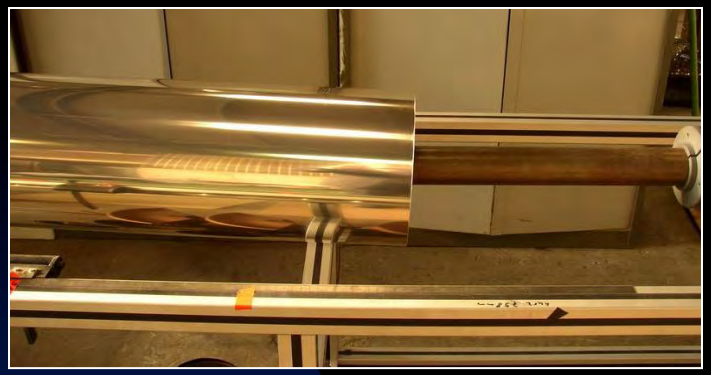
- **JOB IMPLEMENTATION**
- Sleeves can be kept on hand at your engraver, allowing new
- rush jobs to be engraved and shipped to your printing facility
- without cylinder transfers to and from the engraver.

- **BROAD SIZE RANGE**
- Rothtec sleeves are available on any print repeat from 5” dia. To 15” dia
- and at lengths up to 140" wide.

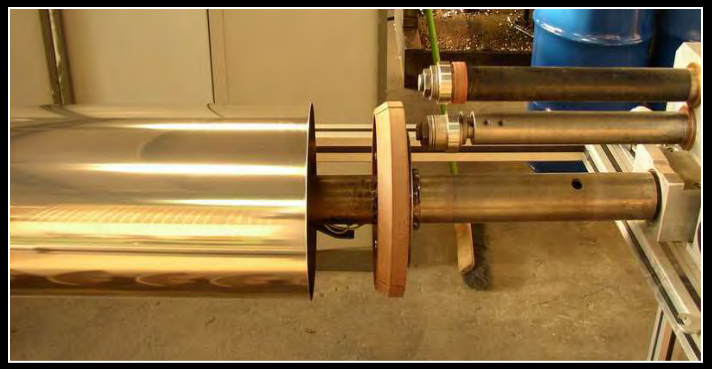
SLEEVE CUTTING



SLEEVE CUTTING



Sleeve placing on machine



Sleeve near 2nd tensioning support

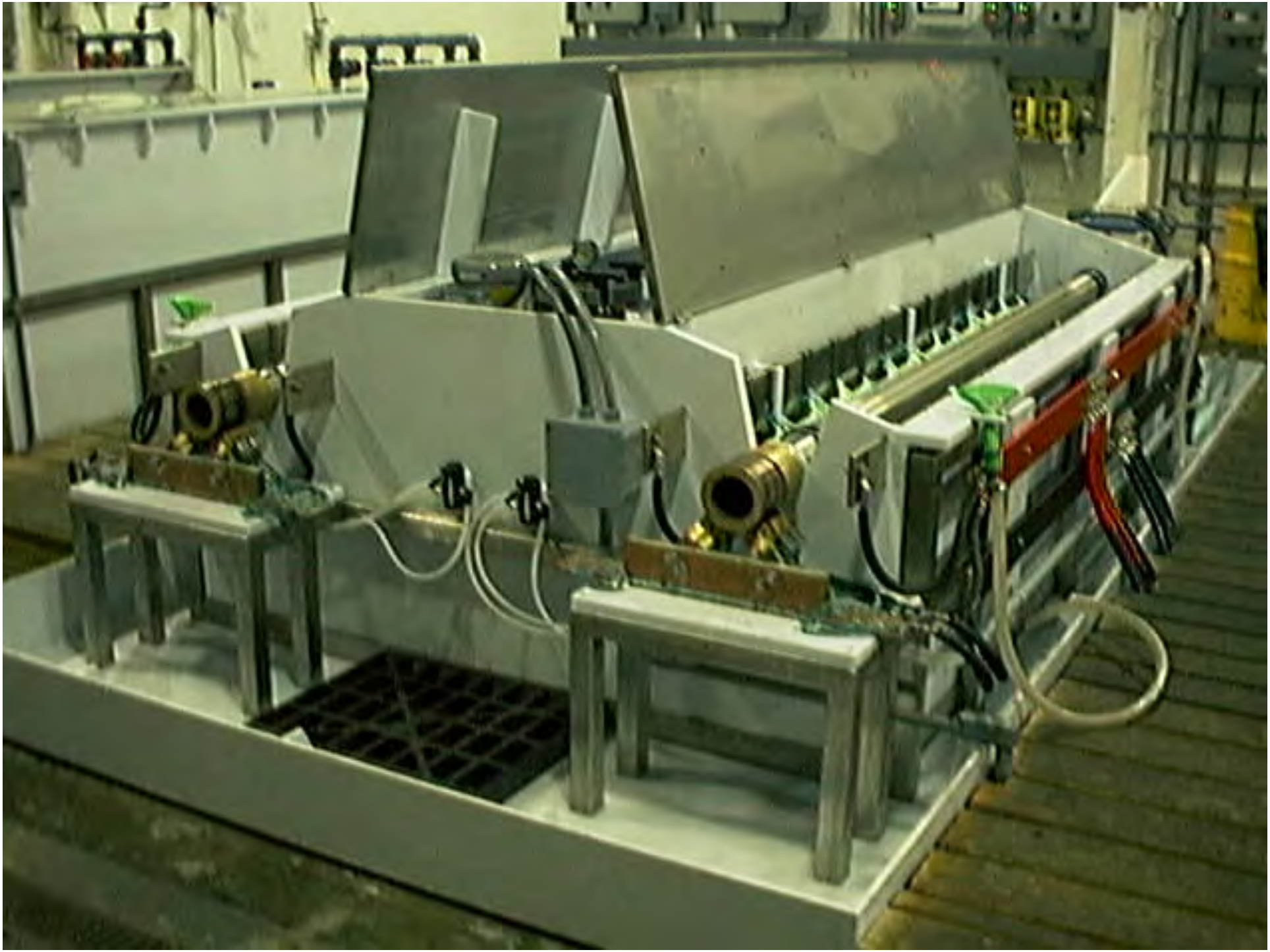
In position for cutting

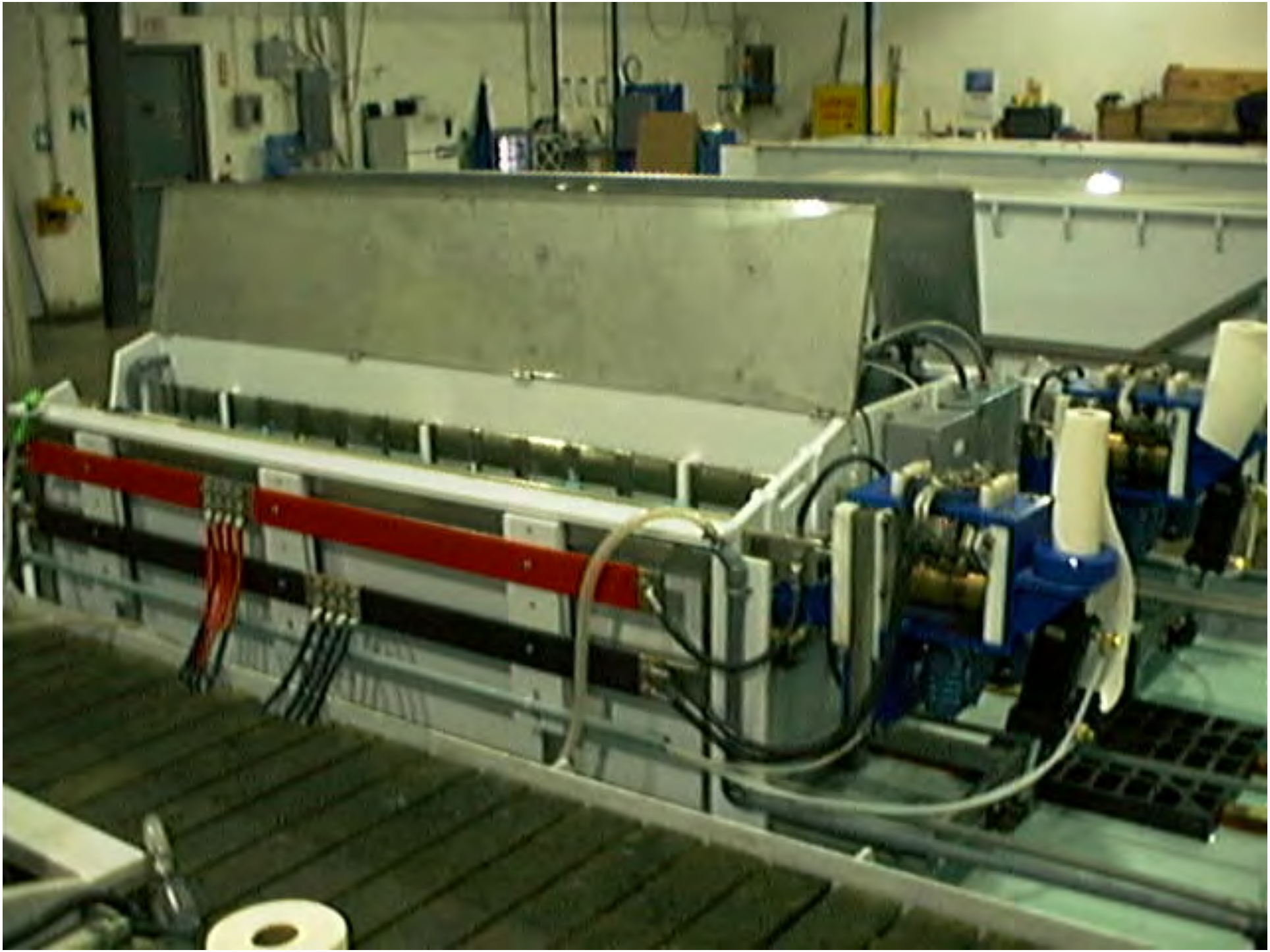
Cutting process begins

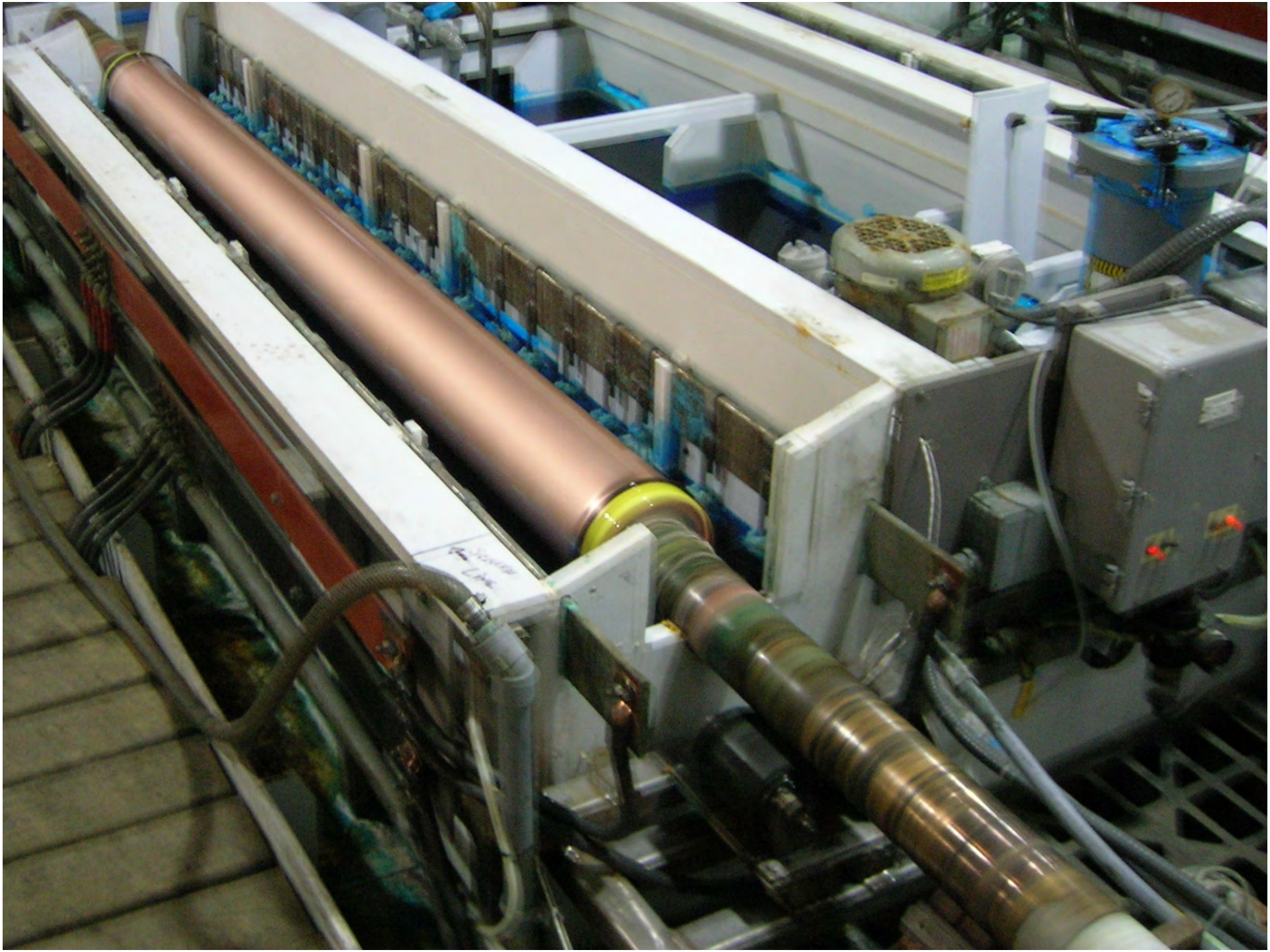
Cutting process finished

LARGER CUTTER SPLIT 88” SLEEVE

LARGER CUTTER SPLIT 88” SLEEVE







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About ROTHTEC

The city of New Bedford in the US state of Massachusetts has been the headquarters of ROTHTEC ENGRAVING CORPORATION since 1979. A family owned company for 65 years, Frederick E. Roth and Bruce L. Roth continue the tradition started by their father of engraving high-quality screens for printing textiles. Constantly adapting