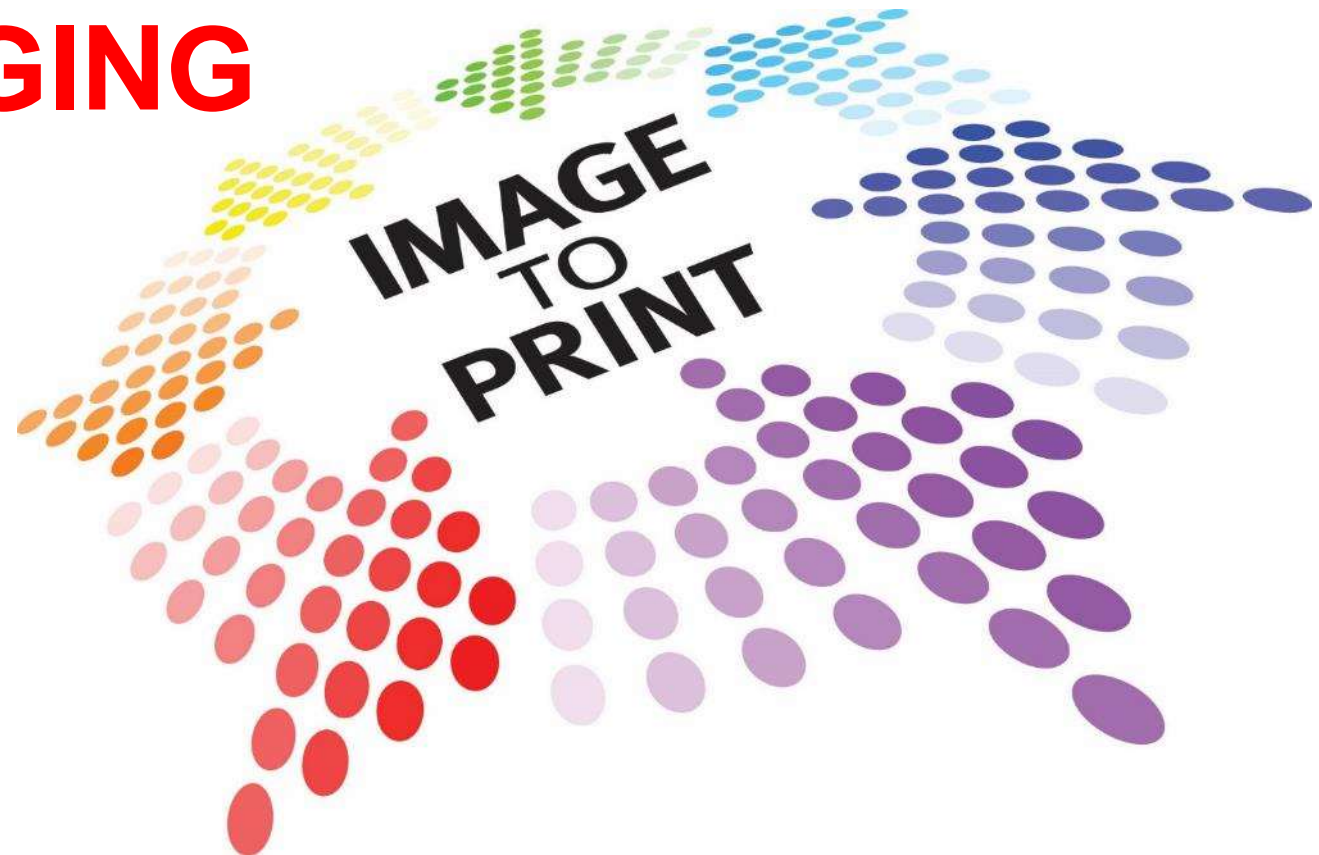


# PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING

20 / 21 March 2019  
Jakarta, Indonesia



# PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING

HOSTED BY:

**janoschka**



# PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING

## EVOLUTION IN SPECIAL COATING-LAMINATION

FABIO VINCENZI

AREA SALES MANAGER SEA,  
NORDMECCANICA group



The **real** evolution in coating and laminating process is the sustainability. What can we really do for the planet where we live?

The answer is simple but on same time not easy:  
It is called culture and technology



# Let's start from the Solvent Base Coating & Laminating

How it can be green?

