



Busto Arsizio, 24/11/2016

Messrs.

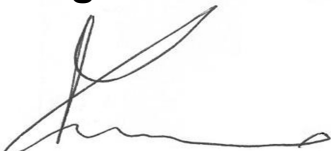
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To the kind attention of Mr. **Gary Briscoe** (Managing Director)

QUOTATION Nr. OFV_16-21147 rev.1
- LIGHT DUTY LINE 700 -
MULTI-LAYER PET RIGID FILM EXTRUSION LINE
BANDERA PATENTED SYSTEM: EP 1226 922 B1

Costruzioni Meccaniche
Luigi Bandera Spa



Gabriele Murano
PRODUCT MANAGER
FOIL & SHEET LINES

Revised Offer issued by: Gabriele Murano

Date: 24/11/2016

Signature: GM



PROCESS DATA

Final Product

Multi-layer PET rigid film for the production of thermoformed packaging products. The extrusion line can also produce C-PET, PET-G, PP, PS and PLA rigid film with slightly reduced output (no screw change required) and it is already suitable for the future application of additional “foam equipment” to produce semi-expanded products and in-line PE film lamination system.

Raw Material(s)

PET: post-consumer bottle flakes, skeleton thermoforming flakes and/or bottle pre-forms in flakes and/or virgin material in pellets

Indicative Features of the PET flakes from Post-Consumer Bottles	Value
Dimension lower than 0,6mm	0,5% max
Dimension higher than 8mm	1% max
Polyolefines residual content	25ppm max
Metallic parts residual content	20ppm max
Paper and cellulose residual content	15ppm max
Humidity residual content	0,7% max (*)
Minimum density	0,28kg/dm ³
Colour	Transparent

(*) Max value stated in UNI standards. Over that limit the final product quality level cannot be ensured, but the line can manufacture material with a humidity value of 1,2% max.

Layer Composition and Structures

Structures achievable processing PET rigid film: ABA

Layer A: virgin raw material in pellets with **TR65 35D single screw extruder**

Layer B: regrind material in flakes (up to 100%) and/or virgin material in pellets (up to 100%) with co-rotating **twin screw extruder 2C70 52D**

Indicative Extruders Output (tolerances ±10%)

Raw Material(s)	2C70 52D Layer B	TR65 35D Layer A
PET	600 kg/h	150 kg/h

All the AM data related to the extrusion equipment are obtainable with no-need of raw material pre-treatments (dehumidifier, crystallizer, etc.)



PROCESS DATA

Thickness Range

0,18mm ÷ 1,20mm processing PET rigid film (either single or multi-layer structure)

Net Width of the Foil

Up to max. 1100mm

The width of the film is reducible up to 600mm by using extrusion die deckling system
Calender roll stack and extrusion die nominal width: 1400mm

PET Line Throughput in co-extrusion (A-B-A as 10% - 80% - 10%)

Width of the sheet: 1000mm

Thickness	Throughput (±5%)	Layer B blend / materials
0,18mm ÷ 0,21mm	550 kg/h	30% virgin + 40% post-consumer bottle flakes + 30% thermoforming skeleton flakes
0,22mm ÷ 0,29mm	620Kg/h	20% virgin + 50% post-consumer bottle flakes + 30% thermoforming skeleton flakes
0,30mm ÷ 0,52mm	700Kg/h	40% post-consumer bottle flakes + 60% thermoforming skeleton flakes
0,53mm ÷ 0,65mm	640Kg/h	60% post-consumer bottle flakes + 40% thermoforming skeleton flakes
0,66mm ÷ 0,90mm	580Kg/h	70% post-consumer bottle flakes + 30% thermoforming skeleton flakes
0,91mm ÷ 1,00mm	530Kg/h	30% virgin + 40% post-consumer bottle flakes + 30% thermoforming skeleton flakes
1,01mm ÷ 1,20mm	500Kg/h	40% virgin + 40% post-consumer bottle flakes + 20% thermoforming skeleton flakes

The quality (purity / cleanness) and the characteristics (initial I.V.) of the regrind / recycled raw material(s) (post-consumer bottle flakes and thermoforming skeleton flakes) are fundamental to obtain the appropriate quality of the sheet for all the range of thicknesses and gross production output.

Basic Line Technical Data (Preliminary)

Mains Voltage: 400V – 50Hz (3 phases + N loadable + PE)

Heating Voltage: 240V (balanced on the 3 phases)

Control circuits / auxiliaries Voltage: 24V DC

Equipment colour: white RAL9001

Electrical devices colour: grey RAL7035

Safety protections: yellow RAL1004



TECHNICAL DESCRIPTION OF THE EQUIPMENT

Pos.	Q.ty	Description	Price (€)
1.00	1	<p>Nr.4 COMPONENTS (2+2) RAW MATERIAL HANDLING CONVEYING SYSTEM TO THE DOSING SYSTEM</p> <p>Main extrusion equipment</p> <p>Nr.2 pneumatic feeder(s) positioned above the relevant re-fill hopper(s) of the extruder dosing system, sized up to 100% of the total extruder output</p> <p>Nr.2 pneumatic feeder(s) positioned above the relevant re-fill hopper(s) of the extruder dosing system, sized up to 10% of the total extruder output</p> <p>Nr.2 stainless steel storing hopper(s) (100 litres capacity) for additive / master-batch in pellets</p> <p>Complete with vacuum (suction) pump (one single suction system to service both extruders may be used according to process requirement), required filters and vacuum piping kit</p> <p>Flexible raw material piping kit included for a max distance from the dosing device of 15mts (mechanical arrangements required and installation at Customer care)</p>	
2.00	1	<p>Nr.4 COMPONENTS (2+2) RAW MATERIAL DOSING SYSTEM FOR CO-ROTATING TWIN SCREW EXTRUDER</p> <p>Nr.2 gravimetric loss-in-weight dosing device(s) (10%÷100% of the extruder output) suitable for both regrind material in flakes and/or virgin material in pellets</p> <p>It is suggested the use of minimum 2 main dosing devices to achieve the maximum accuracy of the process and the best performance of the equipment</p> <p>High Temperature kit applied for the main material dosing device(s)</p> <p>Nr.2 gravimetric loss-in-weight dosing device(s) (1%÷10% of the extruder output) for additives / masterbatch in pellets</p> <p>Each dosing device includes a feeding hopper (refill hopper positioned above the dosing unit) equipped with min-max level sensors and relevant valves for the integration with the raw material handling conveying system</p> <p>Each dosing device includes weighing hopper and vibrating chute with load cell for continuous dosing</p> <p>Feeding hopper to the extruder with magnetic grill to detect metal parts contaminating the raw material</p> <p>Each vibrating chute and the feeding hopper are covered by appropriate lids to avoid dust creation</p>	



