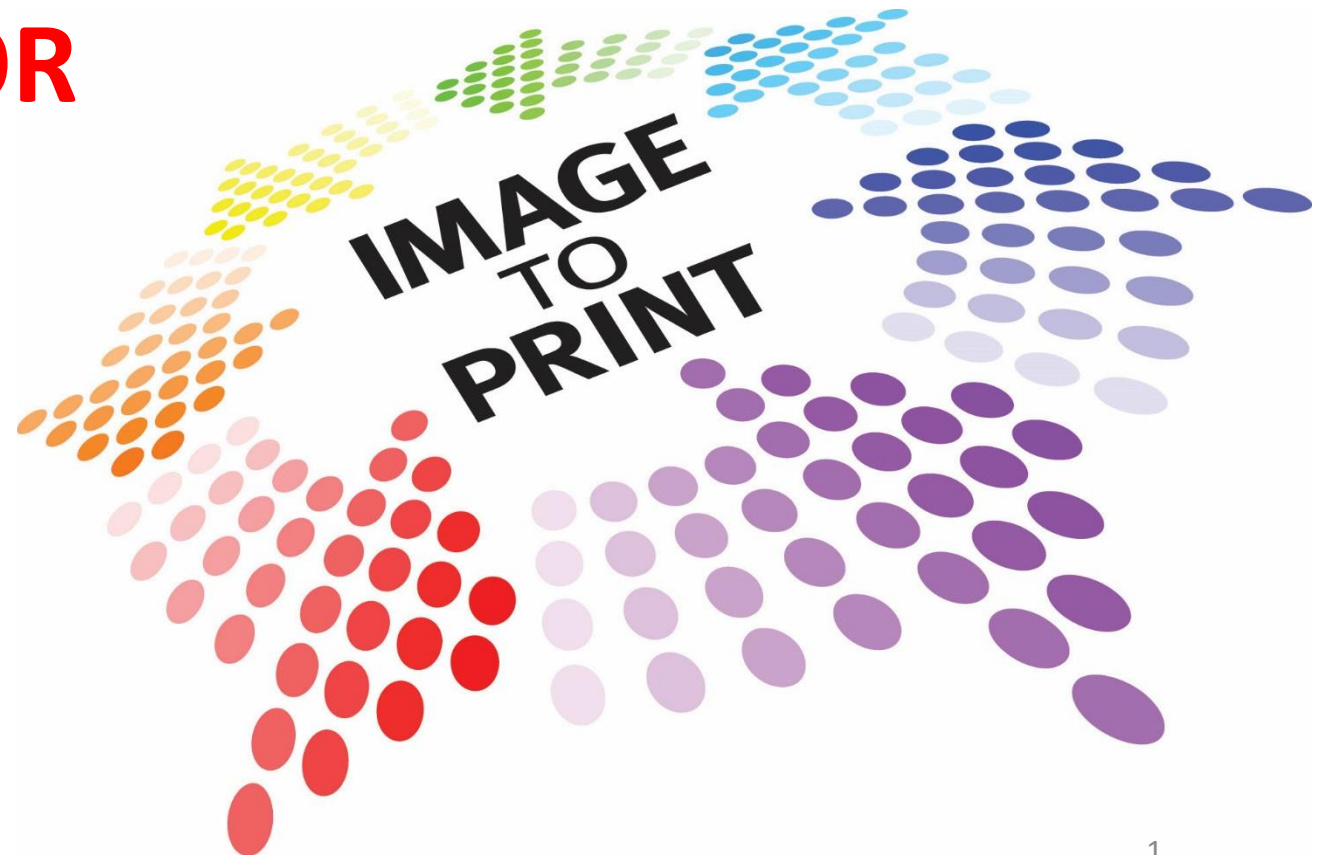


# PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING

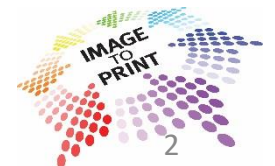
20 / 21 November 2019  
Kuala Lumpur, Malaysia



# PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING

HOSTED BY:

**janoschka**

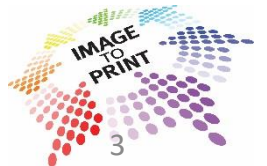


**PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING**

# OUR IDEA OF GREEN ENVIRONMENT AND A SUSTAINABLE FUTURE

FABIO VINCENZI

Area Sales Manager SEA Coating & Laminating Division,  
NORDMECCANICA group



# THE CURRENT MOOD: ALL PLASTICS ARE ENEMIES



- PLASTICS
- MULTILAYERS STRUCTURES
- PACKAGING

# PLASTICS ARE NOT ENEMIES BUT FRIENDS!!

What can we really do for the planet where we live?