- 1) New Coating processes where the solid % is higher
- 2) High efficiency dryers
- 3) New electronics

The answer of all these points are here!



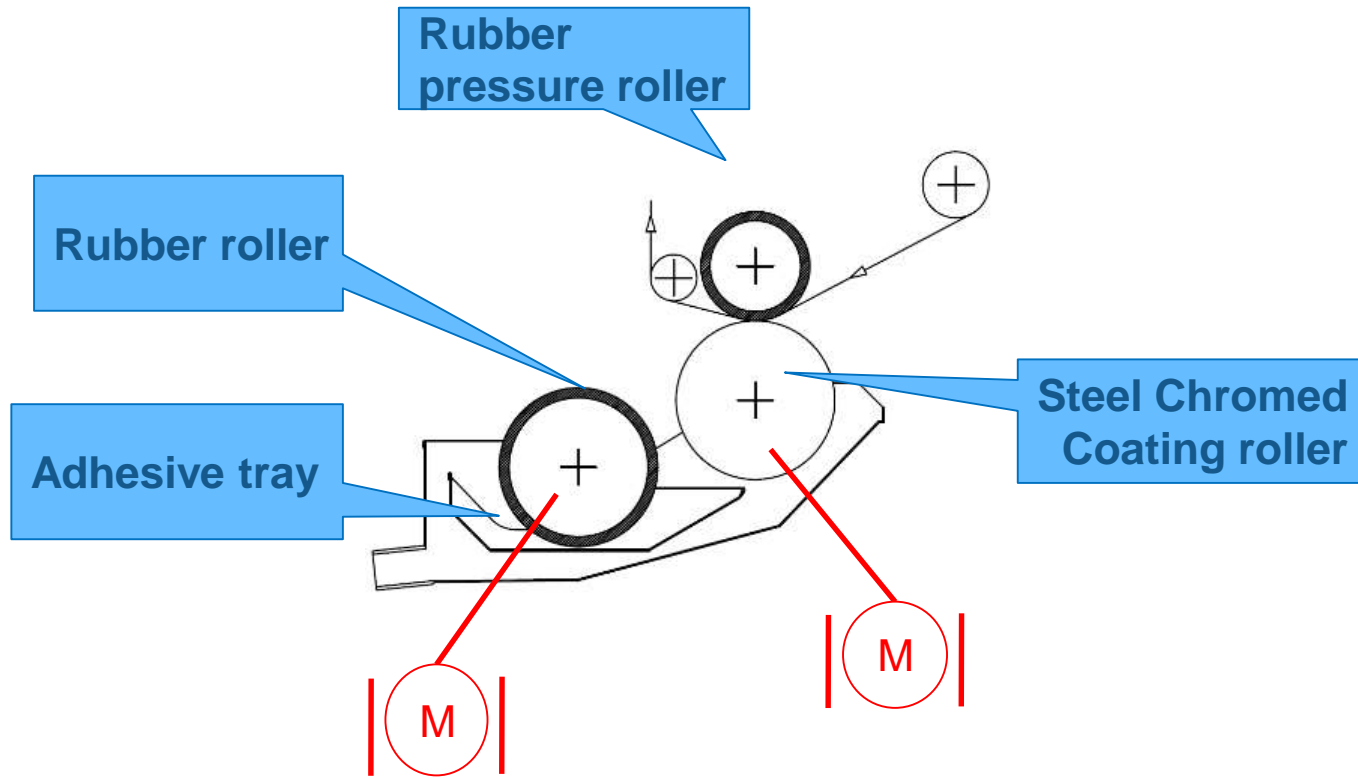
# New Coating processes where the solid % is higher.



**1<sup>st</sup> trolley: SEMI FLEXO**



# Semi-flexo (Offset Gravure)





# Semi-flexo (Offset Gravure)

**Solvent and water born**

- Adhesives.
- Coatings: Lacquer, Heat seal, Release, Primers.
- Coating technology: 2 rollers Semiflexo.
- Speed: Up to 450 m/min (1450 fpm)
- Coating weight: 2,5-8 g/m<sup>2</sup> (1-6 ppr) Dry
- % Solid: 20-45%
- Coatings: Solvent-based; water based; lacquer
- Viscosity: 15 – 23 sec. (cup ford 4)







## 2<sup>nd</sup> trolley: FLEXO 4-Rollers



# Flexo “4 Rollers”

Mainly Solvent born coatings.