Pos.	Q.ty	Description	Price (€)
		<p>DOSING SYSTEM ELECTRICAL POWER CABINET Positioned on platform, near-by the dosing equipment Power supplied by the main electrical power cabinet Electrical cabinet and PLC control system with visualization and management of the parameters integrated into the main Bandera touch-screen panel</p>	
2.10	1	<p>FEEDING AND DOSING SYSTEMS SUPPORT FRAMES Multi-floor support structure frame sized and designed to support the dosing system including Operator's platform for maintenance and inspection of both the dosing system and the raw material conveying equipment (top feeders) Complete with appropriated stairways, handrails and Operator protection / safety devices</p>	
3.00	1	<p>COROTATING TWIN SCREW EXTRUDER 2C70 mm 52D AIR Screws diameter 70 mm Barrel L\D 52 Installed on proper steel frame basement (placed on rails) GEARBOX Direct transmission motor-gearbox with torque limiting device, mechanical joint and axial roller bearing Forced oil lubrication with dedicate thermoregulation unit EXTRUSION BARREL Consisting of 6 nitrided steel sectors (special low wear alloy) with main vertical feeder, one atmosphere venting port and two under vacuum degassing stacks Heating through electric ceramic resistances with nr.14 thermoregulation zones Specially designed air cooling system with properly sized conveyor fans and high efficiency air circuit EXTRUSION SCREWS Consisting of interchangeable segments (nitrided steel execution with special low wear alloy) installed on broached shafts; screws profile includes transport segments, mixing elements (paddles) and degassing-conveying segments Screws are parallel, co-rotating, intermeshing, self-cleaning Screws geometry is specially designed to achieve a very mild process condition avoiding the melt stress and for improving the final product characteristics MOTORIZATION AC motor 200 kW (1500 rpm) with relevant AC drive (inverter)</p>	



Pos.	Q.ty	Description	Price (€)
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Complete with melt temperature and pressure control device positioned after the equipment

3.10	1	EXTRUDER SUPPORTING STRUCTURE	
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Structure frame sized and designed to support the extrusion equipment including lateral corridor(s) for the operator maintenance and inspection, complete with stairways, handrails and operator protection devices

4.00	1	HIGH-VACUUM VENTING DEVICE FOR CO-ROTATING TWIN SCREW EXTRUDER	
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Innovative high venting vacuum unit for degassing and purification process, composed of:

Nr.1 natural vent port with suction hood (fumes suction system at Customer care)

Nr.2 thermo-regulated under-vacuum degassing stacks through cartridge (candle) heaters

Nr.2 intermediate vacuum condensers (internal circuit designed by Bandera) composed of chilled cylinders that allow a robust purification of the substances coming from extruder degassing stacks

Collecting tank for the contaminated water (positioned under the condensers) equipped with inspection window and manual discharging device through lever; by-pass system to allow the cleaning operation of the tank

Enhanced water quality in order to improve water ring pump life and efficiency

Nr.2 high efficiency vacuum pumps (liquid ring type) manufactured in stainless steel

Digital and analogical visualization of the residual vacuum level for both vacuum positions (on the venting stacks and on the operator touch-screen panel)

System is equipped with relevant heat exchangers for the water cooling; chilled water (10°C ÷ 12 °C) required by the equipment to be provided by the customer

Water tank for the whole system functioning complete with suction hood placed on the top side for fumes evacuation (suction system at Customer care)

Additional overflow tank for contaminated water

5.00	1	BACK-FLUSH SUPERFILTRATION SYSTEM 4/101 FOR CONTINUOUS OPERATION	
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Pos.	Q.ty	Description	Price (€)
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Sized as per Bandera extruder requirement
 It includes nr.4 screening plates Ø101 mm located on nr.2 carrier pistons for a continuous filtration of the melt
 Total filtration area 291 cm²
 Continuous screen changer with no production stop during mesh cleaning operation by backflush or mesh replacing
 Minimum influence on downstream process thanks to the lowest pressure fluctuations during back-flushing and screen changing: the total screen area that remains active even during back-flushing and screen changing allows high performance even with sensitive downstream process
 Back purging can be activated completely automatically reducing operator engagement
 Complete with connection flanges, equipment mechanical structure frame appropriately sized and designed (steel welded frame having high rigidity design to support and to recover the thermic elongation) and relevant operator touch-screen panel for the equipment management and control
 Hydraulic power unit and PLC control system with dedicated touch-screen operator panel; the main process parameters are integrated on Bandera touch-screen operator panel
Complete with melt pressure control device positioned after the equipment

6.00	1	MELT GEAR PUMP 275	
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Sized as per Bandera extruder requirement
 Complete with mechanical connection flanges
 Steel frame with cartridge heater
 Universal joint shaft
 AC motor with relevant AC drive (inverter)
 Remote control and management of the system integrated into the main Bandera touch-screen panel
 Thanks to its precise construction, the equipment ensures an accurate volumetric metering: it provides a constant pressure and volume of the melt to the extrusion die reducing scraps and improving the management of the whole process
 Complete with equipment mechanical structure frame appropriately sized and designed (steel welded frame having high rigidity design to support and to recover the thermic elongation)
Complete with melt pressure control device positioned after the equipment



Pos.	Q.ty	Description	Price (€)
7.00	1	<p>MELT CONVEYING PIPES</p> <p>Connection pipes from the extrusion equipment to the feedblock or the extrusion die Precise thermoregulation of the melt through band heaters and specially designed cartridge (candle) heaters Complete with static mixer for melt temperature homogenization and colour masterbatch dispersion Complete with melt pressure control device positioned after the equipment</p>	
8.00	1	<p>Nr.3 COMPONENTS (1+2) RAW MATERIAL HANDLING CONVEYING SYSTEM TO THE DOSING SYSTEM</p> <p>Nr.1 pneumatic feeder(s) positioned above each re-fill hopper of the extruder dosing device, sized up to 100% of the total extruder output Nr.2 pneumatic feeder(s) positioned above the relevant re-fill hopper(s) of the extruder dosing system, sized up to 10% of the total extruder output Complete with vacuum (suction) pump (one single suction system to service both extruders may be used according to process requirement), required filters and vacuum piping kit Flexible raw material piping kit included for a max distance from the dosing device of 15mts (mechanical arrangements required and installation at Customer care)</p>	
9.00	1	<p>Nr.3 COMPONENTS (1+2) DOSING SYSTEM FOR SINGLE SCREW EXTRUDER</p> <p>Gravimetric dosing system, batch type, up to 4 components sized as per Bandera extruder requirement Nr.1 gravimetric dosing device(s) (10%÷100% of the extruder output) suitable for virgin material in pellets High Temperature kit applied for the main material dosing device(s) Nr.3 gravimetric dosing device(s) (1%÷10% of the extruder output) for additives / master-batch in pellets Each dosing device includes a feeding hopper (re-fill hopper positioned above the dosing unit) equipped with min-max level sensors and relevant valves for the integration with the raw material handling conveying system Intermediate pre-blending hopper receiving the raw materials from the batch dosing devices and delivering it to the gravimetric loss-in-weight hopper Gravimetric loss-in-weight hopper for the continuous and</p>	



Pos.	Q.ty	Description	Price (€)
		<p>immediate measuring of the extruder output The control and management of the system are integrated into the main Bandera touch-screen panel</p>	
10.00	1	<p>SINGLE SCREW EXTRUDER TR65 35D Screw diameter 65 mm Barrel L\D 35 GEARBOX Motor-gearbox direct transmission by mechanical joint Forced oil lubrication with dedicate thermoregulation unit FEEDING ZONE Under-hopper rifled bush with water cooling circuit (diathermic oil thermoregulation and relevant power pack as optional) EXTRUSION BARREL Nitrided steel execution (low wear alloy) Heating by high efficiency ceramic resistances Cooling action by electrical fans Nr.5 thermoregulation zones controlled EXTRUSION SCREW Nitrided steel execution (low wear alloy) MOTOR AC motor 75 kW (1500 rpm) with relevant AC drive (inverter) Complete with melt temperature and pressure control device positioned after the equipment</p>	
11.00	1	<p>MANUAL LEVER FILTERING SYSTEM Sized as per Bandera extruder requirement It includes 2 screening plates Ø65mm (one in working position, the other one in stand-by) located on a manually operated lever Complete with melt pressure control device positioned after the equipment</p>	
12.00	1	<p>MELT GEAR PUMP 183 Sized as per Bandera extruder requirement Complete with mechanical connection flanges Steel frame with cartridge heater Universal joint shaft AC motor with relevant AC drive (inverter) Remote control and management of the system integrated into the main Bandera touch-screen panel</p>	



