



## 2.25 MATERIALS FOR WHICH THE MACHINE IS DESIGNED

The laminating machine can process materials that are of various origins, of different qualities, virgin or not, already printed or laminated, often with pre-existent defects of various kind that cannot be eliminated and condition the final result. Considering the wide range of combinations of materials, adhesives, lacquers, etc., the experience and training of the personnel are decisive for the quality of the final product: case by case, the operator must carefully look over the possibility of carrying out the desired processing and the necessary regulations of the machine.

The greatest troubles occur with the coating for the first lamination (DUPLEX product): an already laminated substrate can easily be coated and laminated a second time.

The materials that can be processed and the suggested thickness are listed hereunder: the data are to be regarded just as an indication and, besides depending on the operator's skill, they depend on the width of the webs under processing and on the unwinding and winding tensions (minimum and maximum tensions are indicated in Chapter 2 - Technical data).



Other materials than those indicated might damage the machine. In case of doubt, contact the Manufacturer previously.

### 2.25.1 Primary materials

The data refer to the first coating, for virgin materials of excellent quality:

• ALU	9+40 $\mu\text{m}$ (12+40 for SL)
• BOPP	12+80 $\mu\text{m}$
• CALENDERED PAPER	25+200 $\text{g/m}^2$ (SL only)
• LDPE, LLDPE	60+200 $\mu\text{m}$ (30+200 for SL)
• NYLON CAST	50+80 $\mu\text{m}$ (30+80 for SL)
• OPA	12+18 $\mu\text{m}$
• PETP	10+30 $\mu\text{m}$
• PP CAST	60+150 $\mu\text{m}$

### 2.25.2 Secondary materials

The data refer to virgin materials of excellent quality:

• ALU	7+40 $\mu\text{m}$
• BOPP	12+80 $\mu\text{m}$
• CALENDERED PAPER	40+300 $\text{g/m}^2$
• VARIOUS COEXTRUDED SUBSTRATES	25+200 $\mu\text{m}$
• LDPE, LLDPE	20+200 $\mu\text{m}$
• NYLON CAST	20+80 $\mu\text{m}$
• OPA	12+18 $\mu\text{m}$
• PETP	8+30 $\mu\text{m}$
• PP CAST	20+150 $\mu\text{m}$



### 2.28.5 Electric system

Machine power supply line (three-phase, with earthing, without neutral wire):

- |                                      |            |
|--------------------------------------|------------|
| • voltage                            | 380 V ±10% |
| • frequency                          | 50 Hz ±1%  |
| • maximum absorbed current           | 230 A      |
| • main switch                        | 400 A      |
| • breaking capacity in short circuit | 40 kA      |

Safety circuit line, for main switch tripping (monophase, with earthing):

- |             |            |
|-------------|------------|
| • voltage   | 230 V ±15% |
| • frequency | 50/60 Hz   |

Connection for Teleservice:

- |  |           |
|--|-----------|
| • specific phone line, not passing through an exchange | type PSTN |
|--|-----------|

### 2.28.6 Pneumatic system

- |  |           |
|--|-----------|
| • pressure (dehumidified not-lubricated air) | 7+10 bar  |
| • consumption of the basic machine           | 80 l/min  |
| • consumption of smoothing bar (optional)    | 200 l/min |

### 2.28.7 Roller thermoregulating system

Water-based heating units (COREMA TM/JWP - 412/15):

- |   |                     |
|---|---------------------|
| • range of adjustable temperature           | 30+90 °C            |
| • pumping rate                              | 2400 l/h (at 3 bar) |
| • nominal cooling capacity of the exchanger | 15000 frig/h        |
| • nominal water flow rate for cooling       | 660 l/h (at 15 °C)  |
| • inlet pressure                            | 2+5 bar             |
| • hardness (in French degrees)              | < 15 °F             |

Cooling drums:

- |  |          |
|--|----------|
| • nominal cooling capacity (each one)  | 8 kW     |
| • nominal cooling flow rate (each one) | 2000 l/h |
| • inlet maximum pressure               | 5 bar    |
| • inlet temperature                    | 15+20 °C |
| • hardness (in French degrees)         | 9+12 °F  |
| • temperature increase (Δt)            | 4 °C     |
| • pressure drop (Δp)                   | 2.5 bar  |



**2.28.8 Hot-air drying oven**

- maximum air flow rate at oven inlet 7000 m<sup>3</sup>/h
- maximum exhaust flow rate 9000 m<sup>3</sup>/h

Heating system with GAS BURNER and proportional flow-control valve:

- fuel methane + octane
- inlet gas pressure 17.5 mbar
- burner potential 244 kW
- maximum air temperature at blower 2 150 °C

Heating system with 1 ELECTRIC-RESISTANCES battery:

- overall battery power 100 kW (in 2 steps)
- maximum air temperature at blower 1 150 °C

**2.28.9 Infrared lamp system (optional)**

System consisting of 1 series of IR lamps, supplied with fixed power:

- number of lamps (battery of blower 1) 2
- electric power of IR lamp (each one) 7 kW

**2.28.10 Vapour exhaust system**

- flow rate of exhaust fan 3000 m<sup>3</sup>/h
- acrylic filter on intake openings

**2.28.11 Corona treatment system (optional)**

- flow rate of ozone exhaust fan (each) 2000 m<sup>3</sup>/h



For the technical data of the Corona treatment and ozone elimination system, refer to the specific documentation.