Medium to High Viscosity.

Coating speed: 450m/min (1500 fpm)

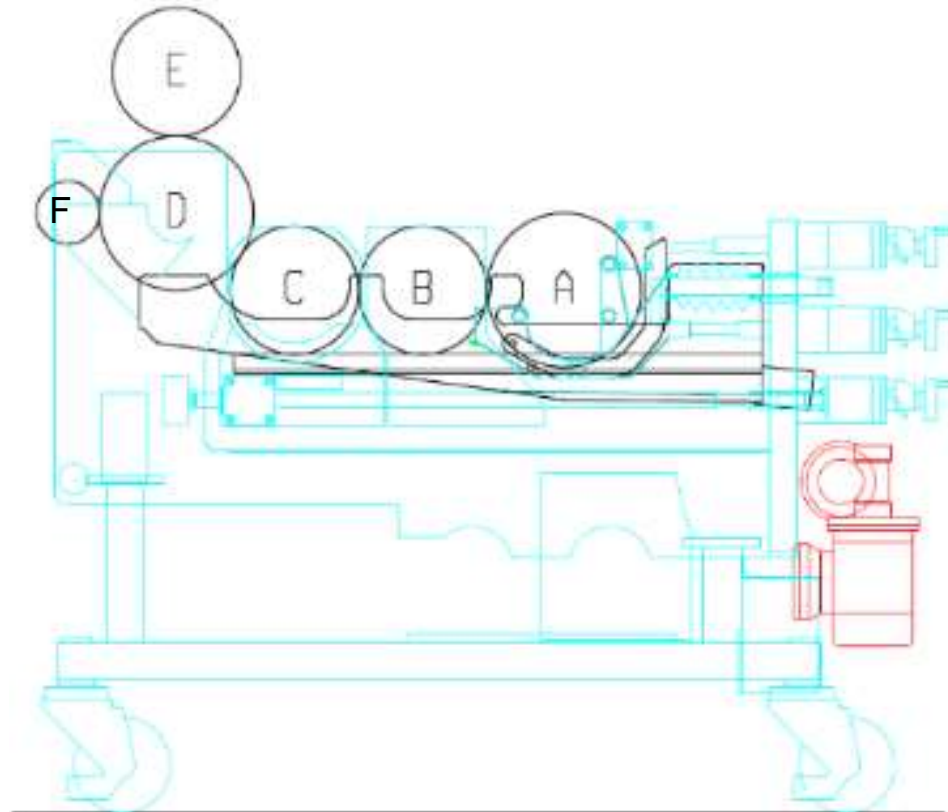
Coating weight: 1 – 5 g/m<sup>2</sup> (.61-3 ppr).

Solid content:35-60%

## Configuration:

Roll A is Rubber, picks-up adhesive from the tray. Roll B is engraved and ceramic coated. Roll C is rubber, sleeve type, is used to adjust the coating width. Roll D is steel chromed. Roll E is the rubber pressure roller.

Roll F is the alternative rubber pressure roller.