Pos.	Q.ty	Description	Price (€)
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Thanks to its precise construction, the equipment ensures an accurate volumetric metering: it provides a constant pressure and volume of the melt to the extrusion die reducing scraps and improving the management of the whole process

Complete with equipment mechanical structure frame appropriately sized and designed (steel welded frame having high rigidity design to support and to recover the thermic elongation)

Complete with melt pressure control device positioned after the equipment

13.00	1	<p>MELT CONVEYING PIPES</p> <p>Connection pipes from the extrusion equipment to the feedblock or the extrusion die</p> <p>Precise thermoregulation of the melt through band heaters and specially designed cartridge (candle) heaters</p> <p>Complete with static mixer for melt temperature homogenization and colour masterbatch dispersion</p> <p>Complete with melt pressure control device positioned after the equipment</p>	
14.00	1	<p>EXTRUSION DIE EQUIPMENT SUPPORT FRAME</p> <p>Structure frame sized and designed to support the extrusion die equipment, suitable for extrusion lines with horizontal roll stack calender configuration; steel welded frame</p> <p>High rigidity design to support and to recover the thermic elongation of the various accessories</p> <p>Remote electrical cabinet for thermoregulation components</p>	
15.00	1	<p>FEEDBLOCK FOR MELT DISTRIBUTION</p> <p>Suitable for rigid film extrusion lines with maximum 3 layers structure (2 extruders)</p> <p>Stainless steel block with interchangeable cartridge (selector plug), equipped with appropriate metering valves for the melt flow of the skin layer(s)</p> <p>Additional valve for the melt distribution of the skin layer(s) along the width of the sheet (sides or centre orientation)</p> <p>Surfaces in contact with the melt are mirror polished</p> <p>Thanks to its design and manufacturing accuracy, feedblock guarantees optimal quality in terms of layers distribution</p> <p>Precise thermoregulation of the melt through specially designed cartridge (candle) heaters</p>	



Pos.	Q.ty	Description	Price (€)
		Nr.1 SELECTOR PLUG Mechanical insert (cartridge) for feedblock to modify the sheet structure, suitable for 3 layers configuration Structure of the sheet: A-B-A	
16.00	1	SINGLE MANIFOLD FLAT DIE 1400 Stainless steel execution, particularly designed for high quality sheet production to ensure excellent efficiency and high level extrusion quality Surfaces in contact with the melt are mirror polished With no melt flow distribution (chocker) bar Particular designed plate and cartridge heaters installed on the die body to achieve an ideal melt thermoregulation Nominal width of the die (lip slot): 1400mm Max net width of the sheet: 1100mm Manual internal deckling system for reducing easily and quickly the width of the film Manual internal deckling systems is complete with external mechanical support, specially designed sealing gaskets required and anti-leak arrangements Flexible upper lip adjustable through dedicated bolts; extrusion die bolts are numbered and readable at die adjusting location Fixed lower lip Special angle for the die lips for a closer extrusion die / calender nip approach, optimizing process performances Lips are thermoregulated through special designed cartridge (candle) heaters	
16.10	1	SUCTION HOOD FOR FUMES EVACUATION Positioned above the extrusion die equipment, installed on longitudinal rails on the supporting structure Suction system at Customer care	
17.00	1	COOLING AND POLISHING ROLL STACK CALENDER LIGHT-DUTY-LINE PET Horizontal configuration – 3 rolls Inlet (first) roll: Ø350mm Roll designed with internal spiral cooling circuit specially designed for improving both the cooling capacity and the mechanical characteristics Middle (second) roll: Ø600mm Roll designed with internal spiral cooling circuit specially	



Pos.	Q.ty	Description	Price (€)
		<p>designed for improving both the cooling capacity and the mechanical characteristics</p> <p>Outlet (third) roll: Ø350mm</p> <p>Roll designed with internal spiral cooling circuit specially designed for improving both the cooling capacity and the mechanical characteristics (interchangeable with the first roll)</p> <p>Width of the roll: 1400mm</p> <p>Chrome plated surface having thickness 150µm and roughness RA 0,0069µm</p> <p>Hard material under the chrome: 4mm – 55HRC</p> <p>Rolls are thermo-regulated through dedicated hydraulic stations. Temperature tolerance on the roller: ± 0,5°C</p> <p>Rolls are operated by hydraulic circuit (oil station); calendering pressure adjustable from the main control desk</p> <p>Roll gap adjustment (nr.4 positions) through mechanical wedges managed by dedicated AC motor and linear potentiometer</p> <p>Independent rolls AC motorization with AC drive (inverter)</p> <p>Transmission made by specially designed gearboxes to minimize vibrations issue</p> <p>AC motorization with inverter for both the calender longitudinal movement on rails and the calender up & down movement (height regulation)</p> <p>Load cell positioned at the exit of the calender stack frame for sheet tension control and downstream synchronization</p>	
17.10	1	<p>SET OF ANTI-ELECTROSTATIC BARS</p> <p>Positioned at the exit of calender roll stack frame</p> <p>Power generator included</p>	
18.00	1	<p>ROLL THERMOREGULATION UNIT</p> <p>Fluid provided: water</p> <p>Nr. 3 module(s) controlled, one for each calender roll</p> <p>Conditioning system through electrical heaters / mixing motorized valves</p> <p>Thermoregulation unit(s) require chilled water (10°C) at 2,5bar pressure (at Customer care)</p> <p>Rigid and flexible hoses included for a maximum distance of 5mts from the equipment</p>	
19.00	1	<p>FILM THICKNESS MEASURING DEVICE</p> <p>Thickness gauge system for the film through air cushion measuring sensor</p>	



Pos.	Q.ty	Description	Price (€)
		Width of the equipment: 1300mm Direct measurement of the sheet thickness in micron Suitable for flexible and rigid material, transparent and coloured products, matt and slightly embossed surfaces Mechanical support frame for the equipment Electrical cabinet and industrial PC (process results & parameters historical report) with printer Complete with mechanical arrangement and electrical control equipment required SET OF ANTI-ELECTROSTATIC BARS To be positioned at the entrance of thickness measuring system; power generator included	
20.00	1	HAUL-OFF, SILICON COATING DEVICE AND DRYER Haul-off and silicon coater are combined in a unique frame Electrical control panel placed on board of the equipment Remote control and management of the system integrated into the main Bandera touch-screen panel Width of the equipment: 1300mm SILICON COATING DEVICE Complete with 4 idle rolls Ø200mm Neoprene rubber coated for the silicon distribution on the sheet surface (each side or both sides of the sheet) Silicon tank in stainless steel execution Flow dosing pump with silicon flowing device Vertical or horizontal drying equipment with fans and heating battery having variable power HAUL-OFF SYSTEM Nr.2 haul-off rolls Ø200mm Neoprene rubber coated Pneumatic opening of the top roll AC motor with relevant AC drive (inverter)	
21.00		LONGITUDINAL CUTTING UNIT / SLITTER The system is placed before the winding system Nr. 2 cutting positions for the film edges cutting operation The cutting system is installed on appropriate mechanical support to allow an easier and quicker handling and maintenance procedure for the operators The cutting system is equipped with contemporary blade / counter-blade movement and suitable for the whole sheet thickness range Counter-blades and relevant supports are reinforced Manual positioning of rotating blades / counter-blades through	