**2.28.12 System for SL adhesive feed (optional)**

The mixing and metering unit for solventless adhesives, where present, must be connected to supply lines differentiated from those of the machine.



For the relevant technical data, refer to the specific documentation.



### 2.28.13 Environment conditions

- |   |          |
|---|----------|
| • transport and storage temperature                   | 1+50 °C  |
| • operation temperature                               | 10+40 °C |
| • average temperature in the 24 hours                 | ≤ 35 °C  |
| • transport and storage humidity (without condensate) | 30+95 %  |
| • operation humidity (without condensate)             | 30+95 %  |



With temperatures below 0 °C, it will be necessary to empty the circuits containing water or to adopt antifreeze solutions.

The machine must not be installed in rooms subject to corrosive vapours, splashes or dripping, or in rooms with potentially explosive atmosphere.

Moreover, it is advisable that the room is free from polluting agents or powders that could compromise the quality of the final product.

### 2.28.14 Noise

The level of maximum noise produced by the machine during processing has been measured according to the directive ISO 11202 (level measured on the control side, with the deduction of the room reverberation):

- |               |          |
|---------------|----------|
| • noise level | < 80 dBA |
|---------------|----------|

### 2.28.15 Vibrations

The level of vibrations produced by the machine, in normal conditions, is not dangerous to the operator's health.



Excessive vibrations may be caused by a mechanical fault only; they must immediately be reported and eliminated, so as not to undermine the safety of machine and operator.



2.28.16 Features of rubber-coated rollers

Roller	Nominal diameter	Minimum diameter	Type of rubber	Hardness of rubber
Laminating nip roller	165 mm	155 mm	NEOPRES BH	80+85 Sh
Coating sleeve	165 mm	157 mm	NEOPRES C	80+85 Sh
Transfer roller (SL unit)	165 mm	155 mm	POLYCOAT HP/18F	80 Sh
Metering roller (Semiflexo unit)	215 mm	213.5 mm	FLESSOTEX ME	85+90 Sh
Printing pulling nip roller	140 mm	130 mm	NEOPRES BH	80+85 Sh



The features of rubberizing (batch, dimension tolerance, crowning) are optimized according to the type of job expected. To ensure the best performances of the machine, the use of ORIGINAL spare parts is always recommended.

2.28.17 Rotogravure printing

- standard rotogravure roller development 628.3 mm (Ø 200 mm)
- usable developments 500+800 mm
- maximum error of longitudinal printing register ±2 mm (at constant speed)



When using coating rollers with shorter development than the standard one, the maximum speed obtainable from the machine is decreased.

The rotogravure rollers for printing can be made by using pre-existent sleeve-type cylinders, usually coming from other machines of the Customer. The pre-existent cylinders are assembled thanks to an adjustment kit consisting of a central shaft and two clamping cones.



To supply the adjustment kit, the Manufacturer must have all the necessary technical data (mechanical drawings of the pre-existent cylinders) at disposal in due time.



## 2.29 REFERENCE STANDARDS

The present Instruction manual has been drawn up according to the indications contained in:

- Machinery Directive 98/37/CE, enclosure I;
- EN 292/2 point 5.

The machine has been designed according to the indications contained in:

