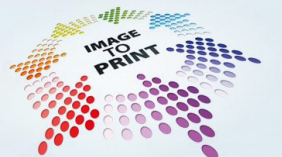


**Innovation in Sleeve technology : Choosing the right print sleeve helps improve print quality !!**

**Ashvin Hebbar**  
**Sales Director / Rossini**



# PRODUCTS PORTFOLIO

- Speedwell sleeves
- Rubber Coated Rollers
- Steel and high modulus carbon fiber Air Mandrels
- Flexo Sleeves & Carrier
- High Modulus Carbon Fiber Carrier
- Offset Sleeve : plate and blanket holder sleeves
- Offset Gapless Sleeves for heatset printing



**AirFlexoSleeves**



A complete range of  
equipment for the printing  
sector



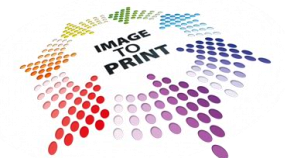
Prima Grinding Machine



Sleeve Storage System



Evolution System-Automatic  
Central Drum Cleaner

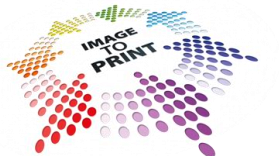




**ROSSINI**



**Flexo Plate Sleeves & Carriers**

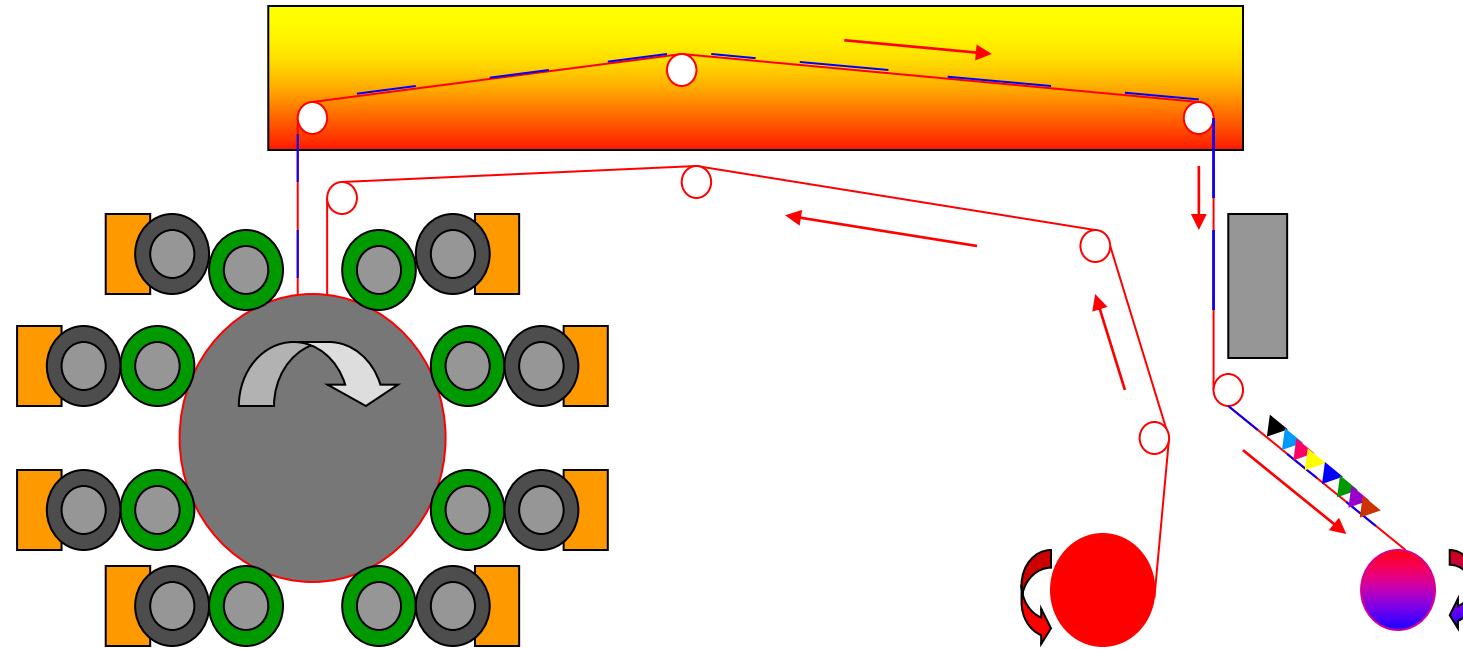


# Flexo Printing Press Components


## Main Press




ROSSINI




 **ROSSINI AIR FLEXO SLEEVE on the air mandrel**

 Anilox sleeves on the air mandrel

 Inking system


 Central drum

 Web threading

 Unwind section

 Video camera system

 Rewind section

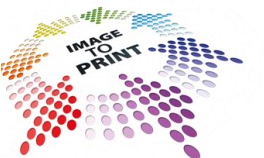
 Drying section

 Printing material

 Transferend ink



**AirFlexoSleeves**



## THIN A - Plate sleeve



The **Thin A** sleeve is made of special reinforced fibreglass.

It is mainly used for the very first printing repeat on the air mandrel and carrier

## EVERGREEN LIGHT– Plate sleeve for water based inks



Fibreglass base Sleeve covered with Layers of Ultralight hydrophobic polyurethane. The Evergreen light Sleeves are 40-50% lighter than the old Evergreen sleeve due to the low density PU foam material used at filling.

Not conductive, therefore recommended for printing with water based inks.

Standard supply with PU Slot - from 7 [mm] thickness





ROSSINI

## EVERSTAT LIGHT – Conductive plate sleeve



Fibreglass base Sleeve covered with Layers of Ultralight hydrophobic polyurethane. The Everstat light Sleeves are 40-50% lighter than the old Everstat sleeve due to the low density PU foam material used at filling.