Pos.	Q.ty	Description	Price (€)
		<p>hand-wheel (placed near-by the structure) Upper blade movement through pneumatic system Cutting systems to be able to arrive up to the edge of the structure frame Auto-opening of blades and counter-blades in case of any line emergency stop activated</p>	
22.00	1	<p>GRINDING UNIT FOR EDGE TRIMS Suitable for the whole sheet thickness range No.2 feeding entrance for the sheet edges with independent haul-off / nip-roll system; max edge width 150mm Max. output 70kg/h Conveyor fan for regrind material (AC motorization) for a max distance of 25mts Rigid piping kit to convey and discharge the reground material through the air diverting cyclone (for powder separation, included) to the big-bag support structure (included) Sound-proofing box included</p>	
23.00	1	<p>CANTILEVER WINDING SYSTEM ACCUMULATOR Accumulator double rack pneumatic driven to slow down line speed during reel(s) changing operations Stock capacity as per linear speed or process requirement Anodized aluminium rolls with low friction bearings to avoid film-scratching issue SET OF ANTISTATIC BARS Positioned at the winding system entrance Power generator included HAUL-OFF Nr. 2 Neoprene rubber coated rolls installed above the winding positions Width of the equipment: 1300mm Pneumatic system for open/close movement AC motor with relevant AC drive (inverter) Dandy roll for winding synchronization TRANSVERSAL CUTTING AND THREADING Manual sheet cutting and threading operation on the carton core of the stand-by winding position when reel changing procedure occurs; carton cores to be pre-arranged with adhesive tape WINDING GROUP Nr. 2 cantilever winding positions: nr.1 in working condition,</p>	



Pos.	Q.ty	Description	Price (€)
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nr.1 in stand-by position
 Winding system is suitable to host both 3" and 6" diameter
 pneumatic expandable winding shafts
 Max width of the reel: 1100mm
 AC motorization with relevant AC drive (inverter)
 Winding system is designed with special pneumatic tension
 controls (pulling force) and idle guiding rolls to minimize the
 sheet breaking issue
TECHNICAL DATA
 Width of the equipment: 1300mm
 Max windable film width: 1100mm
 Max weight of the reel(s): 1200Kg
WINDING SHAFTS SET
 Nr. 2 pneumatic expandable winding shafts 6"
 Max diam. 1000mm (single reel)
 Nr. 2 pneumatic expandable winding shafts 3"
 Max diam. 700mm (single reel)
REEL EJECTION
 Pneumatic extractor pneumatically operated
 Manual reel support trolley complete with pneumatic lifting
 device to hold up correctly the final reel
ELECTRICAL POWER AND CONTROL CABINET
 Positioned near-by the winding system
 Electrical cabinet and operator panel placed near by the
 winding station
 Profinet connection to the main operator touch-screen control
 desk (visualization of parameters and alarms)

22.00 1 POWER AND CONTROL SECTION

GENERAL MAIN POWER CABINET

The electrical power cabinets include the AC drive(s)
 (inverters) for all the motors of the equipment, the CPU of the
 line (PLC Siemens S7-300 usually supplied) and the
 automatic switch(es) properly sized for the total installed
 power of the equipment

The electrical devices are connected with the CPU via
 Profinet circuit; the visualization and the management of the
 status, parameters and alarms of the electrical devices are
 made on the Operator control desk

The electrical power cabinets are cooled by fans and
 equipped with anti-powder filters

IP43 protection

THERMOREGULATIONS SYSTEM

The thermoregulation devices are located inside remote



Pos.	Q.ty	Description	Price (€)
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terminal box(es) installed on board of the equipment; each terminal box contains remote I/O the for management of the equipment thermoregulation (Solid Static Relays – SSR - and relevant heat-dissipator with external threading)

Each thermoregulation box is connected to the main electrical power cabinet with power feeding cable and Profinet cable IP43 protection

GENERAL CONTROL SYSTEM OF THE LINE

The line control desk is installed on a moveable trolley positioned close by the calender roll stack / extrusion die location and includes an operator touch-screen panel 15” for the whole line supervision

Complete with relevant printer for process data report and serial UPS protection for the network holes

The terminal and the drives are connected with the line PLC

The line CPU and the modem for remote assistance are located in the main electrical power cabinet

Independent air-air conditioning system installed for the control desk cooling

IP54 protection

OPERATOR TOUCH-SCREEN PANEL FEATURES

Nr.2 USB port, no.1 RS422/485 port

Profinet interface

Operative system: Windows CE 6.0

The software of the operator touch-screen panel is developed by Bandera for the visualization and management of all the line parameters (equipment included in the supply):

- gravimetric dosing system(s)
- extrusion equipment (motorization and thermoregulation)
- filtering system(s) (thermoregulation)
- melt gear pump(s) (motorization and thermoregulation)
- extrusion die and feed-block (thermoregulation)
- calender roll stack (motorization and thermoregulation)
- haul-off and downstream equipment (visualization only)
- equipment pre-heating (programmable)
- maintenance program
- reports and recipes printing

PLC: standard PLC installed: Siemens S7-300

REMOTE MODEM ASSISTANCE

For 12 (twelve) months from the date of start-up at Customer site; Customer to provide a dedicated separate telephone line for modem and/or internet connection at the electrical cabinet area

CABLES, RAILS, CABLING



Pos.	Q.ty	Description	Price (€)
		<p>Power cabinets close to the equipment</p> <p>Standard supply: electrical cables on aerial raceways (from equipment to main electrical cabinet and from cabinet to line control desk) as per relevant layout to be counter-signed</p> <p>Profinet cables run in a separate conduit for protection</p> <p>TECHNICAL NOTES</p> <p>The power feeding line(s) for the ancillary equipment as the water chiller, sheet-stacking unit, raw material feeding system, grinder and for any other accessory must be directly connected from the Customer to each of the utilities: the power feeding lines and the relative protections required are not included in Bandera's electrical cabinets.</p> <p>In any case, each modification and/or upgrade required by the Customer will be evaluated by Bandera technical dept. and separately quoted and specified</p>	
23.00	1	<p>TESTS AT BANDERA FACTORY</p> <p>Electrical dry test of the equipment</p> <p>In-line positioning and nr.2 wet acceptance tests before the dispatch of the line</p>	
17.00	1	<p>INSTALLATION, ASSEMBLING & START-UP SERVICE</p> <p>Unloading and in-line positioning of the single components at Customer care. Customer (or its subcontractor) will provide:</p> <ul style="list-style-type: none"> - Nr.2 skilled mechanical engineers for the mechanical installation - Nr. 2 skilled electrical engineers for the electrical cables lay-up / wiring - General manpower required according to the workload and to operate customer's equipment (forklift, cranes, etc.) - Tools to lift equipment parts as per instruction on weight received by Bandera <p>Bandera assistance includes:</p> <ul style="list-style-type: none"> - Supervision for the equipment alignment - Execution of mechanical assembling and final fixing on the floor with the aim of the Client customer above specified - Supervision for the electrical cables lay-up - Execution of final cable connection - Electrical dry test - Commissioning and wet extrusion test related to contract acceptance protocol trials (max 2 trials 4hours each) with only preliminary training (basic procedures on how to operate the line) – any extra trials not related to the line 	



Pos.	Q.ty	Description	Price (€)
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acceptance must be carried out at the Client charge with the relative costs and responsibility

- The job of Bandera staff is limited to the scope of supply and relevant battery limits and it is not involving any operation on client utilities network

Estimated time for the line commissioning: 70 days-man

Bandera technicians work 5 days per week (Monday – Friday) for max 10 hours per day and Saturday for max 5 hours