**3<sup>rd</sup> trolley: FLEXO PRINT**



# NEW GEARLESS Flexo Print

**Coatings and inks.**

**Application:**

**Solvent/Water/Energy curable coatings and inks.**

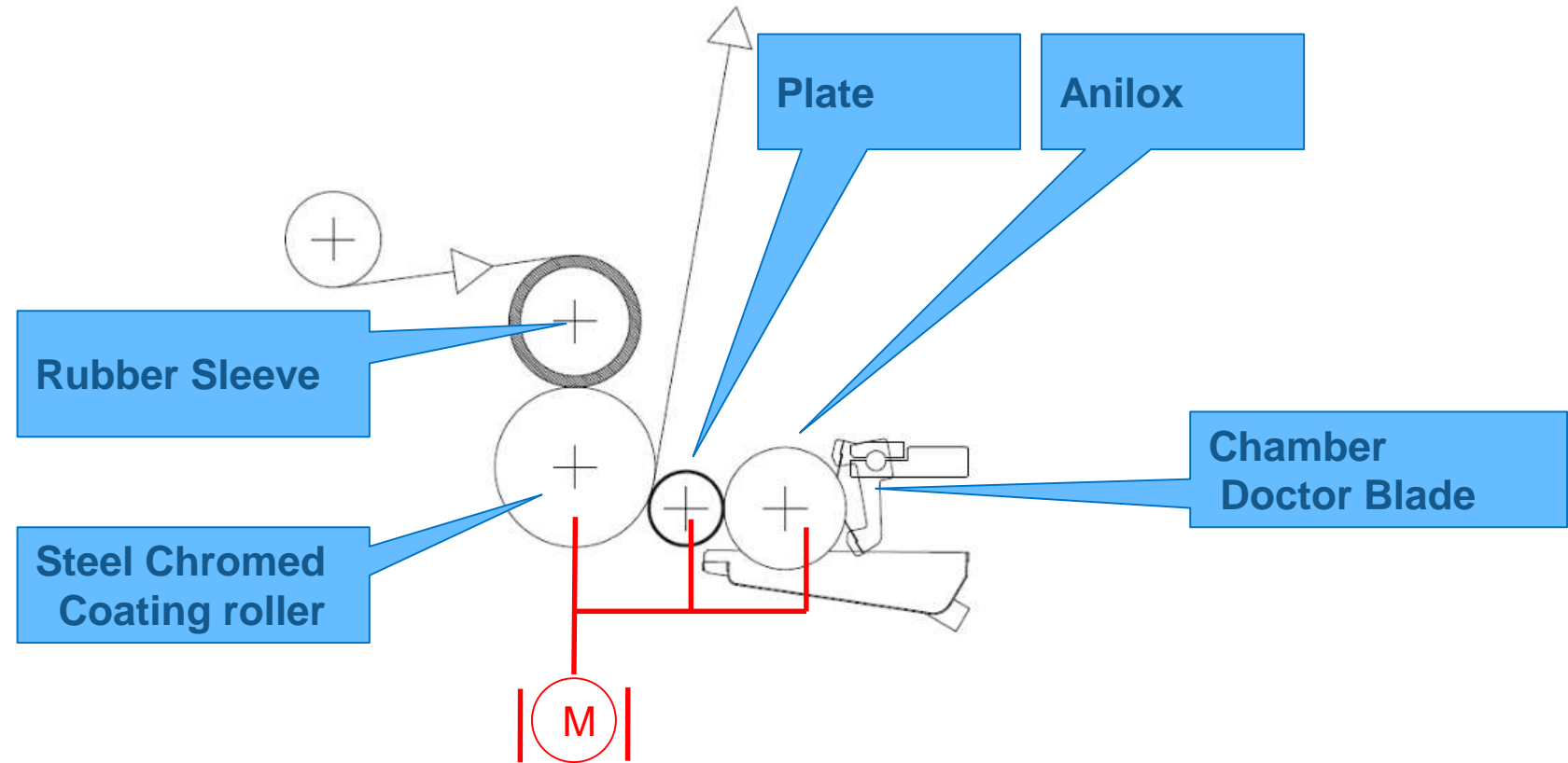
**Configuration:**

**B is Ceramic Anilox.**

**C is a variable repeat printing cylinder.**

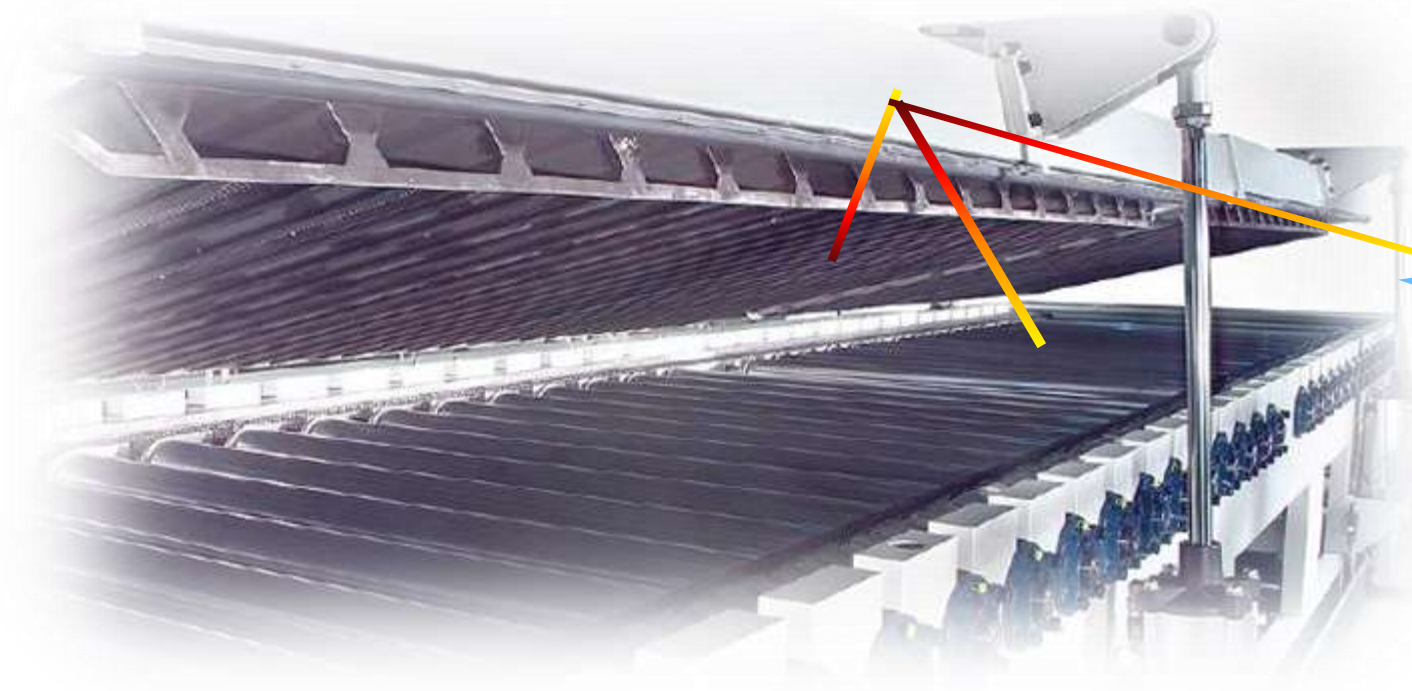
**A is the counter impression roller.**

**E is the rubber nip.**



# High efficiency dryers

**Air delivered on both sides of the web for ultimate drying efficiency.**



Air nozzles





# Drying System

**Integral Stainless Steel Construction.**

**4 Blowers System. Independent speed.**

**High Efficiency Heat Exchange.**

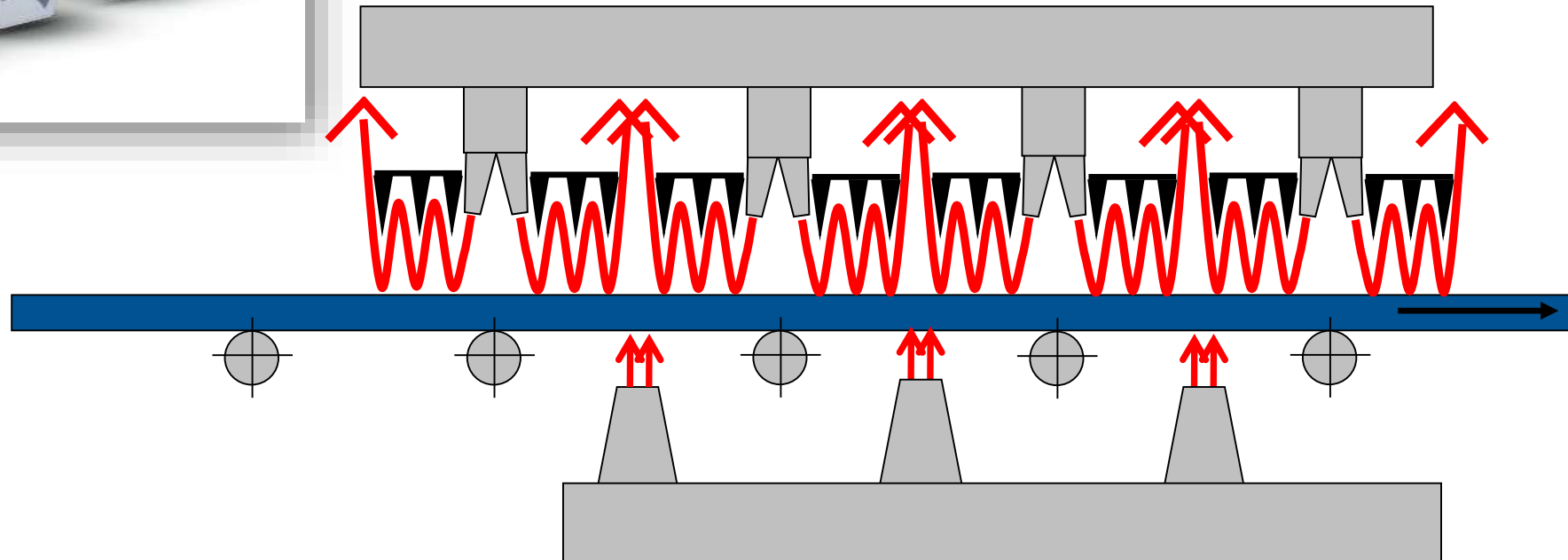
**Low Solvent Retention.**

**Production Speed up to 400 m/min.**





# BI-LATERAL HEATING



# In general the System efficiency is done by:

- **Mechanics:** utmost attention to passive inertia and mechanical friction reduction.
- **Drying systems:** developed with the latest in energy savings and thermal energy dissipation prevention.
- **Inverter driven blowers** in the drying system.
- **Thermal insulation** of ovens.
- **Energy saving levels**, achievable through the implementation of what above, can reach up to 35% once compared to a low energy efficiency laminator.



# Electronics

**SIEMENS**

Industry

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Divisione  
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Cellulare  
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Vostro riferimento  
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Data

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Spett.le  
**NORDMECCANICA SpA**  
Attn. Ing. Vincenzo Cerdello

**Object : Siemens Technology and energy efficiency – references letter**

Siemens by this letter certifies that :

