



quality, performance assistance, reliability technology, style

Gruppo Colines® Holding avail themselves of the best suppliers all over the world

Summary

Editorial,
New solutions for cast stretch film

1

New frontiers for fruit packaging Bubble Guard® Board, Air bubble 100% PP Bubble Guard® Flex, PE air bubble lines

2

Barriercast® 7 layers with Dittering®, open house at Anhui facility, cast vs. blown.

3

New concept Blown film systems, how do the numbers really stack up.

4

Another record broken for CPP. Polycast® production speed over 300 m/min. Polycast® 2100 mm

5

New breathable 3 layer coex line 2400 mm, PVC Bema calender lines.

6

Complete technology for refrigerators field, Welding Machinery latest developments.

7

Fairs & Events 2006, Our presence on the web, Representative in the world.

8

www.colines.it

Editorial

Dear Sirs,

In the last 20 years the company has focused its efforts on the technological development of a few but selected production lines, which are herewith summarized. In particular, since 1993 the group has consolidated its technological leadership in the manufacture of extrusion lines to produce cast barrier film, CPP film and BUBBLE GUARD®. Such an achievement is the result of the choice of supplying its equipment to the associated companies B-PACK®, B-PACK DUE® and IMBALLAGGI PROTETTIVI, which became in a short time leading film producers in the Italian market. The contribution of the close technological synergy with these companies established a real vertical integration process, which can be considered unique of its kind in the global market, between the machine manufacturer and its enduser. As part of the group's strategy for frontier-free markets the company is further expanding its selling capabilities connected to the manufacture of extrusion lines (core business), to cover all worldwide markets, supported by the extensive experience gained on the Italian market in the film and foil production by B-PACK®, B-PACK DUE® and IMBALLAGGI PROTETTIVI.

This experience and expertise give a superior advantage for those customers who are buying machines from GRUPPO COLINES®, which is becoming a real industrial partner, not only a mere machinery manufacturer, with an ever increasing level of competence and reliability.

E. Peccetti
Managing Director

New solutions for cast stretch film production

OPEN HOUSE

HANDrollEX® extrusion line to produce STRETCH film with **in-line** winding of manual/machine rolls! **from 13 to 25 February** at Novara factory. **in parallel with PLAST 06**



The time required to wind a hand roll is of 18 seconds, whilst for the machine roll it is of 180 seconds. The control console for machine control permits to supervise all processes with an integrated software package. The line manufactured by COLINES STRETCH® with modular winding system presents the following advantages:

- 1 - production of hand rolls and machine rolls without further processing machinery.
- 2 - attractive machine cost as a result of the excellent price/quality ratio and considering that there is no need of processing machines for the jumbo rolls.
- 3 - low labour cost thanks to the degree of automation which permits to control the line with one operator only.
- 4 - saving on investments for the installation building as a result of the new layout and considering that with one machine it is possible to produce the hand rolls.

The new lines of the COLINES STRETCH® series can be identified with three words:

modular, automatic, flexible.

The production program and other features can be seen on the websites: www.colines.it and www.colines-stretch.it

The indian story. When an effective cooperation bring great results

more info: www.bubbleguard.com

In cooperation with its partner company, in early May GRUPPO COLINES® delivered to an Indian converter an extrusion line for the production of BUBBLE GUARD® BOARD sheet to realize a new kind of box for packing apples and mangoes. This type of sheet, and accordingly the plant to make it, was chosen because it allows to solve the problems connected with the use of cardboard and cartonplast. The main advantage of this sheet vs. the competing material is the higher longitudinal and cross strength, thus making it most suitable for all applications in the packaging sector strongly subject to stress and ill-usage. In particular, after the harvest, the apples produced in the region of Himachal, at the extreme North of the country, must be carried by truck on very uncomfortable roads and for journeys normally longer than 3,000 km, through areas with different climatic characteristics, even under real rainstorms. In such conditions the cardboard collapses due to moisture and water, but also due ill-treatment and crushing that they are subject to at every transloading, loading and unloading of the manually handled containers, causing production losses to the extent of many tons of apples. The BUBBLE GUARD® BOARD sheet is the most appropriate solution to the above problems, offering high resistance and impermeability. In fact, as a result, the 30% waste of apples recorded in the past, using 100,000 boxes produced with the new sheets and tested on the Indian market, was reduced to zero. Therefore, in spite of a slightly higher cost, in terms of raw material, than cardboard, this solution in the agro-industrial production cycle permits a significant reduction of the production costs resulting from the elimination of the wasted product. Moreover, further benefits can be gained by using the BUBBLE GUARD® sheet, just to mention the most important: the sheets can be extruded of the desired color and laminated with printed film directly in line, allowing a wide range of colors, graphic decorations and advertising messages, it is eco-friendly and 100% recyclable because fully made of PP, thus contributing to safeguard many Indian areas rich in vegetation from deforestation for the production of paper and cardboard.