The answer is a multiple answer, simple but on same time not easy:  
It is called culture first and technology after.

Our plastics have to be collected and managed but we can do something with our **real** evolution, for example, in lamination.



## LET'S START WITH FEW STEPS

- In case of Solvent base lamination the use of new trolleys for high % of solid is helpful to reduce the exhaust and contamination
- High efficiency dryers
- New electronic platforms with less power consumption
- More solventless lamination even in multilayers packaging
- Monofilm or monolayer laminated packaging

The answers of all these points are here!





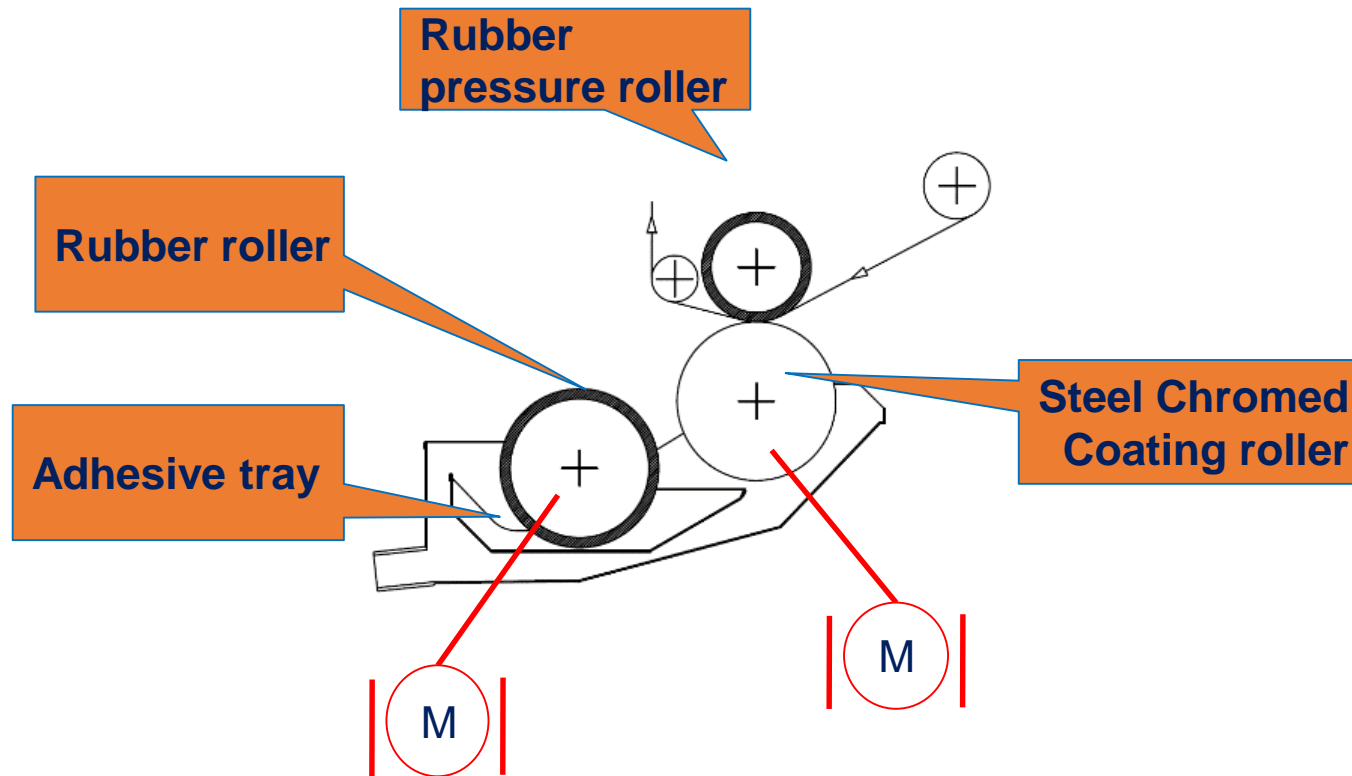
**New coating trolleys where the solid % of adhesive is higher.**



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



## The SEMI-FLEXO (Offset Gravure)





- For solvent and water base
  - 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: 20-55%
- Viscosity: 15 – 23 sec. (cup ford 4)