Transfer Indemnity, any travel costs and board & lodging for Bandera Technicians are at Bandera complete care and charge (all inclusive)

Bandera Service Team will ask for info regarding closest airport to the factory and possible hotels available

Notes

a) The utilities required by the extrusion line such as electrical power, chilled and standard water, pneumatic air and raw materials shall be available at the line arrival by officially informing in advance Bandera with a specific note including pictures of the factory ready to receive the goods

b) Any day of inactivity of the Bandera technicians (including waiting days), reported by a dedicated countersigned protocol by Bandera service engineer and Client personnel, clearly specified as beyond Bandera responsibility, will be directly invoiced at the fixed “all inclusive” rate of 1.200 - € / day-man; in case such inactivity of Bandera personnel would influence by delaying the time estimated for the technical service, this would be at sole responsibility and care of the Client and the effects will be evaluated by Contract clauses

C) Any request for deep or intensive training must be quoted apart and it will be subject to a separate order from the customer to Bandera

TOTAL PRICE OF THE LINE

1.676.100,- Euro

Price is FCA Busto Arsizio, (ITALY)
 according to Incoterms 2010

**SPECIAL PRICE OF THE LINE
 RESERVED TO MISTER BLISTER**

1.498.700,- Euro



ITEMS INCLUDED IN THE SCOPE OF SUPPLY

Layout of the complete line including indications of the connection points to the utilities and details regarding the foundations

Supply of nr.2 copies of instruction and maintenance manual, according to CEE rules, in English language and/or in the language of country destination

Line safety devices as per relevant CEE regulation applied as standard Bandera configuration for foil / sheet extrusion process
Any specific request by the Customer client is to be quoted separately.

Supply of suggested **spare parts list**; a preliminary one will be delivered to the Customer within 30 days from the equipment dispatch from Bandera factory

Adequate **packing** for the equipment dispatch according to the terms of delivery

Tests at Bandera factory

Electrical dry test of the equipment

In-line positioning and nr.2 wet acceptance tests before the dispatch of the line



OPTIONAL ITEMS

Pos.	Q.ty	Description	Price (€)
A.00	1	BIG-BAG SUPPORT STRUCTURE AND STAINLESS STEEL STORING HOPPER Nr.1 big-bag support structure(s) suitable for regrind material in flakes and/or virgin material in pellets Nr.1 stainless steel storing hopper(s) (350 litres capacity) positioned below the big-bag, equipped with vibrating device and low level sensor	5.500
B.00	1	VACUUM VENTING SYSTEM UPGRADE Additional equipment installed in stand-by for allowing an easier and faster maintenance operations keeping the highest process performances: - Nr.2 intermediate vacuum condensers - Nr.1 water-ring pump	31.100
C.00	1	MELT PIPES THERMIC INSULATION SYSTEM Specially designed thermic proofing pillows to insulate the melt pipes for improving the energy efficiency of the line	17.500
D.00	1	SUPPORT CRADLES FOR EXTRUSION DIE "V" shape cradle placed on wheels and pneumatically operated (up&down movement) for allowing an easier and faster installation & dismantling operations of the extrusion die equipment	12.000
E.00	1	PURGING MATERIAL TROLLEY Trolley on wheels with stainless steel tank (equipped with tilting device) for containing the melt coming from the die purging operation before the line start-up	5.200
F.00	1	DIE SPLITTER ASSEMBLY Die Splitting Assembly option is provided for the separation of the die body in two halves, to facilitate the cleaning operation of the internal surfaces of the extrusion die Heavy Duty weldment construction; precision machined for squareness and alignment where required	23.000



Pos.	Q.ty	Description	Price (€)
G.00	1	<p>CLEANING SYSTEM FOR CALENDER INLET ROLL</p> <p>System is designed by Bandera to clean efficiently the inlet roll of the calender through a sliding trolley installed on a transversal rail; trolley is equipped with a rotating brush and relevant safety protections required</p> <p>AC motorization with relevant AC drive (inverter) for both the brush rotation and the transversal movement</p> <p>Complete with the required mechanical supports and electrical connections for the installation on the Bandera calender roll stack</p> <p>The cleaning / replacing of the brush shall be carried out when the line is not in running conditions (safety reasons)</p>	16.000
H.00	1	<p>CLEANING SYSTEM FOR CALENDER MIDDLE ROLL</p> <p>System is designed by Bandera to clean efficiently the middle roll of the calender through a sliding trolley installed on a transversal rail; trolley is equipped with a rotating brush and relevant safety protections required</p> <p>AC motorization with relevant AC drive (inverter) for both the brush rotation and the transversal movement</p> <p>Complete with the required mechanical supports and electrical connections for the installation on the Bandera calender roll stack</p> <p>Rail will be long enough to allow an easy and fast replacement of the brush in contact with the roll surface outside the working area (safety reasons)</p>	18.000
I.00	1	<p>FILM LAMINATION SYSTEM</p> <p>Original Bandera design for pressure roll lamination system</p> <p>Width of the equipment: 1300mm</p> <p>Lamination film unwinding systems placed on transversal rails in front of the calender roll stack and equipped with special pneumatic brakes for film tension control</p> <p>Specially designed film guiding rolls installed at the entrance and under the calender roll stack with banana roll, flattening rolls and dandy roll for film tension control</p> <p>Rubber-silicon coated lamination roll positioned under the calender stack middle roll</p> <p>The lamination roll is AC motorized (with relevant AC drive) and independently thermoregulated by diathermic oil thermoregulation device</p> <p>Complete with mechanical arrangement and electrical control equipment required</p>	51.400



Pos.	Q.ty	Description	Price (€)
L.00	1	EDGES WINDING SYSTEM Nr.2 winding systems for the collection of the sheet edges trimmed at the longitudinal cutting system Max width of the sheet edge: 150mm AC motorization and relevant push button panel Automatic stop of the winder in case of any line emergency stop activated	12.500
M.00	1	TRANSVERSAL CUTTING SYSTEM AT THE WINDER Film transversal cutting system pneumatically operated, positioned at the winder after the haul-off rolls	4.400
N.00	1	4 POSITIONS (2+2) WINDING SYSTEM Complete system including: <ul style="list-style-type: none"> - Nr.2 haul-off systems placed above the winding positions - Transversal cutting system pneumatically operated - 4 cantilever winding position (2 working + 2 in stand-by) - Nr.4 pneumatic expandable winding shaft 3" diameter - Nr.4 pneumatic expandable winding shaft 6" diameter 	Price gap 78.500
O.00	1	"WATER-AIR" CONDITIONING SYSTEM FOR ELECTRICAL POWER CABINETS Water-air conditioning system through heat exchanger(s) installed on the side and / or on the top of the electrical power cabinet(s). Heat exchangers require chilled water (18 °C ÷ 20 °C) to be provided by the Customer All electrical power cabinets having IP54 protection	14.500
P.00	1	"AIR-AIR" CONDITIONING SYSTEM FOR ELECTRICAL POWER CABINETS Independent air-air conditioning system(s) installed on the side and/or on the top of the electrical power cabinet(s) All electrical power cabinets having IP54 protection	24.200



ITEMS NOT INCLUDED IN THE SCOPE OF SUPPLY

WORKS FOR INDUSTRIAL BUILDING including foundations for machinery, underground pipes, trench duct for services, support platform either steel or cement, etc.

MACHINERY EARTHING, FIRE FIGHTING SYSTEM

CIVIL WORKS FOR OFFICES, SERVICES, including lighting system, heating, conditioning, drinkable water, discharge, electricity, soundproofing system.