Resistivity value less than 1 MΩ.

Thickness from 1,9 up to 70[mm]

Come with PU Slot also as an option can come with PU ring.

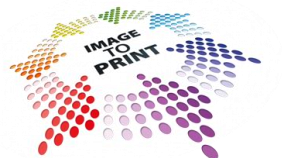
# Starcoat Light Sleeve- 3 Years Warranty on TIR



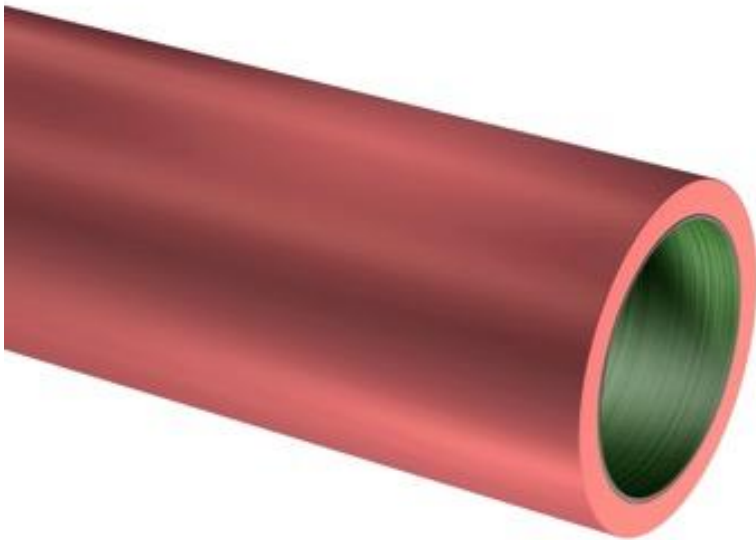
- Starcoat evolved a step further to become Starcoat Light, with even better performance than ever. Remains within the 15 [Kg] weight limit of the standard UNI EN 1005-2 when used on 350-800 mm print repeat wide web machines with two carriers. Starcoat is antistatic in compliance with the German PTB standard for flexographic printing. These exclusive new offerings from Rossini are an evolution of the tried and tested Starcoat plate sleeve, adding unrivalled lightness to the already outstanding characteristics of these products.

## Two unique sleeves offering many advantages:

- High structural rigidity and long life thanks to its special construction with added fibreglass below the external conductive polyurethane coating
- Created specifically for high definition and multiple image printing



## PHOTOFLEX – for full tone printing



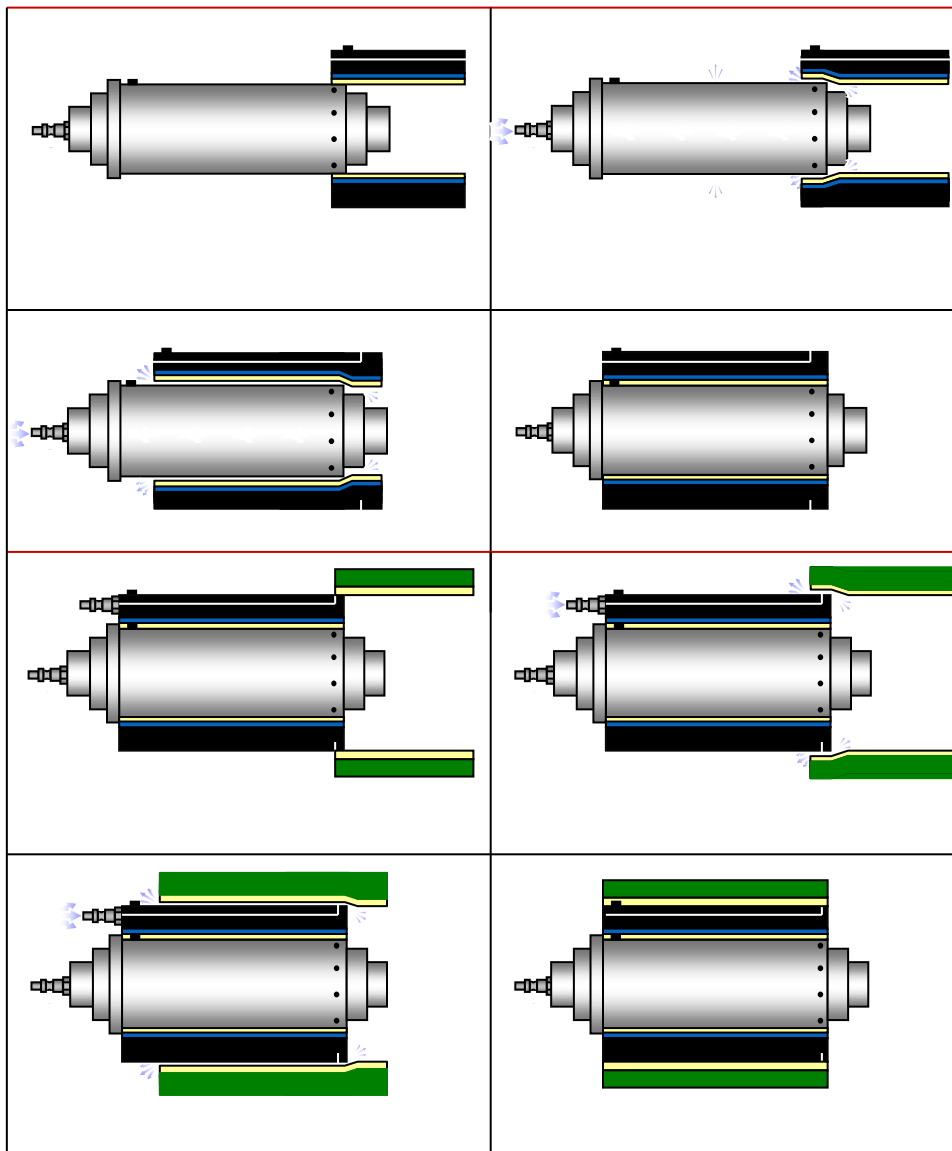
Rubber sleeve with a special antistatic (conductive) polymer. Resistant against Ethylacetate, Alcohol and MEK

High precision ground surface, suitable for full tone printing, lacquering and laser engraving.

