

### The Art of Plasticity





## Mantzaris S.A in a Nutshell

 $\mathbf{WG}$  DO HVVG PLASTIC MINDS

Agricultural products

Packaging products

Consumer products





~20%

- 3 Carrier-bag production lines
- 1 recycling line





## Rely on a strategic partner

- Nominal Capacity of 17.000tns of PE production annually
- Tailor Made solutions based on customer's needs
- Constant investment for new state of the art production lines and R&D
  - 2 Alpina Hosokawa 3 layer MDO lines
  - 1 Reifenhauser 3 layer line
- Strick Quality assurance protocols







## **Environmental Footprint**







### **Controlled Production Environment**































## In Situ Recycling Units







### Quality control

### **Quality Control**

- Top quality raw materials (REACH / MSDS)
- Quality Management certification according to
  - ISO 9001:2015
  - ISO 22000:2005
  - ISO 14001:2015
- Suppliers' evaluation

#### EQC (Eurofilm Quality Control) according to accredited Standards

Thickness/µm, Width/cm, Weight/g/qm,

Corona Treatment/dyn

#### ISO 527

Tensile Strength MD-TD/N/qmm Tensile Yield MD-TD/qmm Elongation MD-TD/% ISO 8295 Coefficient of Friction







### **Eurofilm Added Value Platform**

#### R & D

- Dedicated R & D team
- Project/ customer focus

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Tailor made solutions

Quality Fully equipped laboratory Top quality raw materials (REACH / MSDS)

ISO 9001:2015 ISO 22000:2005 ISO 14001:2015

#### **Strategic Partnerships**

**Customer Service** 

- Efficient distribution network
- Adjustable sales on customer needs
- Stock keeping policy





### Lamination Film

### EURO 2SLL 40AC

Polyethylene lamination transparent film with highly adhesive properties for flow-pack machines. Used with polyethylene and polypropylene . Suitable for packaging food products such as rise, beans, etc.

#### **Types of film:**

FT EURO 2SLL40AC FT EURO 2SLL40ACA – **Anti-Fog** FT EURO 2SLL40ACH – **High-Slip** FT EURO 2SLL40ACW – **White** 

#### CHEMICAL CHARACTERISTICS OF RAW MATERIAL

Standard technical specifications
Approved for food packaging according the (EU) Regulation No 10/2011 (14.1.2011) and its amendments on the suitability of food contact materials.
Absence of heavy metals (Cd, CrVI, Pb, Hg) regulation 94/62 / EC









### Lamination Film

### EURO 2SLL 80AC

High quality film for triplex use (polyester-aluminumpolyethylene). Used in packages of products such as coffee, wet wipes, etc.

#### Types of film:

FT EURO 2SLL80AC FT EURO 2SLL80ACA – **Anti-Fog** FT EURO 2SLL80ACH – **High-Slip** FT EURO 2SLL80ACW – **White** 







### Lamination Film

### EURO 2SLL 100AC

High quality film for difficult and demanding applications, with quick and safe welding. Used in packages of products such as soap, oil containing products etc.

#### **Types of film:**

FT EURO 2SLL100AC FT EURO 2SLL100ACA – **Anti-Fog** FT EURO 2SLL100ACH – **High-Slip** FT EURO 2SLL100ACW – **White** 

#### NEW HD SHEET WITH 2LD OR LLD IN OUTER LAYERS

Suitable for cornflakes packaging, mesh bag handles, etc.

- **EASY PEEL 20AFFD:** Lamination film of high requirements for the use of food packages (e.g. Cheese), requiring very good adhesion and relatively easy peel-opening. The adhesive substrate can be polypropylene (PP) or HDPE.
- **EASY PEEL (easy open):** Lamination film for use in polyethylene food packaging. where very good PE to PE adhesion is required and relatively easy peel-opening









## **Current Lamination Film Sourcing Criteria**

Nominal Dimensions and Tech Specs

- ✓ Film thickness
- ✓ Film width
- ✓ Film mechanical properties

Lamination Film Conversion

- ✓ Film Flatness
- ✓ Film Camber
- ✓ Film Curl

Suppliers benchmark on Price/meter/tons

**KPI** on Application Performance?





# **Definition of Film Flatness**





Film uneven Flatness due to temperature variations during Production

Film presenting uneven Flatness profile





# Definition of film Camber and Curl



Camber due to film production process

Lamination Film Curling





# The Evolution of lamination Films

#### Lamination Film Sourcing Criteria:

**KPI** on Application Performance

- ✓ Film thickness
- ✓ Film width
- ✓ Film Mechanical properties

EUR ① 御 函 MANTZARIS S.A. PLASTIC FILM INDUSTRY



- ✓ Film Flatness
- ✓ Film Camber
- ✓ Film Curl

- ✓ Printing speed
- ✓ Printing Quality
- ✓ Less adhesive use
- ✓ Higher bond strength
- ✓ Less waste





### The Evolution of Lamination Films







### **Evo** Lamination Value Proposition







### Film Flatness Improvement





Indicative Average Lamination Film Flatness Improvement of 30%





### Film Flatness Improvement



**Conventional Lamination Film** 



Eurofilm Evo Lamination Film





### Film Flatness Improvement



Eurofilm Evo Lamination Film



**Conventional Lamination Film** 



### Lamination Bond Strength Improvement



Indicative Average of 20% Lamination bond strength Improvement due to film flatness





### Printing Quality Improvement







### Film Camber Improvement



- ✓ Less Edge trim during converting
- ✓ Less wrinkling during lamination
- ✓ Improved Film processing





## Film Curl Improvement



Improved converting quality which results in lower production waste





### T.C.O Case Study

### Lamination Film Converter:







## T.C.O Case Study







### Moving towards a Sustainable Bio Friendly future in Packaging

Multi-Material film structures provide a wide range of protective and functional properties in flexible packaging applications

#### However:

Multi-Material film structures are **not recyclable** 

Eurofilm invests in R&D focused in the promotion solutions that enable:

- Reduced material consumption
- Full product recyclability
- Use of Recycled materials
- Use of Renewable materials





















**Application Driven Tailored Solutions** 

MDO for **water** vapor barrier?

MDO for **medium oxygen and water** vapor barrier?

MDO for high oxygen and water vapor barrier?







