TECHNICAL SPECIFICATIONS OF THE MACHINES

The parameters and descriptions given below define the minimal requirements which are to be met by the machinery. The parameters of the offered machines shall not be worse than those mentioned below, otherwise, the offer will be rejected.

Due to the specific technology, all the machines must be fully compatible with each other.

Characteristics of the machines making up the production line:

<table>
<tr><th>DESCRIPTION</th><th>TECHNICAL PARAMETERS AND REQUIREMENTS</th></tr>
<tr><td>I. TWIN SCREW EXTRUDER</td><td>

extruder production capacity: 300-450 kg/h
pressure and temperature control module
control panel/cabinet
automatic screen changer
fluid temperature control module
calibrating modules :
- thin and medium foams: four calibrators of adjustable diameters: 1050-1290 mm, 1250-1520 mm, 1540-1855 mm, 1900-2150 mm
- thick foams: two non-adjustable calibrators of 1100 mm and 1350 mm
density range of foam: 16-80 kg/m^3
thickness range of foam: 0.5 - 18.0 mm
plasticizing system for the twin screw extruder
close circuit water cooling system
high pressure gas supply system, max. 220 bar
foam thickness control within one die, adjustable without breaking the sheet (hydraulic regulation of the gap width or mechanical adjustment of the internal die shift)
dies and calibrators for production the following widths of foam:

<table>
<tr><th>Thin foams width range
(for foams 0.5 - 3.0 mm)</th><th>Medium foams width
(foam 3.1 - 8.0 mm)</th><th>Thick foams width range
(foam > 8.1 mm)</th></tr>
<tr><td>1000-1100 mm</td><td>1000-1100 mm</td><td>1000-1100 mm</td></tr>
<tr><td>1180-1300 mm</td><td>1200-1350 mm</td><td>1200-1350 mm</td></tr>
<tr><td>1350-1450 mm</td><td>1500-1600 mm</td><td></td></tr>
<tr><td>1550-1650 mm</td><td></td><td></td></tr>
<tr><td>1750-1900 mm</td><td></td><td></td></tr>
<tr><td>2000-2150 mm</td><td></td><td></td></tr>
</table>

CE Certification

</td></tr>
</table>

II. GRAVIMETRIC BATCH MIXING AND DOSING SYSTEM FOR 6 COMPONENTS	➢ dosing and mixing components by percentage **component 1** (LDPE granulate): 10-100% granulate size: from 1 mm to 3 mm **component 2** (GMS masterbatch): 0-5% **component 3** (talc masterbatch): 0-5% **component 4** (colour agent): 0-10% **component 5** (oxy masterbatch): 0-5% **component 6** (other, recycled): 0-60% ➢ PLC controlled system ➢ components dosed for the programmed capacity of the twin screw extruder ➢ automatic components feed system ➢ capacity of **300-450 kg/h** ➢ **CE Certification**
III. AUTOMATIC WINDER WITH S-WRAP HAUL-OFF UNIT INCLUDING IN-LINE LONGITUDINAL CUTTING UNIT	➢ winder suitable for the proposed widths and thicknesses of foam specified in section I. above ➢ max. operational width of the wound foams: **2150 mm** ➢ foam haul-off speed (linear) in the range of: **150-170 meters/min**. ➢ foam sheet tensioning module ➢ constant foam collection speed to prevent thickness differences ➢ automatic sheet cut-off, hot-melt gluing of roll cores, and starting new roll winding with two-pin winder ➢ in-line longitudinal cut unit, featuring circular cutters, capable of cutting sheet onto 3 independent stripes in-line with two haul-off systems ➢ **CE Certification**
IV. CUT-OUT UNIT FOR IRREGULAR SHAPE CUTTING	➢ vacuum table 1500 mm x 3000 mm ➢ X -Y plane motion/feed: 1500 mm x 3000 mm ➢ Z motion: 100 mm ➢ unit featuring two working heads: oscillatory pneumatic and milling cutter (24000 rpm.) ➢ 2.5 D control module ➢ vacuum pump ➢ computer ➢ **CE certification**

All the production line machines (except the irregular shape cutt-out unit) must operate basing on one operating system and must communicate with each other thus making up one system controlling the whole production line. Production parameters shall be controlled by PLCs, and they shall be stored to make a production recipe.

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Tenderer's seal/stamp and signature