Standard Hardness : 65 Shore D  
(available in other hardness values for the different printed substrates)



# SIDE AIR CARRIER - MOUNTING SEQUENCE



## AIR FLEXO ADAPTERS - CARRIER

**ROSSINI**



The carrier is used as an adapter system on the core mandrel of the machine.

On top of the Carrier sleeve it's possible to apply an other ROSSINI Air Flexo Sleeve thus reducing the size, weight and costs of the sleeves and in the same time improving the printing quality.

The Carrier has the internal sleeve made of special reinforced fibre glass with a compressible layer; than an ultralight and rigid polyurethan and the top made of carbon fibre.

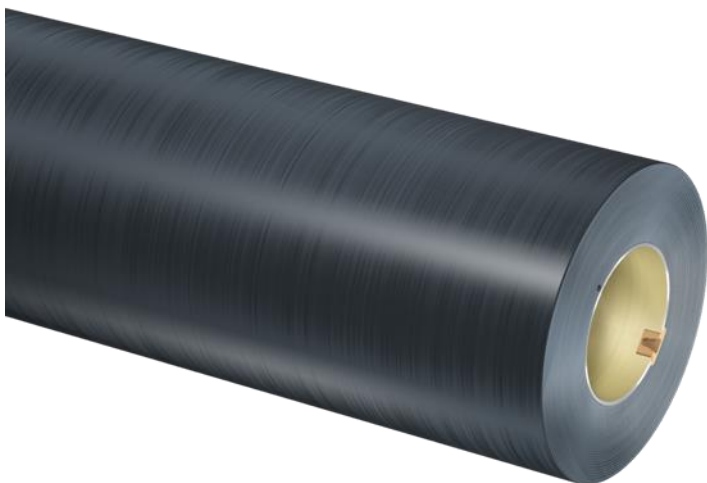
The external layer of carbon fibre has a very high mechanical characteristic in order to match the required mechanical parameters like tensile strength, TIR tolerances of the diameter and perfect finishing for mounting the sleeves.

The carrier is conductive and suitable both for water and solvent based inks

Suitable for printing speed up to 400 [m/min]

*ROSSINI is the only manufacturer of carrier that produces the its own Carbon Fibre Tube.*





### **AIR CARRIER - Standard**

Adapter Sleeve with carbon fiber surface for standard designs.

The Product is available as Side Air and Flow Through configuration





**ROSSINI**



## HM CARBOBRIDGE

**CARBOBRIDGE** is a Special High Performance Carrier manufactured with :

- **High Modulus Carbon Fibre Tube**
- Aluminum lateral flanges and
- Steel protection ring with integrated slot.

**Engineered to damper and reduce print-deck vibration (bouncing)** for high printing speed

The Product is available as Side Air and Flow Through configuration.

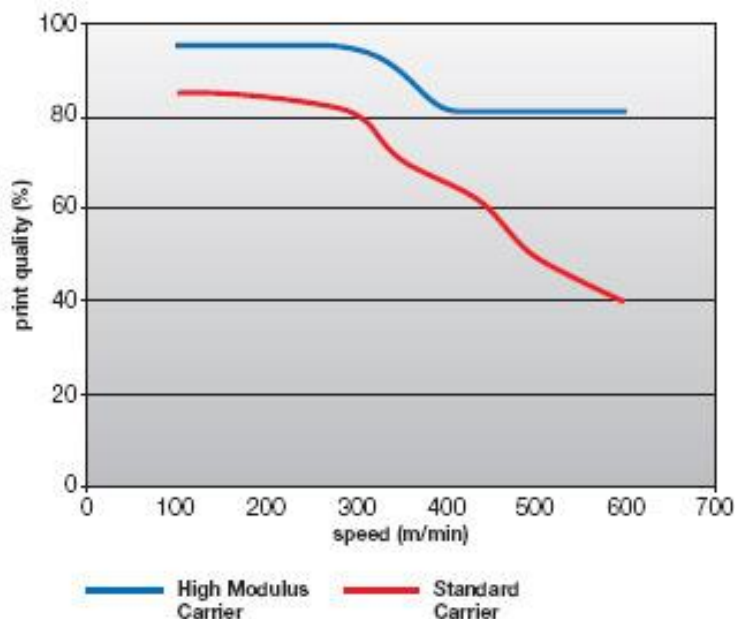


**AirFlexoSleeves**





ROSSINI



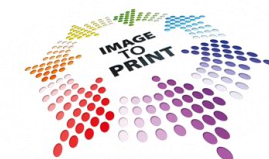
**CARBOBRIDGE** is designed and manufactured with the latest technologies; the inner sleeve is manufactured with a special fiber glass with conductive characteristics and no compressible layer.

*The tight and strict mounting tolerance increases the product performance and CARBOBRIDGE is specially indicated for wide web printing machines and very high printing speed :*

**Printing Speed up to 800 [m/min] (...and more)**

Carrier Thickness > 50 [mm]

The graphic shows the BETTER PRINT QUALITY comparison given by the **HM CARBOBRIDGE** when compared vs. CARRIER SIDE AIR at different printing speeds; the print quality improves with Carbobridge at high print speed.