**2<sup>nd</sup> trolley: the FLEXO 4 or 5 rollers**

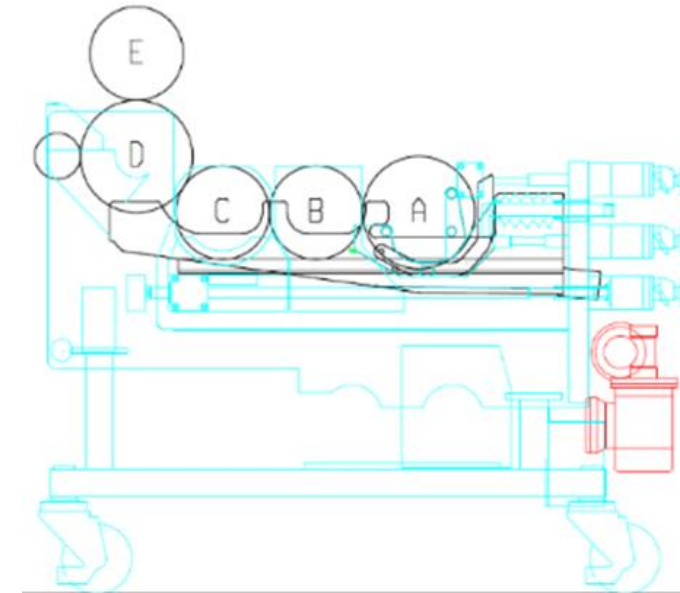


## The Flexo (In this case five rollers)

- **Mainly Solvent base 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.**



\* Flexo four rollers is also available





**3<sup>rd</sup> trolley: the FLEXO gearless**



# The FLE XO gearless

**Coatings and inks.**

**Application:**

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

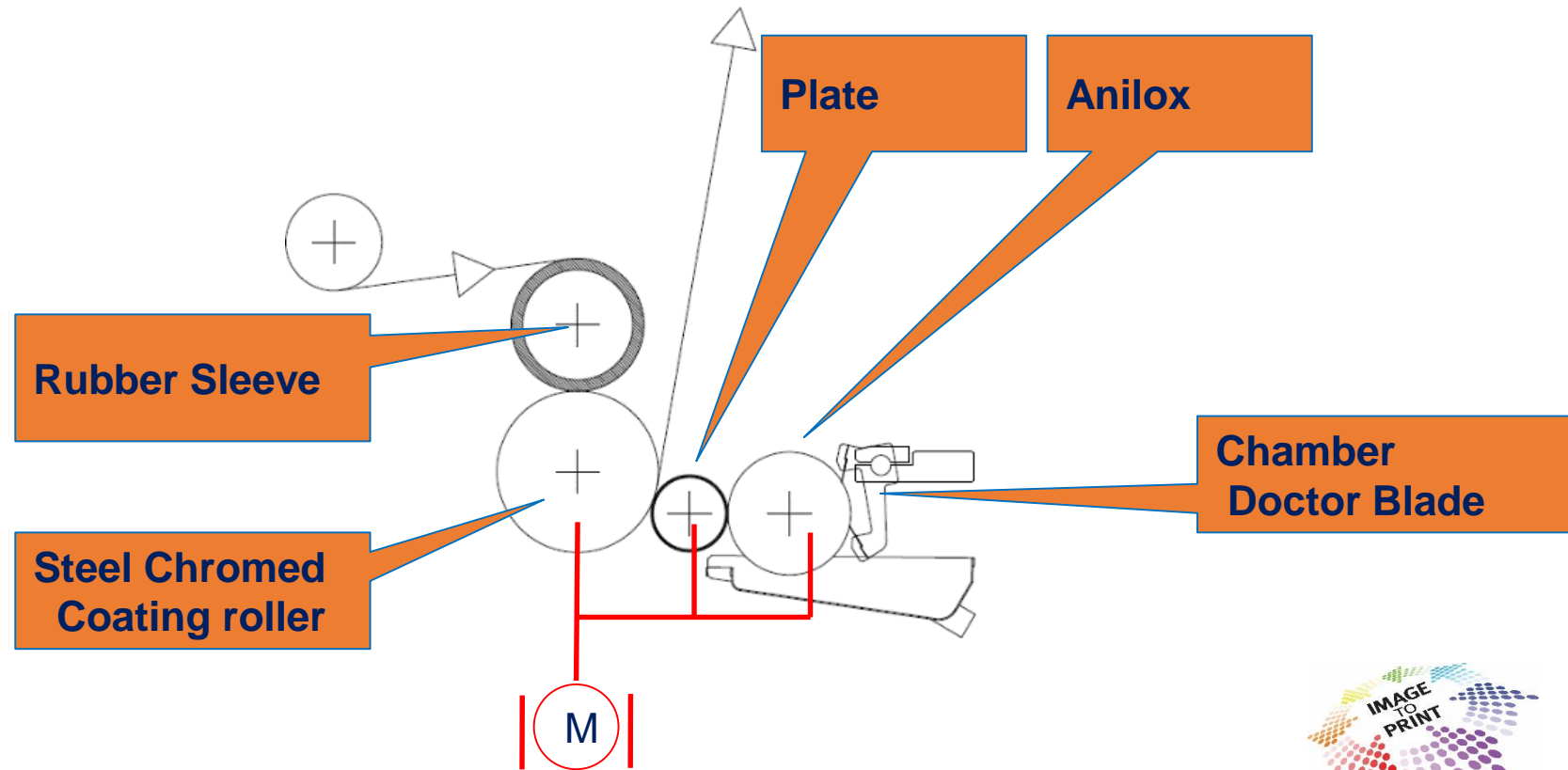
**Configuration:**

**B is Ceramic Anilox.**

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