- Nordmeccanica Group is our very important customer and technological partner since many years.

Thanks Siemens Totally Integrated Automation, based on Simatic, Sinamics, Profinet solution, the whole Nordmeccanica machinery range are equipped with the most updated and advanced technology in terms of automation, energy efficiency and performance.

We support continuously Nordmeccanica projecting and sizing components in order to get best performance, low energy consumption and long term reliability.

Nordmeccanica takes great care to the issues of energy saving, selecting components and solutions fitted to achieve high power factor. Power consumption and performance are constantly monitored and traced by Sentron PAC 3200 Power meter.

Main motors used, 1PH6 series, are suited only for frequency converter operation.

Standard Drives System is Sinamics S120 with regenerative infeed unit, combined with 1PH6 motors that allows to achieve optimized energy consumption thanks to :

- Regulated DC Link voltage, balanced between axis, depending on the torque request.
- Regenerative feedback capability (instead of braking resistors)
- Sinusoidal line currents
- Extremely low current and voltage harmonic distortion with ActiveInterfaceModule (AIM) combined with ActiveLineModule (ALM) .

We also state that Nordmeccanica has been selected by Siemens Industry Headquarter in Germany (Nuremberg) as one of 10 customers worldwide for the project "GLOBAL ACTING OEM". Scope of the project is to work together with trend setter customers in order to develop and tailor solutions based on the need of the market and support at the highest level the Oem's abroad.

Yours in service