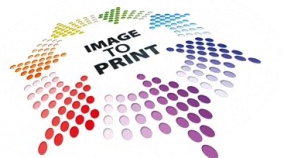


## Tapered Speedwell Sleeves – Rubber Rollers



ROSSINI has developed a wide range of coverings for steel rollers and tapered sleeves (SPEEDWELL SLEEVE – Rossini's Patent) with specific elastomers or tecno-polymers for specific applications in the multiple fields; all the different compounds are available both in sleeve and on steel rollers

- Pressure roller in gravure printing
- Transfer roller Lamination machines
- Guiding roller, Impression roller, dosing roller
- Impression roller in solventless lamination machines, for hotmelt applications
- Pressure roller in extrusion and silicone coating machines





# ROSSINI INDIA



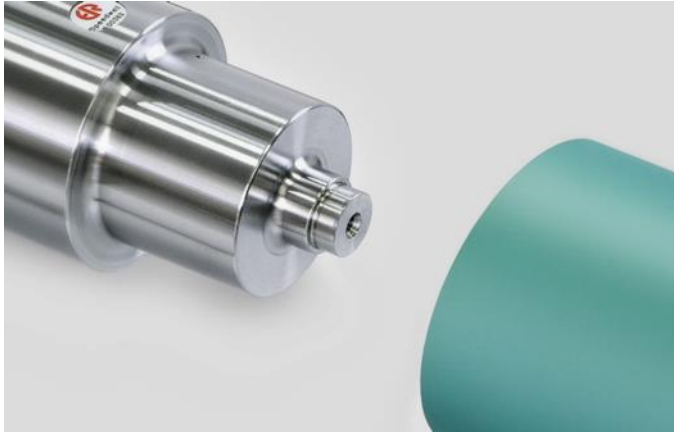
- Products Manufactured – Speedwell Sleeve, Rubber Roller, Air Mandrel for Gravure, Lamination & Special Coating Application.
- Location : Pune( Maharashtra)





**ROSSINI**

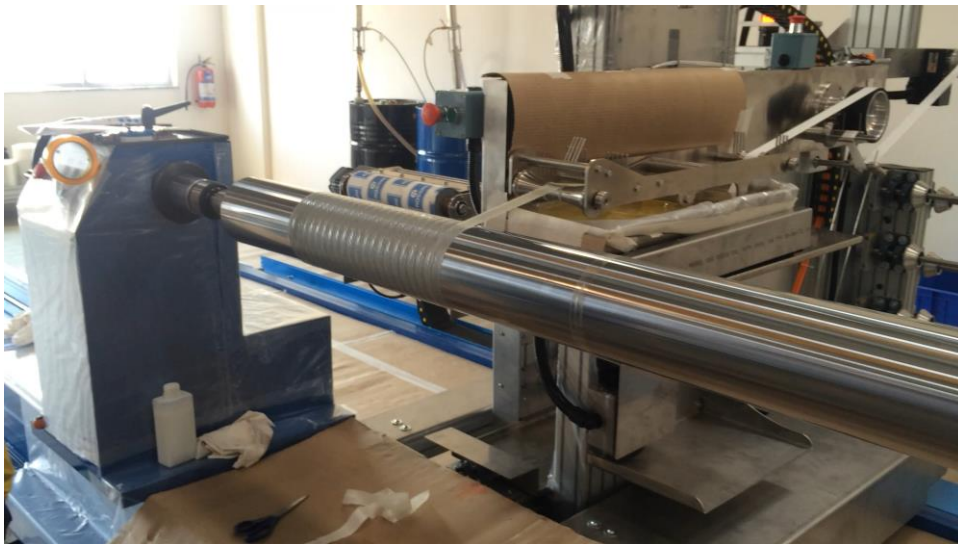
## SPEEDWELL SLEEVES



The special Fibreglass core of the sleeve is manufactured with extremely low interference value – internal diameter is very close to the air mandrel's diameter that is used on the machine according to Rossini's Patent and design.

The low interference value guarantees perfect fitting on the user's mandrel and proper run out tolerances

Different type of rubber coverings are available for different applications. Typically:



- Wall Thickness : 10 – 35 [mm] on the radius
- Length : min 350 max 3.500 [mm]
- Sleeve Diameter : min 80 max 450 [mm]
- External Diameter : Max TIR 0,02 [mm] - Refer to Sleeves mounted onto a mandrel/adaptor with max. TIR of 0,005 [mm]
- Compressed Air for mounting the sleeve :  
min 12 - max 20 [bar]