The extrusion line is fitted with two extruders with diameter 150 and 100 mm and can produce a sheet with a maximum useful width of 2000 mm, a weight ranging from 250 to 3,500 g/m², and an hourly throughput of 1,000 kg. The power rating is of 1200 kW, and the consumption is of 650 kW.

The sheet is laminated in line and two slitters can cut the sheet in different lengths according to the specific requirements.



Latest News



Air bubble film extrusion line 3000 mm, delivered to one of the major Italian producers, already Colines® customer. The line is complete with the latest technology available on the market and complete with 3rd and 4th layer. During test runs a net output of 1050 kg/h has been obtained. www.air-bubble.com



Colines® is introducing the entry level range of new-concept "STEC" and "STEC-S" extrusion lines to produce air bubble film. These lines are designed for those customers who are searching for always more demanding applications but with moderate investments.

Special combined offer with welding machine at Plast'06.

"Air bubble is our business.."

PATENTED



Extrusion line for the production of patented Bubble Guard® Flex

GRUPPO COLINES® can truly boast a consolidated and undisputed worldwide leadership in the manufacture of air bubble film machines. In 2006 the company is celebrating the 40th anniversary of the extrusion lines for air bubble film made of Polyethylene, with more than 150 production lines sold to all the major air bubble film producers all over the world. During the years, the company has continued technological improvement of the process, as well as introducing many pioneering solutions, with the resultant improvement in the applied technology.

With the aid of research and development facilities and innovative sales methods, the company conceived, engineered and successfully commissioned in 2001 a range of lines to produce air bubble film 100 % made of PP. This product is identified with the registered name BUBBLE GUARD® FLEX, which is offering following most significant advantages versus conventional PE air bubble film: exceptionally higher strength (11 times stronger); 30 % saving in weight, with same mechanical properties; higher life due to the lower permeability to oxygen, higher optical properties of the bubble; possibility of in-line converting processes: higher puncture resistance, better machinability. The BUBBLE GUARD® FLEX represents a valuable choice whenever top levels of reliability, flexibility and performances in terms of machinery and product are required, ensuring cost-effective solutions.

Beware of any extrusion line offered worldwide to produce PP air bubble film because this product and relevant extrusion process is patented and of exclusive property of GRUPPO COLINES®.

40th Passion for innovation

Our greatest satisfaction is the success of your business. With more than 150 extrusion lines for air bubble film installed all over the world and 40 years of research and development, we have played a leading role in the development of the most significant worldwide projects for this product.

Another success: the sale of the third air bubble film line, model STEC 200 TSE of a customer in Turkey, restoring his confidence in GRUPPO COLINES®. This line is boasting substantial features of innovative technology and high productivity, with 2 mts of useful width and output of 350 kg/h with the extrusion of the third layer. This negotiation has been successfully concluded with the assistance of our agent for Turkey Mr. Beniamino Schmill.

e-mail address: benjo.luli@tiscali.it; benjo.luli@my.net.com



The sale of the BARRIERCAST® 7-layer line to Anhui is the result of the excellent expertise offered by GRUPPO COLINES® in the specific

field, combined with the competent support of Mr. Rolland Tian, Sales Manager of Synergy Technology Hong Kong Ltd, as outcome of an agency agreement in force since many years.

This set-up will further strengthen GRUPPO COLINES® presence on the territory and represents a clear commitment towards the continuity of strong relationship and ties with customers of the area. Rolland Tian e-mail address:

rollandtian@hksynergy.com

Open House 2005



ANHUI, a big Chinese company producing plastic film, organized a two-days' open house on the occasion of the close event CHINAPLAS 2005. The open house was dedicated to the introduction of their new 7-layer BARRIERCAST® 7 extrusion line 2200 mm wide, manufactured by the Italian company GRUPPO COLINES®.

The visitors were more than a hundred, with an audience composed both of journalists and people from the sector, thanks to the efficient organization and the cooperation between the Italian and the Chinese company. GRUPPO COLINES® was chosen as a partner for its expertise in multilayer film extrusion, as well as for the special attention they have always been dedicating to the Chinese market.