TRANSFORMER ELECTRICAL CABINET AND CONNECTIONS TO OUR POWER CABINETS

PIPES FOR INDUSTRIAL WATER, up to one or more points barycentre to utilities, arriving to one or more panels for distribution with gates for each deviation.

AIR COMPRESSOR AND RELATIVE PIPES UPSTREAM OUR DISTRIBUTION PANELS

CARPENTRY such as service platforms, safety protections, different materials not included in the supply or as modification requested.

LIFTING AND INDOOR-OUTDOOR TRANSPORTATION SUPPLY either for discharging, or for assembling, or for moving finished products, even considering manpower.

ACCESSORY EQUIPMENTS: pre-treatment (drying and/or dehumidifying) of raw materials, raw materials mixing, granulating and/or grinding scraps off-line, marking or printing machines, etc.

FILTERING SYSTEMS (if required) for the fume and steam dispersion in atmosphere which are coming from the extruder's venting systems and / or flat extrusion die

EQUIPMENT FOR WELDING, CUTTING, BORING AND GENERAL MACHINERIES and equipment for repairing or finishing parts, as i.e. for calibrators.

LUBRICATING OILS AND OILS FOR GEARBOXES and, in general, consumable materials.

RAW MATERIALS for start-up and acceptance trials either performed by our works or by customer.

NON SPECIALIZED MANPOWER during assembly, start-up and acceptance trials.

All the LIFTING DEVICES, FIXING and SUPPORT FLANGES for the raw material pipe conduits and electrical cabling of the line

The Customer is to provide FUMES SUCTION / EXTRACTION SYSTEMS as per Bandera specification and layout (according to local regulations).

The Customer is to provide OZONE EXTRACTION SYSTEM in case of corona treatment device installation (according to local regulations).

The Customer is to DISPOSE THE EXTRUSION DEGASSING SYSTEM LIQUIDS according to the local regulation (special waste disposal).

ANYTHING NOT SPECIFICALLY MENTIONED IN THE PRESENT QUOTATION

DIRECTIVE 94/9/EEC (ATEX) - DPR n. 126 dtd 23rd March, 1998

The extrusion line and/or equipment manufactured for the process of foil/ sheet extrusion was not designed in compliance with the minimum requirements foreseen by Directive 94/9/EEC (ATEX) ratified by DPR n. 126 dtd 23rd March, 1998. Consequently, such equipment or line is not to be operated in work areas subject to the risk of explosion. The Technical Department of our Company is fully available to study the relating technical and financial modifications to be carried out on the given equipment or line, in order that it/ they comply with the requirements foreseen for work areas exposed to the risk of explosion.



COMMERCIAL CONDITIONS

Delivery Terms

Goods rendered: FCA Busto Arsizio (Bandera factory) according to Incoterms 2010

Packing

Adequate packing according to the delivery terms

Delivery Time

For order confirmation and down payment settled within 23/12/2016, line will be completely installed and ready for wet test in Bandera on week 22-23/2017 (beg-June 2017).

The wet extrusion trials / first production phase at Customer's site should be performed beg-August 2017 (week 31/2017).

Installation / Start-Up

See technical assistance paragraph

Payment Terms

40% down payment at the order confirmation

60% against advice of goods ready for dispatch, before delivery

Offer Validity

Within 23/12/2016

Costruzioni Meccaniche Luigi Bandera Spa



Gabriele Murano

PRODUCT MANAGER
FOIL & SHEET LINES



BANDERA ELECTRICAL STANDARDS

 Manager: Gabriele Murano Order confirmation N.: _____
 Line Description: PET sheet extrusion line
Section 1

LINE	STANDARD FEATURES
Main power supply	400V AC 3Ph Fixed power supply network, upstream protection by automatic disconnecter switch of suitable size for the installed load (Power supply by generators not available)
Voltage fluctuations	+/- 5% □
Neutral	Yes, rechargeable type
Frequency	50Hz
Frequency fluctuation	+/- 2% □
Electric equipment short-circuit breaking capacity	10kA
Control circuits	24V DC
Type of earth installation	TN-S
Voltage dips	0 ms (not considered)

Section 2

ENVIRONMENT-STANDARDS	STANDARD FEATURES
Electrical applicable standards	2006/95/CE and 2004/108/CE Directives, EN60204-1 and 61800-3 Standards
Ambient Temperature	Standard: from 5°C to 40°C – Daily average 35°C (temperature values to be detected near by the line electric power cabinets)
Relative Humidity	70% - with no condensation
Altitude (above sea level)	1000m max.

Section 3

ELECTRIC CABINETS	STANDARD FEATURES
Normally employed component parts and instrumentation	Temperature control system by Siemens S7-300 PLC AC VFD: ABB - Siemens Enclosure: Standard painting RAL7035
Protection degree	IP43 – with no condensation
Mains power inlet	TOP
Cables outlet	BOTTOM

Section 4

ELECTRIC EQUIPMENT	STANDARD FEATURES
Cable length	As per general layout approved by both Parties
Cable routing	As per general layout approved by both Parties

Section 5

DRIVE	STANDARD FEATURES
AC motors	Round frame-type motors IE2, Protection degree IP54 Square frame-type motors - Protection degree IP23/IP54 Motor painting as per manufacturer standard specifications

Electric cabinet conditioners and low harmonic content inverters are not included in the standard scope of supply. Any specific requirement and/or modification other than indicated in the present form are subject to previous approval from BANDERA Technical Dept. as well as cost estimation by BANDERA Sales Dept.

For acceptance:

Company:

Filled in by:

Date:

 (Signature and Seal of the Customer)



BANDERA STANDARD GENERAL TERMS AND CONDITIONS OF SALE

1. VALIDITY

This contract is irrevocable by the Purchaser. The Vendor shall be entitled to expressly accept the contract or to withdraw acceptance of the contract even if the latter has been already expressed for thirty (30) days since contract proposal date and any penalty therefrom shall be excluded. Any exception to one or more provisions of these general terms and conditions of sale shall not be interpreted extensively or by analogy and shall not imply any will to fail to execute general terms and conditions as a whole. Supply shall be exclusively executed according to general and specific terms and conditions of sale herein contained.

2. DELIVERY, PLACE OF DELIVERY AND TRANSPORTATION

Delivery shall be ex works (EXW) Bandera warehouse. Transportation expenses and any burden expenses or taxes related to goods shall be borne solely and exclusively by the Purchaser. The most suitable means of transportation shall be determined by the Vendor at his sole final and unchallengeable decision. The Vendor shall not be held responsible for any non-delivery or any delayed or improper delivery by the selected carrier. It is hereby absolutely and expressly understood and agreed that goods travel at the Purchaser's sole and exclusive risk. Failure by the Purchaser to collect the goods after thirty (30) working days have elapsed from the agreed relevant terms shall entitle the Vendor to a full refund by the Purchaser of storage costs, fixed to a lump sum equal to 0.2 percent of the goods invoice sum for each week of delay. Once further sixty (60) days have elapsed, the Vendor shall be entitled to sell the goods in any way on behalf of the Purchaser and to withdraw from the sale proceeds the entire sum due (notwithstanding the agreed payment terms) and the costs borne.

Unless otherwise agreed upon by the parties, the above provisions shall be applied.

3. DELIVERY TIME

The delivery time set forth in the contract shall be deemed as indicative and any delay shall not be invoked as cause of contract discharge or any other effect.

Should delivery delay exceed thirty (30) working days, the Vendor shall pay the Purchaser a 0.25% penalty for any further full week of delay (August excluded) up to the week of actual delivery of the goods, even informally. Penalty shall not exceed an amount equal to 2% of order value. Penalty shall be deemed to cover any direct or indirect damage or any compensation for damages in any way claimed by the Purchaser and it shall render void and null any other order termination or cancellation clause.