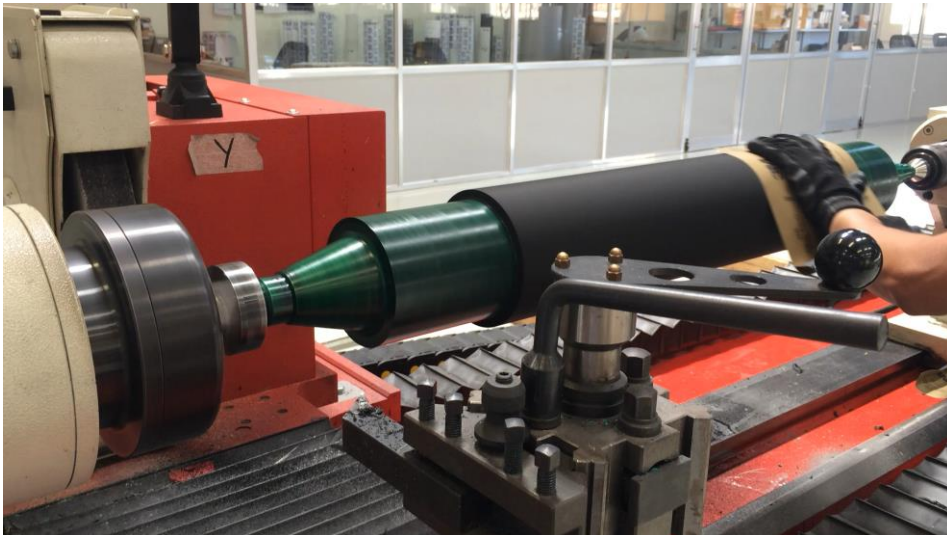
## RUBBER ROLLERS

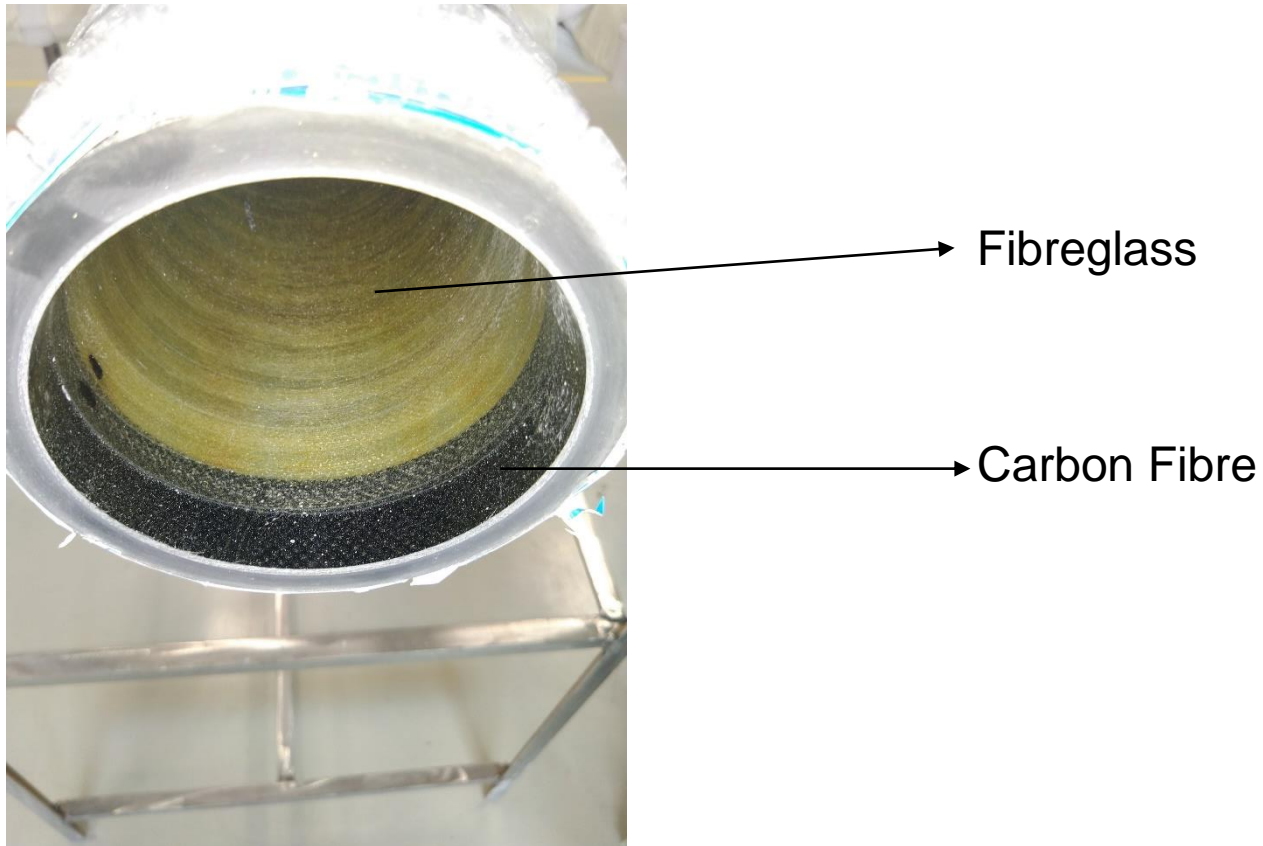


ROSSINI can offer the complete rubber roller, re-rubberize used rubber rollers, rubberize steel bases supplied by Customers and also take care of the aftersale service re-grinding the external surface.

### Type of covering according to the applications

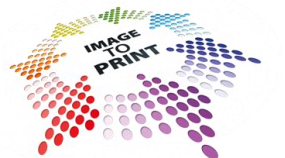
- Wall Thickness : 10 – 35 [mm] on the radius
- Length : min 15 max 5,000 [mm] (Including the shaft) – (4,000 mm in India)
- Diameter : min 35 max 550 [mm] (max 360 mm in India)
- External Diameter : Max TIR 0,02 [mm] - Refer to Sleeves mounted onto a mandrel/adaptor with max. TIR of 0,005 [mm]
- Steps as per Customer's requirements
- Parallel or crowned surfaces (PLC grinding machines)
- Rossini can make customized Design – (contact our Sales Network)





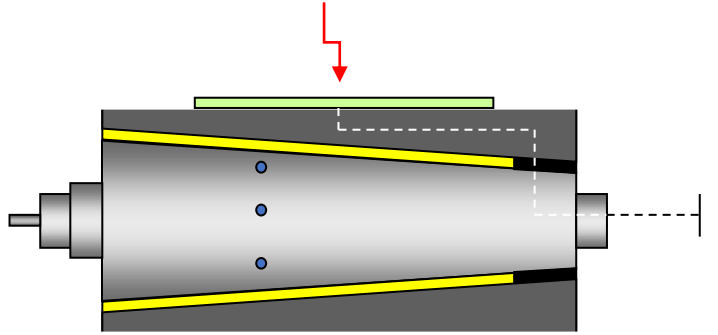
## Carbo Sleeve

- Used for making anti-static rubber sleeves for Non – ESA printing, coating, lamination, etc.
- Fiberglass thickness is only 1.5 mm
- Carbon Fibre provides conductive path for static charges
- Carbon Fibre is very brittle and it needs to be protected very well