their technology and service to meet the demands in quantity and quality, the high tech computer-to-screen technology now used is a far cry from the original production methods of the 1940's.

Being located close to the printing houses to provide swift and efficient turnaround of engraved ready to print lacquer and galvano rotary screens, has been a key to the company's successful growth. On average the company engraves around 30.000 lacquer and galvano screens a year. This makes ROTHTEC ENGRAVING CORPORATION one of the largest, if not the largest, engraving company in the world.

A steady rise in the number of export orders reflect on the ability of ROTHTEC ENGRAVING CORPORATION to supply any kind of rotary screen or derivative product quickly and at a price which is internationally competitive.

Take advantage of the ROTHTEC ENGRAVING CORPORATION edge and let them supply **your** requirements.

Serving the woven & nonwoven industries for 65 years

ROTHTEC®
ENGRAVING CORPORATION

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Serving the woven & nonwoven industries for 65 years

Engravers of rotary and electroformed nickel screens & sleeves for:

- Printing
- Coating
- Laminating
- Forming
- Embossing
- Filtration
- Sieving

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FIND *ROTHTEC* IN →	NONWOVEN	NONWOVEN	NONWOVEN	INTERLACED	FLOCK	FILM	SURFACES	SURFACES	SIEVING	FILTERING	SLEEVES
	MANUFACTURING PROCESS							MANUFACTURING PROCESS			
	Spunbond	Meltblown	Hydroentanglement	Woven and knitted	Electrostatic	Extrusion,casting, blown	Plastic, soft, wet	Hard	Grading	Liquid, dust	Various
	TYPICAL SUBSTRATES, MATERIAL OR MEDIA							TYPICAL SUBSTRATES, MATERIAL OR MEDIA			
	PP/PET/Pa Webs	PP/PET/Pa Webs	Cotton, rayon, viscose webs	Cotton, Cotton/Mix, Manmade	PE/Pa	PP/PE/PET, derivatives	Rubber, latex, resin	laminates, wood, metal	powders, diamonds,	waste water	Various
SELECTED PRODUCTION PHASE ↓	ROTHTEC PRODUCT for this application							ROTHTEC PRODUCT for this application			
Forming of web	TEC-Form	TEC-Form	TEC-Form								
Structuring, embossing or perforation	TEC-Emboss	TEC-Emboss	TEC-Emboss		TEC-Emboss	TEC-Form	TEC-Emboss				
SELECTED FINISHING PHASE ↓	ROTHTEC PRODUCT for this application							ROTHTEC PRODUCT for this application			
Laminating	TEC-Screen	TEC-Screen	TEC-Screen	TEC-Screen				TEC-Screen			