Any force majeure event, including, without limitation, fires, collapses, floods, lack of energy supply, interruption of transportation, strikes, work stoppages or any other event that prevents the Vendor from, or considerably reduces the Vendor capacity of, manufacturing at his own premises or interrupts transportation between Vendor's production site and goods destination, shall entitle the Vendor to defer delivery time up to ninety (90) working days (extendable to 180 days in the worst cases), provided that the Vendor promptly notifies the Purchaser in writing about the occurred force majeure event. Any equipment or accessory delayed delivery, whenever it does not exclude or prevent machinery standard use, shall not constitute cause of delay in delivery. Irreparable force majeure events shall be deemed reason to justify deferment of delivery and no penalty shall be imposed upon the Vendor.

The delivery to a date to be set shall be the date of machinery setup for testing (dry or wet test – with or without extruding material) at the Vendor's production site, the latter being the place where delivery shall in any case be deemed completed. Delivery time may be deferred by mutual agreement in writing.

4. OBJECT OF SALE

Lines and machinery or performances mentioned in this contract only shall all be deemed the object of this contract. Machinery shall be supplied pursuant to Purchaser's instructions. It shall be the parties' care to provide machinery with any accident prevention device legally prescribed in relation with machinery intended use.

Acceptance without express reservation of non-compliant products that do not meet the agreed type or quantity supplied at conditions different from the ones set forth in the order confirmation implies supply acceptance by the Purchaser. Any reservation hereof shall not be deemed effective unless notification shall be made by the Purchaser in writing within thirty (30) days from receipt of goods.

The Vendor shall pay the Purchaser a 0.25% penalty (up to 2% max) every ten percentage points in production capacity decrease compared to the value indicated in the sale confirmation, after tolerances. However, the above provision shall apply once all performance improving interventions have been made as promptly as possible. The penalty hereof shall be all-inclusive of every and all direct or indirect rewards claimed by the Purchaser and shall void any contract termination clause or order cancellation clause.

The Vendor L. Bandera SpA disclaims any responsibility for, or liability related to, any loss of earnings or indirect or consequential damages or any loss of profit of any kind.

The Vendor reserves the right to issue the invoice related to any material undelivered for any reason independent from Vendor's will and responsibility.

Should the Vendor accept the order cancellation by the Purchaser, the Vendor shall be entitled in any case to a compensation equal to the actual production and administrative work already carried out.

Unless otherwise specified, in any case the advance payment sum shall be deemed a non-refundable deposit by the Vendor.

If the Purchaser does not fulfil contract conditions the Vendor shall be entitled to retain any sum received from the Purchaser.

5. LINE ACCEPTANCE

Machinery acceptance shall be carried out at the Vendor's premises before shipment, once wet test with Purchaser's own material or dry test has been executed.

The Purchaser shall be entitled to be present during the production test personally or by representative upon request. Should the Purchaser waive the right to be present during the test, the latter, carried out by the Vendor, shall be deemed to have been successfully completed.



BANDERA STANDARD GENERAL TERMS AND CONDITIONS OF SALE

6. TESTING AND START-UP

Upon Purchaser's request, the Vendor shall provide technical assistance of his own qualified personnel for the activities of extrusion line putting into service / start-up (line installation – i.e. machinery positioning and connection to plant utilities – shall be intended as executed directly by Customer's technicians). Unless otherwise agreed upon, for the service hereof reference is made to applicable "qualified technicians" according to ASSOCOMAPLAST tables in force. Unless otherwise agreed upon by the Parties, the above provisions shall apply.

7. PRODUCTIVITY AND CHARACTERISTICS

Any description and specification set forth in offers, circulars, quotations, tables, price lists, etc. are for information purposes only and they shall not be binding in any way whatsoever beyond express specifications in the contract hereof and in any case with tolerances applicable in the plastics field.

8. WARRANTY

A twelve-month (12-month) warranty coverage is granted by the Vendor to the Purchaser on manufactured machinery subject of this supply as of the date of machinery testing data (by dry or wet test) at the Purchaser's premises. Warranty in any case shall expire eighteen (18) months after dispatch from Bandera premises.

Vendor shall be notified in writing of any claim and claimed defects and non-conformities shall be described in detail. Warranty coverage shall consist of and be limited to free-of-charge repair or replacement of parts proven to be unusable because of defects or material, construction or manufacturing defects provided that parts hereof are returned to the Vendor's premises (ex works) upon request.

Dispatched parts shall be deemed rendered at Purchaser's premises (ex works), whereas the Purchaser hereby undertakes to dispatch any defective goods to the manufacturer at Vendor's premises (ex works) within three (3) months from the notified claim.

Besides repair and replacement of the parts hereof the Vendor shall have no obligation and the Purchaser shall not be entitled to claim any contract termination or any compensation for any damage hereby. Therefore, the Vendor hereby disclaims any responsibility for, or liability related to, any loss of earnings or indirect and/or consequential damage.

Should repairs and replacements hereof be executed at machinery installation site, any Vendor's operator and technician flight tickets, hotel, and food expenses shall be borne by the Purchaser solely and exclusively, whereas any travel allowance shall be borne by the Vendor solely and exclusively.

The Vendor shall not be held responsible in any way for any defect deriving from materials or projects supplied by the Purchaser. The Vendor's responsibility shall be limited to any defect related to the conditions of use set forth in the instruction manual and provided that the machinery is correctly used. The Vendor disclaims any responsibility for, or liability related to, any defect due to any cause occurring after machinery delivery.

Warranty coverage shall not extend to any failure or breakage due to machinery natural wear and tear, negligent maintenance, lack of experience, negligence or misuse by the Purchaser and shall cease if payments are not settled by the Purchaser by the due date or if the machine, or one of its parts, has been modified or repaired without Vendor's authorization. However, any legal action for defects, lack of quality, non-performance or lack of determined requirements, for any other reason or claim, shall be taken by the Purchaser within warranty period, on penalty of forfeiture. Failure to settle instalments, even if one only, by the Purchaser shall preclude any legal action hereof.

The Vendor hereby reserves the right to issue the invoice related to any defective material unreturned for any reason independent from Vendor's will and responsibility.

9. TECHNICAL ASSISTANCE AND PRICE MODIFICATION

The Vendor may arrange to provide technicians for any explanation and instructions on the machinery, and demonstration of machinery operation, practical manufacturing tests, and for any repair or replacement not included in the contractual warranty upon Purchaser's express request. Unless otherwise agreed upon, the costs deriving from the aforementioned interventions shall be borne by the Purchaser solely and completely and the related final balance invoice shall be issued according to tariffs set forth by ASSOCOMAPLAST. Nevertheless, any assistance shall be provided only and exclusively upon Purchaser's fulfilment of payment obligations.

Any price modification shall be agreed upon by the Parties.

10. PLACE AND METHOD OF PAYMENT AND RETAINMENT OF OWNERSHIP

If not settled within agreed terms, each settlement shall be made at the Vendor's premises. Any issue of bills, in any case to be considered as with recourse, shall not change the place of settlement nor shall constitute novation of any pre-existing relationship.

Instalment sale shall be governed with retainment of ownership in favour of the Vendor up to the full and integral settlement of the agreed amount. Failure to settle instalments, even if only one, so that one eighth of the invoice total sum is exceeded, shall entitle the Vendor to become the owner of sold products hereof, and to keep the amounts already settled as compensation for damages, unless other damages occur, and to suspend, in any case, further deliveries.