**A is the counter impression roller.**

**E is the rubber nip.**



# The FLE XO gearless

Diameters of anilox roller and plate mandrel can be modified accordingly as per your flexo presses.

- Automatic preregister
- Stepping motors with absolute encoders
- Closed chamber blade
- Keypad and touch HMI





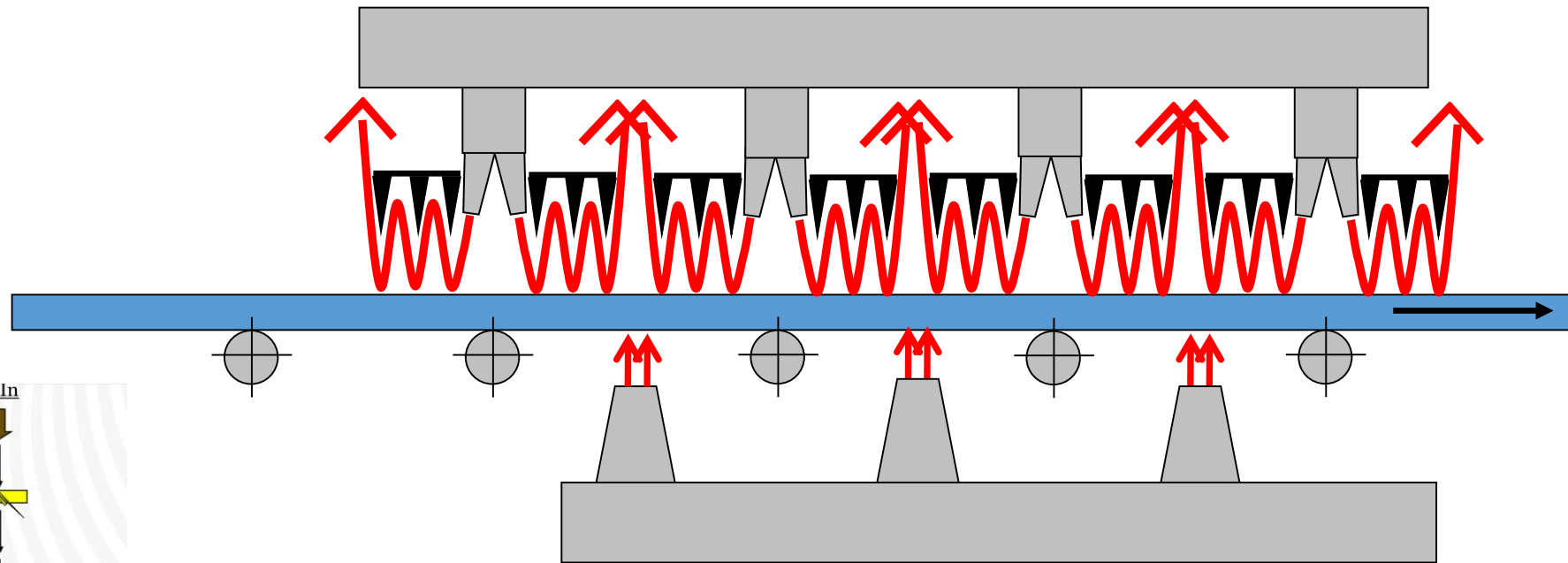
# HIGH EFFICIENCY DRYERS

- Integral Stainless Steel Construction.
- 4 Blowers System. Independent speed.
- High Efficiency Heat Exchange.
- Low Solvent Retention.
- Production Speed up to 400 m/min.