## CARBO SLEEVE



**Conductive Rubber Covering discharges  
STATIC CHARGES via a CARBON FIBER ring on the  
operator side**

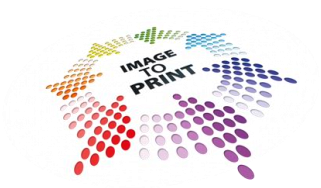
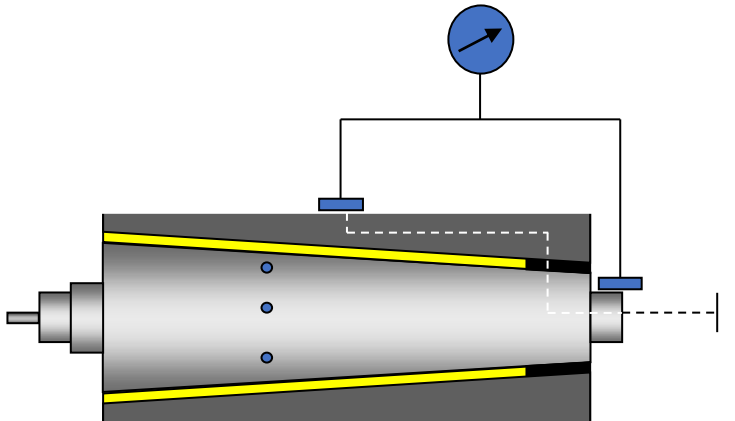
Each single sleeve is tested for resistance values in  
MegaOhm

Legal requirement for conductive properties: < 1 MegaOhm

Rossini delivers with a resistance of 0,2 MegaOhm

Rubber covering depending on the applications

Rossini has developed a color code system to identify the  
rubber hardness (see next slide for further info)











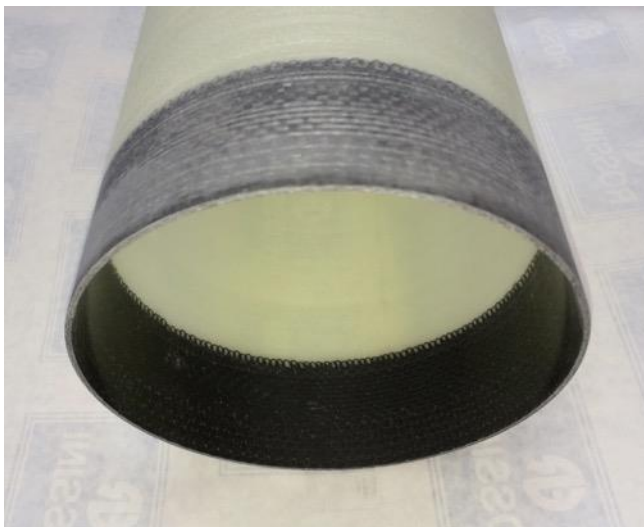
ROSSINI

## CARBO SLEEVE

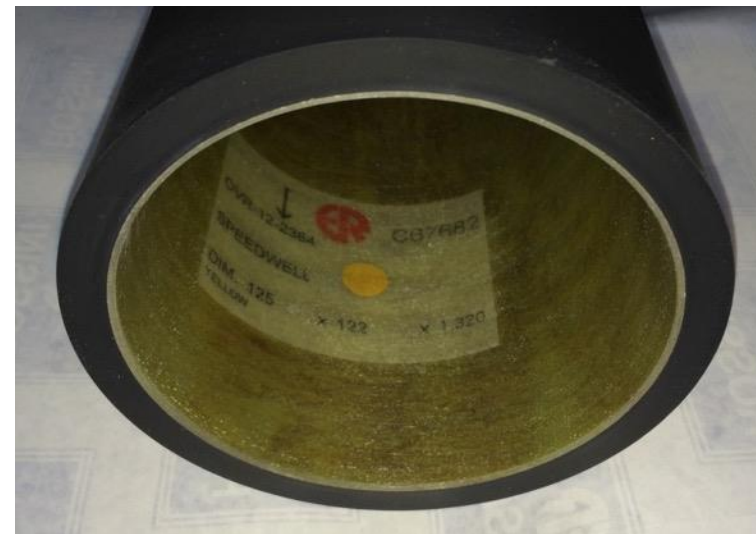
### ROSSINI TECHNOLOGY

*COMBINE FIBER GLASS  
AND CARBON FIBER TO  
MANUFACTURE A SOLID  
BUT FLEXIBLE SUPPORT  
FOR THE SLEEVES*

ROSSINI – Rubber Hardness Colour Code	
Colour	Rubber Hardness
	70-74 Shore (A)
	75-79 Shore (A)
	80-84 Shore (A)
	85-90 Shore (A)