Coating	TEC-Screen	TEC-Screen	TEC-Screen	TEC-Screen				TEC-Screen			
Printing	TEC-Screen	TEC-Screen	TEC-Screen	TEC-Screen	TEC-Screen	TEC-Screen		TEC-Screen			
Structuring, embossing	TEC-Emboss	TEC-Emboss	TEC-Emboss		TEC-Emboss		TEC-Emboss				
DESIGN PHASE ↓	ROTHTEC PRODUCT for this application							ROTHTEC PRODUCT for this application			
Design (technical and decorative)	TEC-Digital	TEC-Digital	TEC-Digital	TEC-Digital	TEC-Digital	TEC-Digital	TEC-Digital	TEC-Digital	TEC-Digital	TEC-Digital	
OTHER PRODUCTS/ SERVICES	ROTHTEC PRODUCTS OR SERVICES							ROTHTEC PRODUCTS OR SERVICES			
Sleeves											TEC-Sleeves
Sieving									TEC-Sieve		
Filtration										TEC-Filter	

The activities of the ROTHTEC ENGRAVING CORPORATION expand beyond the core business of engraving rotary and galvano screens for the textile printing industry, to such fields as the development and production of complex electroformed nickel screens, nickel sleeves and other hybrid cylindrical forms for process applications in the production, forming, finishing, coating, laminating and embossing of woven, knitted, and nonwoven fabrics, plastics, film, foil, food, labels, paper, as well as filtration and sieving.