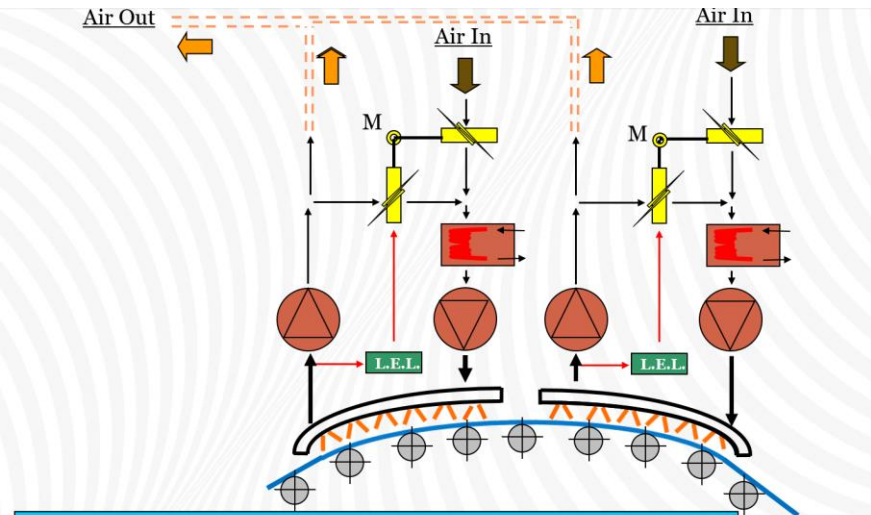


# HIGH EFFICIENCY DRYERS

bi-lateral heating →



← motorized L.E.L



Note: Parts  are optional  At customer care



# HIGH EFFICIENCY DRYERS

- **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.
- Motorized L.E.L system
- Energy saving levels, achievable through the implementation of what above, can reach up to 35% once compared to a low energy efficiency laminator.



**SIEMENS**

Industry

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Vostro riferimento MS  
Nostra sigla MS  
Data 2014 February 19th

Siemens S.p.A., Via Piero e Alberto Pirelli, 10 - 20126 Milano

Spett.le  
**NORDMECCANICA SpA**  
Att. 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, 1PH8 series, are suited only for frequency converter operation.

Standard Drives System is Sinamics S120 with regenerative infeed unit, combined with 1PH8 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 - 00751100151; R.E.A. Milano: 525192