Operator Side



Motor Side



# Surface Resistance Testing

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## ESA RED

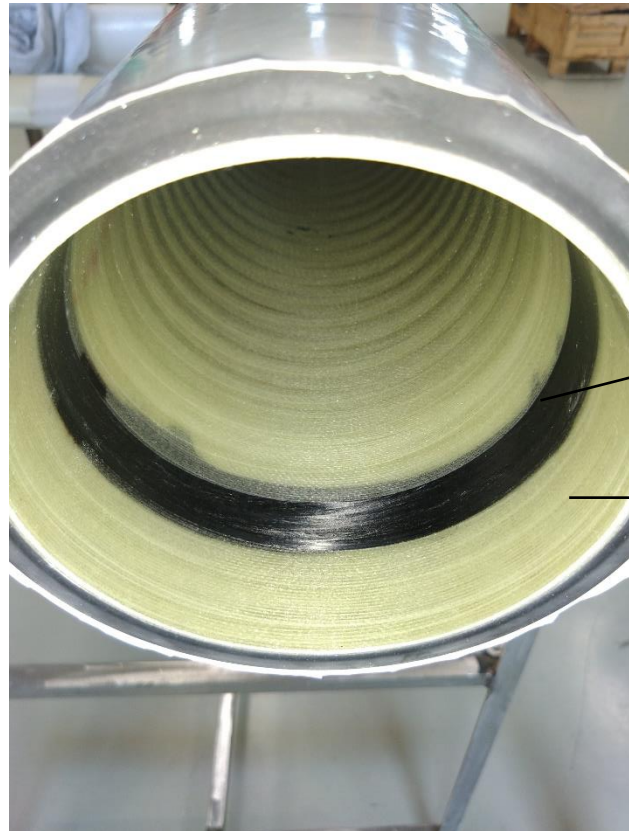
### THE WORLD'S FIRST AND ONLY ATEX AND CERISIE CERTIFIED EXPLOSION PROOF PRINTING ELASTOMER

- Designed for pressure roller installed in Roto-gravure printing with **ESA - Electrostatic Assist Systems**
- ESARED eliminates the Ionization effect that occurs with traditional Black rubber compounds containing Carbon Black as conductive element (EsaRED Certificate of carbon black free content)
- Volumetric, surface and dynamic resistance and insulation values according the specs of the ESA Systemas manufacturer (ACE, ELTEX, ENULEC, HURLETRON, RPTADYNE, SPENGLER)
- Hardness Availability : from 70 to 90 Shore A
- Max Resistance to Pressure : up to 15 [Kg/cm]





# Types of Speedwell Rubber Sleeves

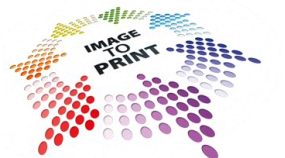


Carbon Fibre

Fibreglass

## ESA Sleeve

- Used for making Top Loading ESA Systems
- Sleeve thickness is only 2 mm
- Carbon Fibre is connected with a resistor to dissipate excessive static charge.
- Elasticity of carbon fibre is poor and hence fitting of ESA sleeves is a bit tight and minimum 12 bar air pressure is required



# Insulation Resistance Testing

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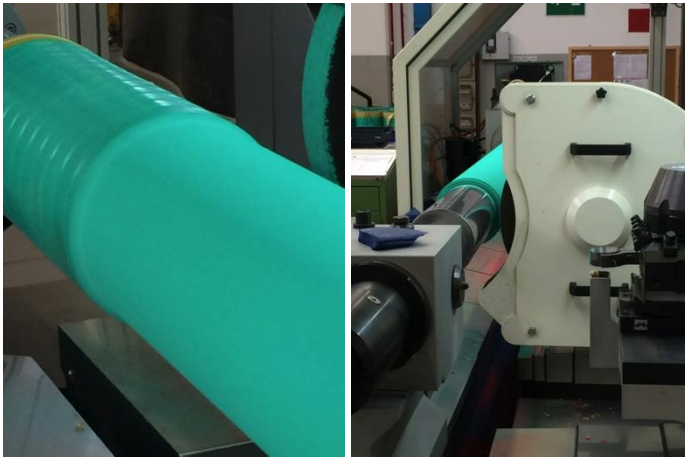
**Laminating** : the importance  
of the wettability for a  
proper rubber covering  
selection

Surface Tension of the polymeric surface is also related to :

- . Roughness ( measured in Ra)
- . Evenness and nature of the molecular structure of the rubber
- . Percentage of adhesive absorption in the rubber compound
- . **PURITY OF THE POLYMER**

## ROSSINI POLYCOAT

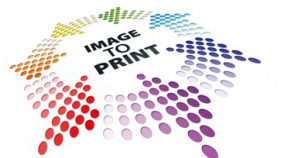
### IS THE POLYMERIC FORMULATION FOR THIS SPECIFIC JOB



The basic polymer has been added with anti-adhesive component to avoid that the glue could close the cells of the External surface during the job (the surface tension would increase too much).

Rubber compound formulation along with our final grinding and finishing process gives a **WETTABILITY Value of  $54 \pm 0,5$  [dyne/cm]**

*This value has been tested and approved with the most important adhesive manufacturers of the market*