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Capitale sociale: Euro 50.000.000 (i.v.); Iscrizione Registro Imprese Milano, Codice fiscale e partita I.V.A.: IT - 00751190151; R.E.A. Milano: 525190

Pag. 1 di 1



Nordmeccanica takes great care to the issues of energy saving, selecting components and solutions fitted to achieve high power factor. Power consumption and performance are constantly monitored and traced by Sentron PAC 3200 Power meter.

- **Regenerative drives.**



# ...but of course let's finish with Solvent Less





# Invented by NORDMECCANICA



Europäisches Patentamt  
European Patent Office  
Office européen des brevets

Publication number: **0 324 892 A2**

**EUROPEAN PATENT APPLICATION**

Application number: **88110483.0** Int. Cl.<sup>4</sup>: **B05C 11/02**

Date of filing: **30.06.88**

The title of the invention has been amended (Guidelines for Examination in the EPO, A-III, 7.3).

Applicant: **NORDMECCANICA S.p.A.**  
Via G. Portapaglia 19  
I-29100 Piacenza (PC)(IT)

Priority: **30.10.87 IT 4481187**

Date of publication of application: **26.07.89 Bulletin 89/30**

Designated Contracting States:  
**AT BE CH DE ES FR GB GR LI LU NL SE**

**Plastic film bonding machine with adhesive spreading devices.**

The invention relates to a plastic film bonding machine in which solventless adhesive is used.  
The adhesive spreading devices comprise a pair of ground steel rollers which effect an initial rolling of the adhesive, a rubber-covered roller in contact with one of the said steel rollers and with a spreader roller, and pneumatic systems designed to keep the rubber roller pressed against the said rollers at a constant pressure whatever the roller rotation speed.  
The machine also includes a stop element designed to limit the movements of the said rubber roller.