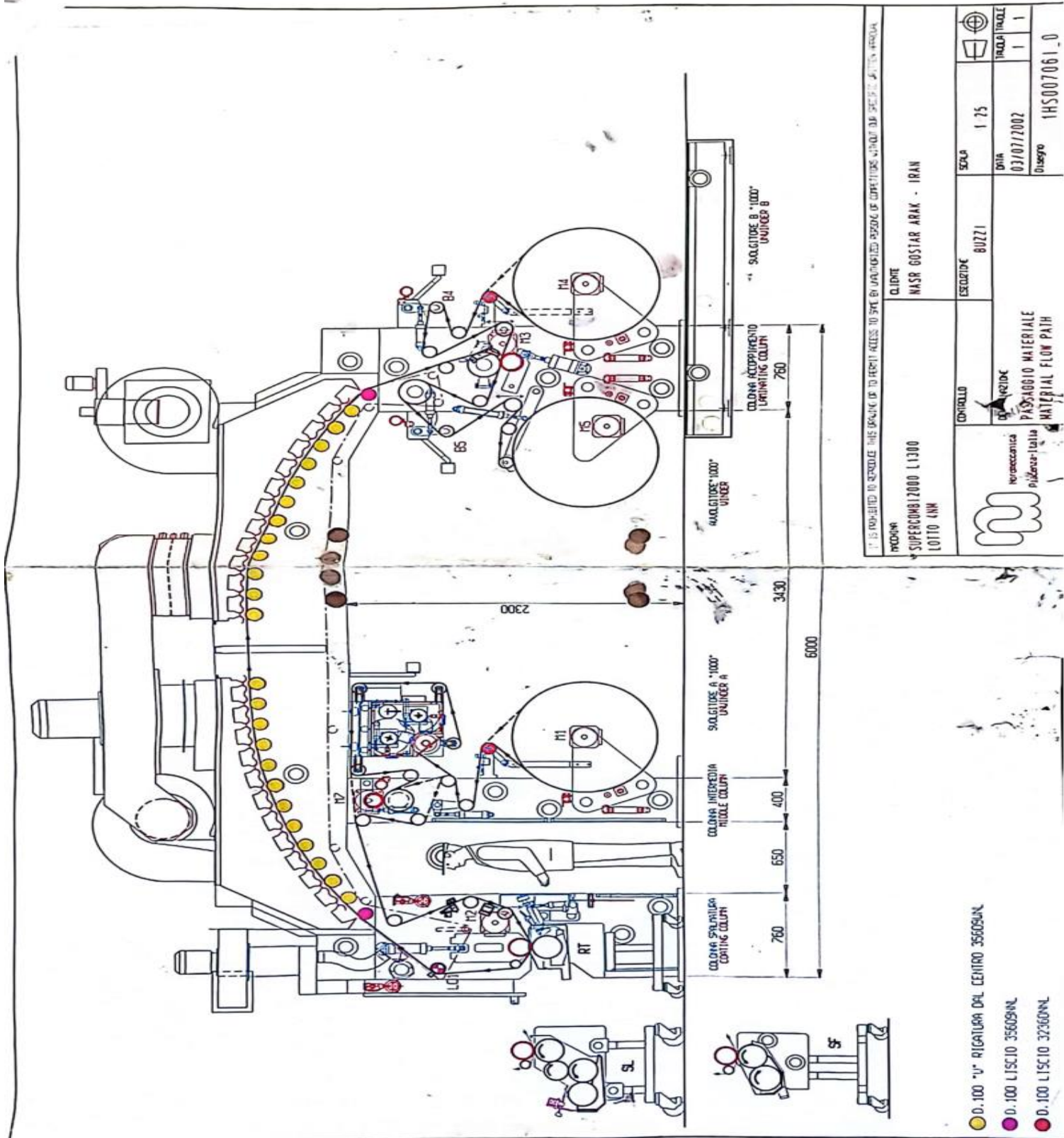
- Machinery Directive 98/37/CE;
- Low Voltage Directive 73/23/CE;
- Electromagnetic Compatibility Directive 89/336/CE;
- ATEX Directive 94/9/CE.



The directive 98/37/CE integrates and substitutes the original Machinery Directive 89/392/CE (with the relevant amendments 91/368/CE, 93/44/CE, 93/68/CE).

The technical standards taken into consideration for the design and construction of the machine are:

- EN 292-1: (1991) Safety of machinery. Basic concepts, general principles for design. Basic terminology, methodology.
- EN 292-2: (1991) Safety of machinery. Basic concepts, general principles for design. Technical principles and specifications.
- EN 418: (1992) Safety of machinery. Emergency stop equipment, functional aspects. Principles for design.
- EN 60204-1: (1998) Safety of machinery. Electrical equipment of machines - Part 1: General requirements.
- EN 50081-2, EN 50082-2; EN 61000-4-2: Electromagnetic compatibility - Generic emission standard. Generic immunity standard.
- EN 60079-10: (1996) Electrical apparatus for explosive gas atmospheres. Part 10: Classification of hazardous areas.



- D. 100 "U" RIGATERIA DAL CENTRO 3560SUN
- D. 100 LISCIO 3560SUN
- D. 100 LISCIO 32560NN

IT IS FORBIDDEN TO REPRODUCE THIS DRAWING OR TO PERMIT ACCESS TO SAME BY UNAUTHORIZED PERSONS OR CORPORATIONS WITHOUT THE SPECIFIC WRITTEN APPROVAL

PRODOTTORE SUPERCOMBI 2000 L1300 LOTTO 4NN	CLIENTE NASR GOOSTAR ARAK - IRAN	SCALA 1:25	INQUADRIAMENTO 1 1
CONTROLLO P. PASQUALETTI	ESECUTORE 80271	DATA 03/07/2002	INQUADRIAMENTO 1 1
MATERIALE PASQUALETTI MATERIALI		Disegno IHS007061_0	

AMIN CHAP