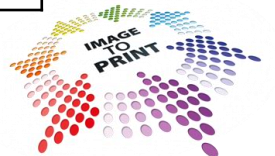


# Rossini Rubber Compounds & Their Application

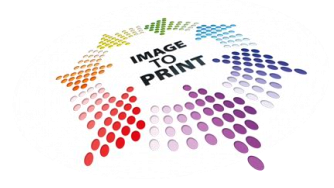
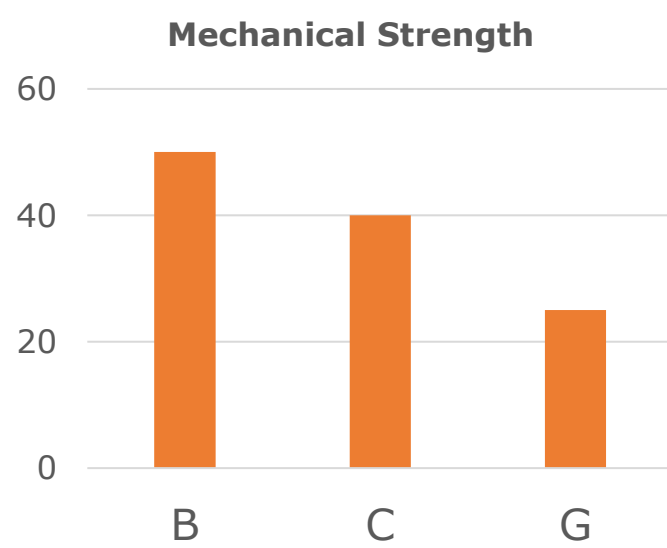
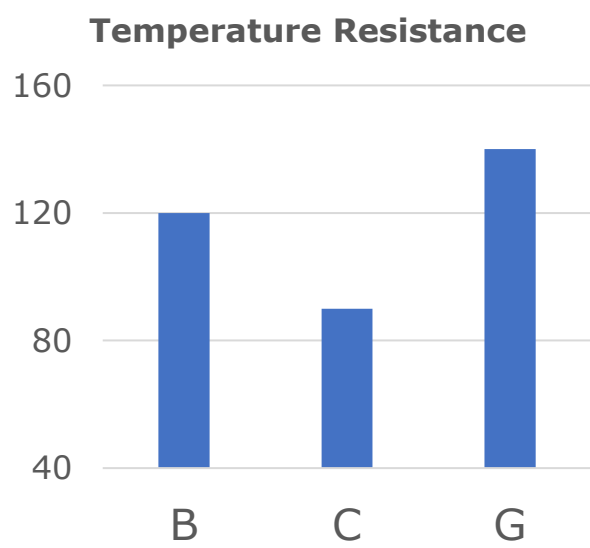


**ROSSINI**

Type	Base	Colour	Hardness	Applications
A	NBR + PVC	Blue	25 – 35 Sh. A	Layon Rollers, Water based inking rollers, etc
B	NBR	Grey	45 – 70 Sh. A	Layon rollers, Water based inking rollers, etc.
BH	C-NBR	Red	85 – 90 Sh. A	Nip Roller for Solventless Lamination
C	SBR	Black	75 – 90 Sh. A	Nip Roller for Solventbased Lamination
D	Chloroprene	Black	40 – 50 Sh. 00	Bump Rollers (Sponge Rubber Rollers)
E	Silicone	White	60 – 80 Sh. A	Extrusion Lamination, Corona Treater
F	Hypalon	Blue	80 Sh. A	Mono-Component Solventless Glue Transfer
G	EPDM	Green, Black	55 – 80 Sh. A	Green – Bi-Component Solventless Glue Transfer Black – Printing, Nip Rollers, Bath Rollers, etc.
H	Proprietary	Black, Red	70 – 90 Sh. A	For ESA Printing
PU	Polyurethane	Black, Green	75 - 90	For Printing on Paper Board



# Rossini Rubber Compounds





**ROSSINI**

# Rossini Rubber Compounds

## Recommended Rubber Hardness

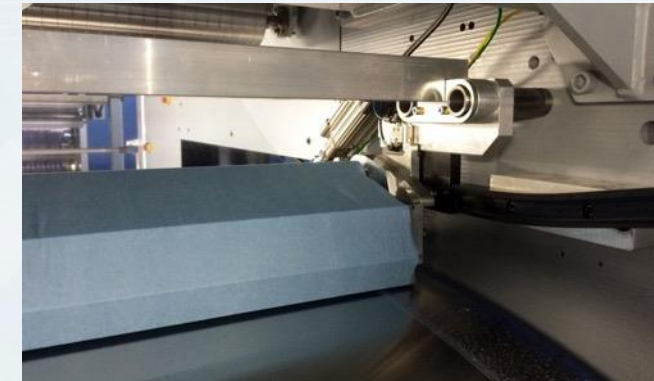
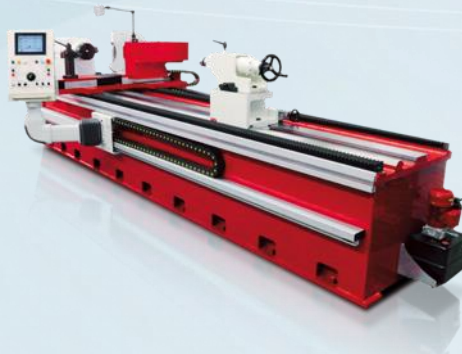
- Printing on PE: 55 – 65 Shore A
- Printing on BOPP: 70 – 75 Shore A
- Printing on PET: 75 Shore A
- Printing on Paper / Foil: 80 Shore A
- Printing on Paper Board: 85 – 90 Shore A
- Infeed/Outfeed Nip Rollers: 70 – 75 Shore A
- Inking Rollers: 55 – 70 Shore A
- Layon Rollers: 45 – 65 Shore A





**ROSSINI**

## A complete range of equipment for the printing sector



### Prima PLC

Grinder managed via PLC with a control panel and customisable software designed to machine sleeves and rollers coated in rubber and/or techno polymers. The double function of initial compound removal (turning) and final precision grinding make the surface quality excellent for every type of work

### Sleeve Storage System

Innovative system designed with simple, easy and safe vertical storage composed of fixed and mobile modules (racks). Modular, expandable over time and with highly customisable dimensions, it enables fast, secure and organised management of the entire sleeve inventory

### Evolution System

Patented oscillating system using controlled-soaked cloth technology to remove the ink residue from the central impression. Systems for both water and solvent base inks. Flexible and fast, it guarantees safe, constant, quality and cleaning **with shorter regular daily automatic washing cycles**

For more details see : <http://www.rossini->





**There's always someone  
who charges less.**