The Vendor reserves the right to register sale documents. Registration has to be borne by Purchaser in the register pursuant to Art. 1524, paragraph 2, of Italian Civil Code.

Failure to fulfil payment obligations shall entitle the Vendor, at his sole and exclusive option, to require return of goods or settlement of the due sum. An interest rate equal to the one agreed for payment by instalment shall be applied in case of delayed payments.

The Purchaser shall pay the whole due sum in any case regardless of any controversy or dispute.



BANDERA STANDARD GENERAL TERMS AND CONDITIONS OF SALE

11. CONSERVATION AND CUSTODY

Until final settlement, any risks related to goods conservation and custody shall be borne by the Purchaser, hereby included any fortuitous or force majeure event. The Vendor shall be entitled to require, at the Purchaser's sole expense, an All Risks protection extended insurance on sold goods.

12. PROHIBITION ON TRANSFER AND EXPORTATION

Transfer of unpaid goods is hereby prohibited without Vendor's prior authorization. The Purchaser shall not be entitled to goods exportation before settlement of due sum in full.

13. DRAWINGS AND TECHNICAL DOCUMENTS

Any drawing or technical documentation that supports production or installation of products hereof, or of any of their parts, and that is provided to the Purchaser, before or after contract subscription, shall remain exclusive property of the Vendor. The Purchaser shall not be entitled to use, copy, reproduce, transmit or disclose drawings or documents hereof without Vendor's prior written consent. The Purchaser shall in no way be entitled to transfer technical drawings hereof to third parties.

14. MODIFICATION OR CHANGE OF PURCHASER'S LEGAL ENTITY

Vendor shall be promptly notified of any change or modification (by transfer, sale, share capital increase, merger, share capital reduction or similar) to Purchaser's legal entity and shall be entitled to deem the contract as terminated ipso jure or to accept the new legal entity thus persisting original Purchaser's obligation.

The Purchaser hereby undertakes to promptly notify the Vendor of any procedure eventually started against the machinery purchased and not yet paid in full.

15. VENDOR'S DEFAULT

Failure to fulfil contractual requirements under Vendor's proven responsibility, because of machine inability to meet the agreed specifications after specified tolerances and after the sums of the related penalties under Paragraph 4 hereof, the Purchaser shall be entitled to reject the machinery and the Vendor shall return any advance payment. Should the machinery already be delivered to the customer, the return transportation costs shall be at the Vendor's sole expense. Nevertheless, Vendor and Purchaser shall be entitled to agree upon a line derating with the relevant redefinition of the purchase price due by the Purchaser to the Vendor.

The Vendor disclaims any responsibility for, or liability related to, indirect or consequential damages, loss of production or loss of earnings.

16. EXPENSES AND TAXES

Any encumbrance, expense and burden related to this contract shall be borne by the Purchaser.

17. COMPETENT COURT

Any dispute or controversy arising from or relating to this contract shall be submitted to the Court in Busto Arsizio solely and exclusively.

PURCHASER'S SIGNATURE AND SEAL

All above general and specific terms and conditions of sale have been hereby read, examined, approved, underwritten and accepted, no one excluded or excepted.

The Purchaser hereby expressly declares to accept specifically and in the effects under Articles 1341 and 1342 of the Italian Civil Code and contract clauses pursuant to:

- 1) Validity; 2) Delivery, place of delivery and transportation; 3) Delivery time; 4) Object of sale; 5) Line acceptance; 6) Testing and start-up; 7) Productivity and characteristics; 8) Warranty; 9) Technical assistance and price modification; 10) Place and method of payment and retainment of ownership; 11) Conservation and custody; 12) Prohibition on transfer and exportation; 13) Drawings and technical documents; 14) Modification or change of purchaser's legal entity; 15) Vendor's default; 17) Competent court.

PURCHASER'S SIGNATURE AND SEAL





GENERAL ADDITIONAL NOTES ABOUT THE EXTRUSION LINE AND THE PROVIDED ACCESSORY TECHNICAL SERVICES

Personnel training is essential to the efficient operation of the extrusion line. Vendor suggests the transformer to invest in specific personnel training programs whose scheduling and modes shall be agreed upon.

Spare parts management is important as well in order to prevent any prolonged machinery stoppage whenever critical parts replacement is required, due to possibly occurred failures. Vendor suggests his customers to purchase a basic spare part kit at line installation stage.

Furthermore, the Vendor outlines the following recommendations aimed at reaching the highest production efficiency:

- to schedule uninterrupted production as much as possible (at least by material volumes/by material homogeneity in thickness and range, and by raw material characteristics especially) in order to prevent machinery from stoppage/restarting necessarily requiring new process parameter setup (and melt flow channels cleaning in case of resin change);
- to schedule an accurate personnel training program and to select personnel in charge of the extrusion process with both mechanical and electric/electronic skills (at least shift foremen shall have proven expertise of mechanical and electrical components to cooperate with Vendor After Sale Service Department);
- plant utilities (at Purchaser's care) shall be adequate to line characteristics. Specific reference is made to process water cooling systems, which shall be sized upon specific consumption rates and regulated upon ambient conditions. Any utility implementation and customization and any system configuration shall be at the Purchaser's sole and exclusive responsibility.

The Vendor assumes that the purchaser has technological competency about plastic materials and processes, as well as line automation.

IMPORTANT: during extrusion test execution no alternative production shall be allowed by the Vendor before line acceptance tests have been completed by Vendor or at the Purchaser's premises (according to order confirmation provisions).

Any further tests required by the Purchaser for:

- A) customer's personnel training;
 - B) contract line function scouting;
 - C) improvement and optimization of process parameters, aimed at trying to enhance average quality standards of available plastic products by researches based on mutual cooperation, with suggestions on the most suitable polymers and additives, correction of line operation methods, and relevant required adjustments and corrections;
 - D) scouting of out-of-contract line potential capacities
- shall be calculated separately and shall not be deemed included in this supply unless otherwise agreed upon in writing in the order confirmation.

SPECIFIC TECHNICAL NOTES ABOUT FOIL / SHEET EXTRUSION LINE

The Vendor recommends that specific attention shall be paid to the surface of cooling and polishing rolls, as they are the most delicate points of the extrusion line. Indeed, should the surface hereof be damaged in any way whatsoever it may jeopardize laminated plastic product quality and cause forced production stoppage.

As damages to the above surfaces may be caused by:

- a) accidental hits;
- b) crushing of solid plastic or crystallized filaments;
- c) scratching with metallic or abrasive tools;
- d) roll cleaning with abrasive materials;
- e) thread-in methods with abrasive dust-dirty materials,

The Vendor advises to purchase and keep spare rolls at disposal.

As a standard, when the laminated product features specific aesthetic requirements, rolls shall be periodically re-lapped to keep laminated plastic product quality high. Lapping may be repeated as far as the minimum allowed chromium thickness is reached. Then the roll shall be re-chromed. Treatments hereof require spare rolls at the user's disposal.

It is hereby reminded that it is not possible to fix damages on matt or embossed surfaces. Should these cases occur, surfaces shall be completely renewed.

Therefore, the Vendor:

- 1) advises the customer to check roll integrity during inspection visit at L. Bandera premises before shipment and as soon as acceptance tests are completed;
 - 2) does not accept any intervention request under warranty coverage for the mentioned points hereof (points a to e).
- The Customer is to provide fumes suction / extraction systems as per Bandera specification and layout (according to local regulations).
 The Customer is to provide Ozone extraction system in case of corona treatment device installation (according to local regulations).
 The Customer is to dispose the extrusion degassing system liquids according to the local regulation (special waste disposal).

PURCHASER'S SIGNATURE AND SEAL