Pag. 1 di 1

# New Electronic platforms

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.**



# The Solventless or solventfree (no emissions)



Europäisches Patentamt  
European Patent Office  
Office européen des brevets

Publication number: **0 324 892 A2**

EUROPEAN PATENT APPLICATION

Application number: 88110483.0      Int. Cl.: B05C 11/02

Date of filing: 30.06.88

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

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

Priority: **30.10.87 IT 4481187**

Date of publication of application: 26.07.89 Bulletin 88/30

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

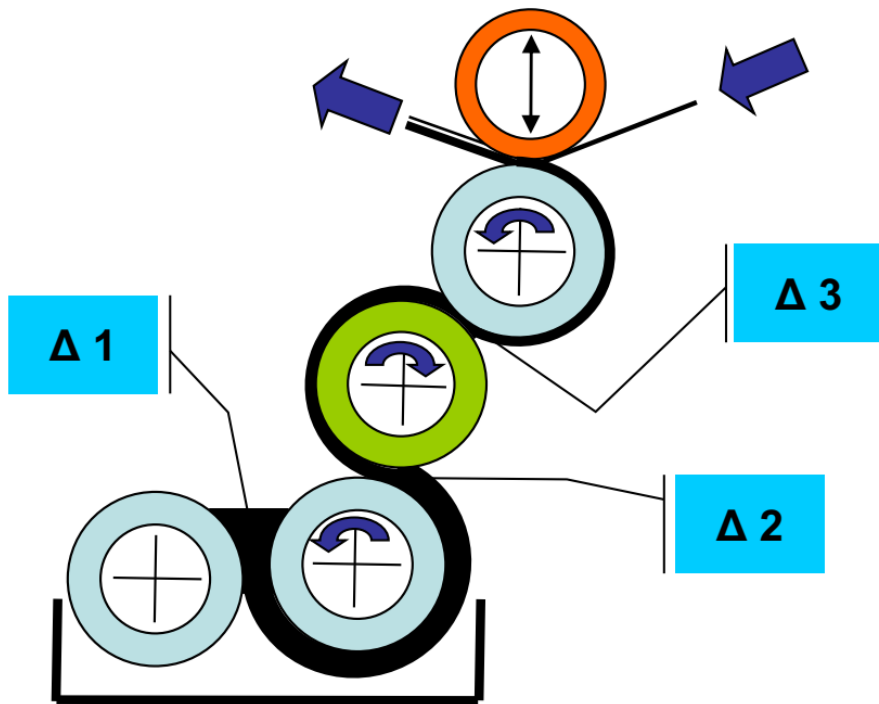
EP 0 324 892 A2

Xerox Copy Centre

\*Vertical Green Building designed by Arch. Boeri – Milan Italy



## The Solventless or solventfree (no emissions)



$$\Delta_1 > \Delta_2 > \Delta_3$$

- $\Delta 3 = \sim .8 \mu$  (.03mil)
- $\Delta 2 = \sim 8 \mu$  (.3 mil)
- $\Delta 1 = \sim 80 \mu$  (3 mil)

- Rolls A, C, D = Steel
- Roll B = Solid Rubber



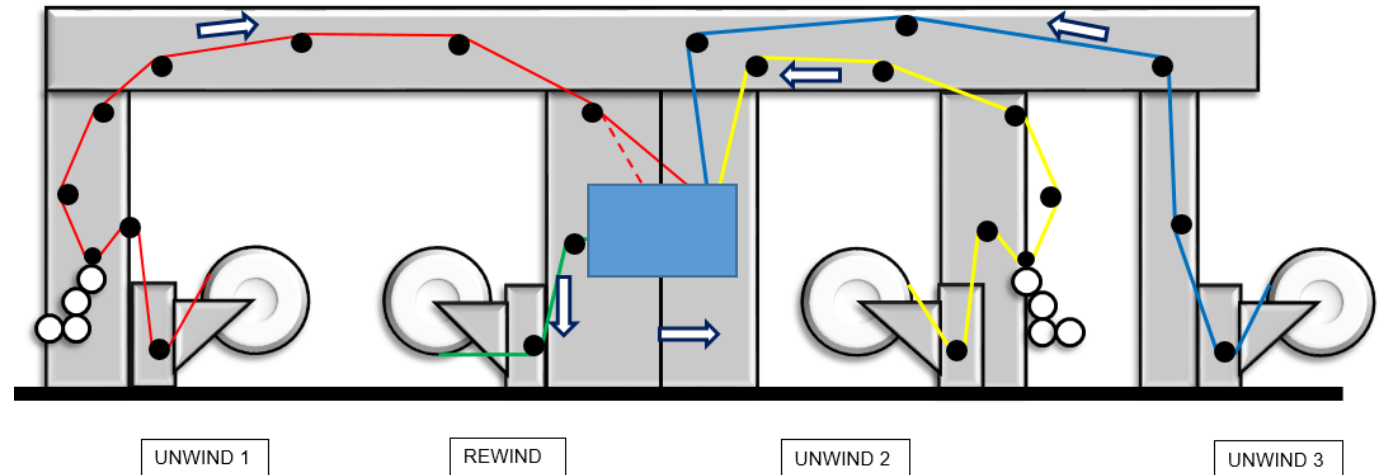
## The Solventless or solventfree (no emissions)

- Solventless lamination make the packaging safe
- High performances adhesives are available
- Speed up to 300mpm can be achieved even on barrier materials
- Solventless adhesive for retort 120-130°C for 45min. are also available
- Digital printing can be laminated



# The Three-ply Solventless or solventfree

- Machine patented by NORDMECCANICA
- Multilayers structures 100% solventless
- Monofilm structures
- Fast curing adhesives can be used
- Automatic splices available



## The LDPE//LDPE Solventless or solventfree lamination

**LDPE 20micron// LDPE 20micron lamination at 350mpm is also possible thanks to customized design, high web tension accuracy, carbon fibre idle rollers and high sensitive pneumatic pistons for dancer rollers**





**From NORDMECCANICA laminating  
division**

**MANY THANKS FOR THE ATTENTION**