**FIG. 3**

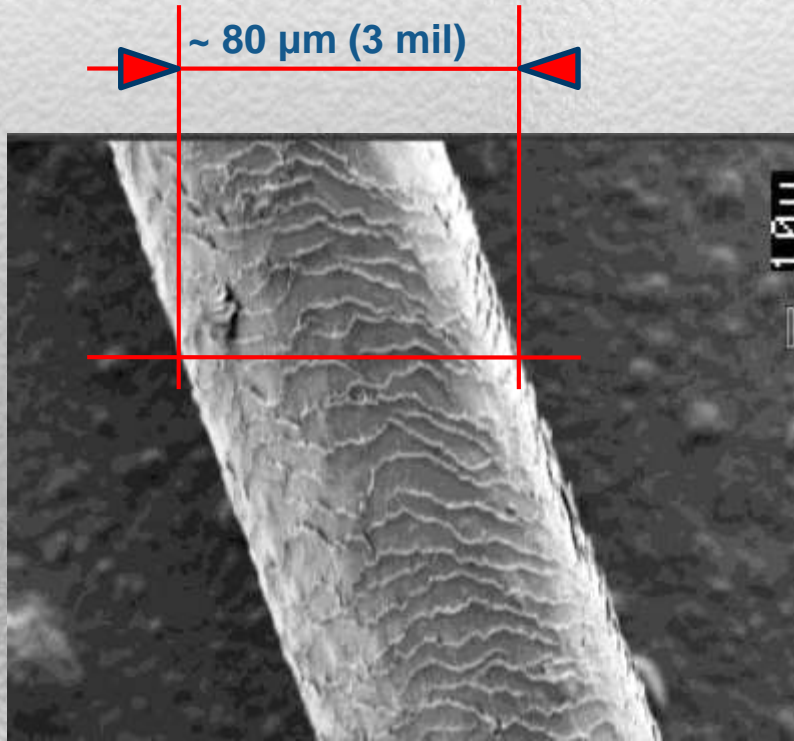
Xerox Copy Centre

EP 0 324 892 A2

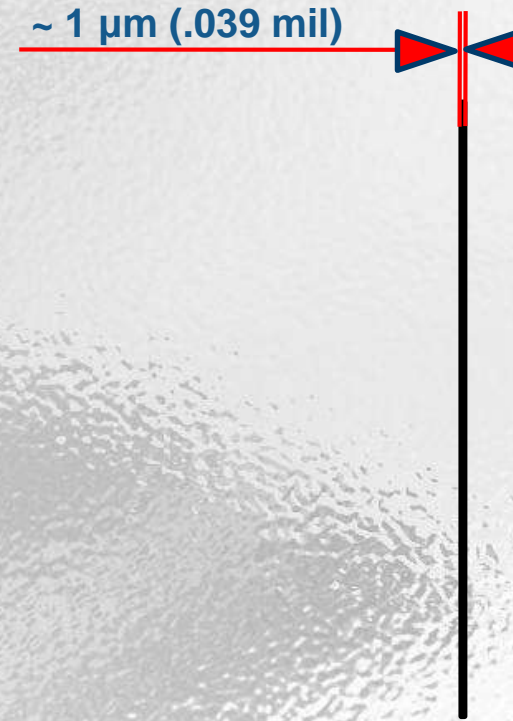
Vertical Green Building designed by Arch. Boeri – Milan Italy



## Nature of the task



Human hair



Coated Adhesive layer

The final thickness of the coated adhesive layer is about 80 times thinner than a human hair.