TEC-Print is the nomenclature for all ROTHTEC engraved rotary and galvano screens for printing, coating and laminating. Customer designs are faithfully imaged using the latest computer to screen engraving technology.

PRINTING

TEC-Print Rotary screen engraving

Using the highest quality electroformed nickel only, all the usual mesh sizes from 40 - 125 up to 135 - 195 mesh can be engraved in all lengths up to 3500 mm and all repeat sizes e.g. 640 - 725 - 820 - 914 - 1018 mm.

TEC-Print Galvano screen engraving

ROTHTEC has been making galvano screens for nearly 30 years. Screen lengths are variable from 500 mm up to 3500 mm and available in standard repeat sizes: 640, 688, 820, 914 and 1018. Special repeat sizes on request.

TEC-Digital Design & Print Management Services

With an annual engraving capacity of more than 30,000 rotary and galvano screens, ROTHTEC is most probably the largest rotary screen engraver in the world. In addition to engraving, the ROTHTEC mission is to become the global leader in ALL aspects of print management - file separations, pattern interpretation, three-dimensional visualization and fabric inkjet printing, under the generic heading of TEC-Digital.

Now customers can have their designs proofed, prototyped and even short-run printed, before even one screen is engraved. With three-dimensional visualization (3D mapping), a design can be visualized as the finished product – be it fashion, corporate uniform clothing, home textiles or even technical textiles - in an appropriate setting with multiple color arrangements as WYSIWYG (what you see is what you get).

COATING

TEC-Print Screens for coating

For applying a coating to woven, knitted or nonwoven substrates, TEC-Print coating screens are available from 800 mm up to 3500 mm in length; with variable wall thicknesses from 125 µm up to 450 µm in 640 mm - 688 mm - 914 mm repeat sizes. Open areas are variable from – 40% or to customer specification.

LAMINATING

TEC-Print Screens for laminating

For laying down adhesive to bond two surfaces together, TEC-Print laminating screens are available from 800 mm up to 3500 mm in length; with variable wall thicknesses from 125 µm up to 450 µm in 640 mm - 688 mm - 914 mm repeat sizes. Open areas are variable from 7% - 40% or to customer specification.

STRUCTURING/EMBOSSING

TEC-Emboss embossing cylinders

TEC-Emboss cylinders enable a structured or embossed effect to be made on a malleable (plastic) substrate; the surface of a seamless, nickel cylinder is patterned according to the required customer's design. For the embossing process, it is mounted onto a support cylinder. The big advantage of the TEC-Emboss cylinders is their very light weight (around 6-8 kg), greatly facilitatiating handling. Available from 800 mm up to 3500 mm in length, with wall thicknesses from 125 µm up to 450 µm in 640 mm - 914mm repeat sizes or to customer specification.

TEC-Emboss air embossing screens

TEC-Emboss screens create an embossed effect by jetting high-pressure air through the patterned areas of the screen. Good results can be achieved on flock surfaces (whilst adhesive is still wet) and other types of malleable surfaces. Seamless, cylindrical screens of the highest quality electroformed nickel, theTEC-Emboss screens are available from 500 mm up to 3500 mm in length and in standard repeat sizes of 640, 820, 914 mm

FORMING

TEC-Form Screens for forming

TEC-Form screens are used to form (e.g. perforation) a web whilst it is still malleable. Seamless, cylindrical screens of the highest quality electroformed nickel, the TEC-Form screens are available from 500 mm up to 3500 mm in length and in repeat sizes of 640, 820 and 914 mm and special repeat sizes can be made on request. Wall thicknesses in excess of 1000 µm can be manufactured.

ELECTROFORMED SLEEVES

For Flexo – Offset – Gravure – Holography

Custom made, on either a pure nickel or nickel composite base, the ROTHTEC sleeves are available in various diameters/repeat sizes and wall thicknesses, depending on the application. A polymer cushion coating is also available.

FILTRATION

TEC-Filter cylindrical and flat mesh filters

These products are all custom-built to customer specifications.

SIEVING

TEC-Sieve rotary screens and sieves

These products are all custom-built to customer specifications.