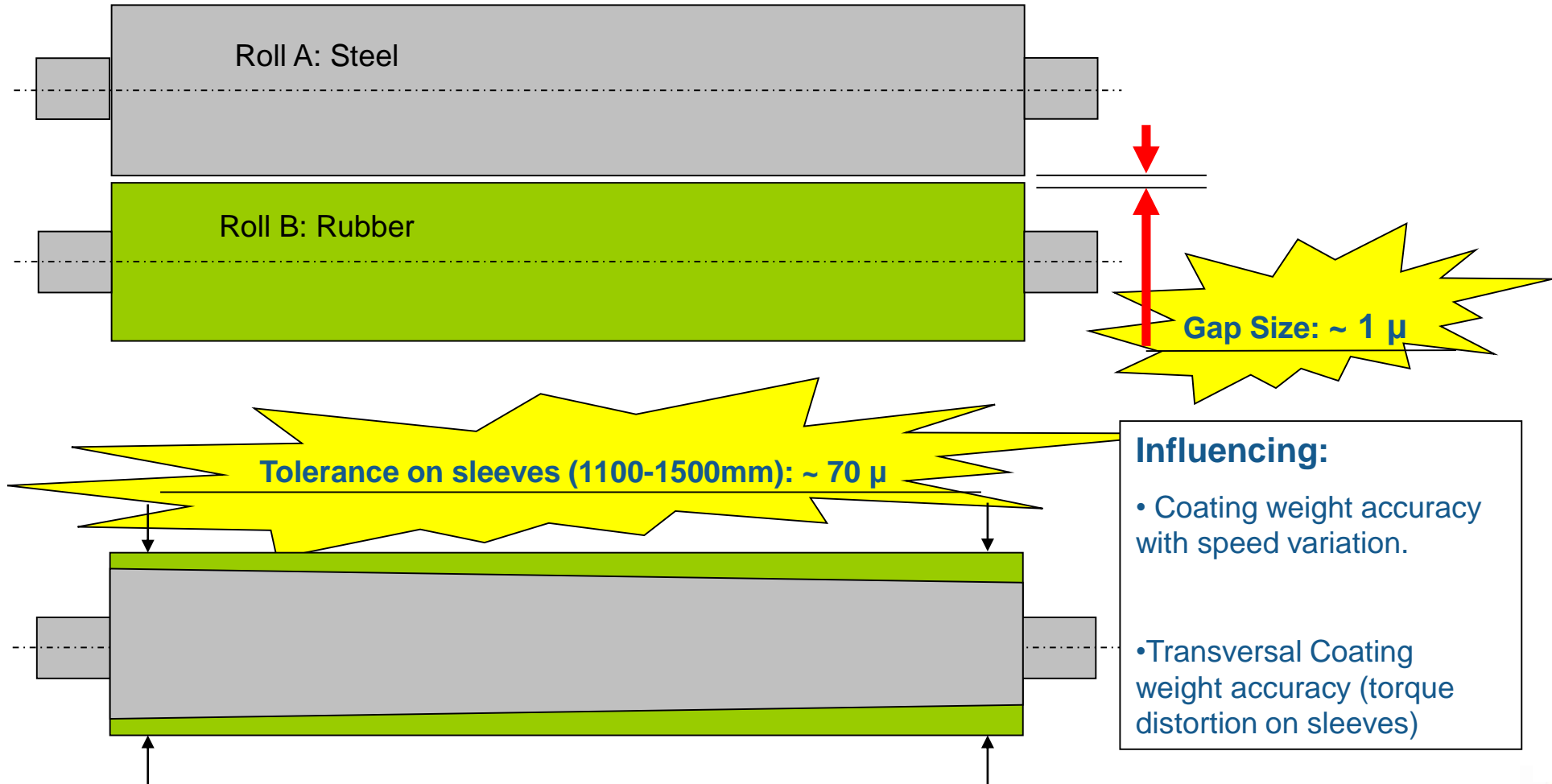




## Coating Weight Control Technology



# Solid Rubber Roller



# And where with dedicated technology we achieved



Compounds	Performance with Duplex SL One Shot™ and Symbiex™ (m/min).
BOPP printed // BoPP	400÷450
PET printed // PE	400÷450
OPA printed // PE	400÷450
BOPP printed // Met PP	350÷450
(PET printed/foil)// PE	400÷450
BOPP printed // Met PET	300÷350
Paper // MET films	400÷450
PET printed (unprinted)// Foil	200÷250
PET printed (unprinted) // Met PET	250÷300
OPA // PE-EVOH	250÷300



**HOPING IN A GREEN FUTURE FOR OUR  
KIDS, AS NORDMECCANICA WE  
THANK YOU FOR YOUR ATTENTION.**

**janoschka**