Mr. Marco Bonetti, area manager of GRUPPO COLINES® attended this event, whose red tape was cut by the president of the company ANHUI.

The BARRIERCAST® line by GRUPPO COLINES®, boasting a state-of-the-art technology, will be used to produce film for food and medical packaging.



Brilliant Results in the extrusion tests of the fourth 7-layer Barriercast® line sold in the last 18 months



GRUPPO COLINES® extrusion experience gained through more than 30 years of developing this applied technology is particularly suited to the complex coextrusions essential to the production of sophisticated materials.

In January 2006 the company has tested with successful results a Barriercast® film line to produce 7-layer barrier and CPP film, which is destined to a customer in South America. This line, 2100 mm wide, with a high technological and automation content can be considered a real breakthrough in the specific field. The close synergy with the associated company B-PACK®, Italian leader in the production of barrier films with both blown and cast technology, has lead to the manufacture of extrusion lines at the highest state-of-the-art level, reaching always more ambitious targets.

This line can be a further demonstration of the high level achieved by a company offering full Italian technology and manufacturing capabilities. During the tests, to great customer's satisfaction, all contractually binding products have been obtained, reaching the output of 600 kg/h:

- 7-layer cast film, 50 microns, film structure PA/tl/PA/EVOH/PA/tl/PE, high barrier film used in applications involving top parts of food packaging.
- 7-layer cast film, 250 microns, film structure PP/tl/PA/EVOH/PA/tl/PE, high barrier film used in applications involving bottom parts of food packaging.
- coextruded CPP film, 25 microns used in applications for food packaging lamination.

GRUPPO COLINES® offers complete "turnkey" solutions from the design of the extrusion systems, to the development of new films and applications including know-how, choice of raw material and pre-marketing actions. **more info: www.barriercast.com**

Comparison between Cast and Blown technologies

The comparison of both technologies, cast vs. blown, was always ending in favour of blown due to the fact that cast film lines were producing scraps amounting to approx. 20 to 25 %. As a consequence this drawback was simply cancelling the many advantages offered by the cast film lines, which can be summarized in: easier production changes, flexibility in the achievement of several structures with different layer distribution (as a result of the use of feedblocks with variable geometry technology), superior quality of the produced film mainly resulting from the chilling process.

The negative feature of the cast line has been now brought to an end by the latest developments in product encapsulation. With this technology the scrap percentage of the cast line is now comparable with the blown process. GRUPPO COLINES® has further developed the DITTERING® technique. The gauge band distribution occurs in the blown lines with the oscillation of the nip unit and in the cast lines with a mechanical oscillation to spread the systematic error on a wider surface. Instead, with the innovative DITTERING® technique the side slip occurs directly in the extrusion die, with the support of a specific film control and adjustment system which permits gauge band distribution without mechanical mechanisms to move the film. This reduces to the minimum the scraps produced by the mechanical film oscillation.

New concept Blown film systems, how do the numbers really stack up.

It does not take rocket science to figure out the criteria that determine the cost of producing plastic films. In spite of what most machine buyers keep trying to make the machine manufacturer believe, the initial cost of the equipment only has a next to insignificant influence on the cost of every kilo of film that comes off that machine.

Which then are the other criteria? Let us list them quickly and then examine each one a little closer. Obviously labour cost is an issue, the energy cost plays a role and last but not least, efficiency is a major parameter in the equation. Efficiency is made up by the production capacity of the machine (the so-called bang for the buck), how much energy it consumes, how much scrap it produces, for how much time it is available to crank out actual product and what it costs to keep it fit.

Labour cost obviously is a given, different for every country, but not much one can do about, apart from trying to hire the lowest skills one can get away with. However, there is a lot that can be done about how much skilled and unskilled labour is needed to make any given machine work. As skilled labourers should be considered the person that sets the production parameters of the machine, as well as the person that keeps the machine fit. The unskilled labourer is the person that basically should be doing nothing else than carting the finished rolls to the warehouse, maybe see to the resin supplies for the machine, although this increases the human error factor and therefore the scrap potential, and keep the machine provided with ready winding shafts. If the machine itself and the upstream equipment are smart enough, all labour cost involved, skilled and unskilled, can be kept to a minimum. In essence, a squad of two skilled persons and three to four unskilled persons (the number can depend on local legal requirements) can easily take care of a dozen machines. Fiction? Not in the least, provided the instruments are there! Since these 'instruments' are crucial to just about every parameter, we will take a close look at them later.

Albeit it is so obvious that specific energy consumption plays a vital role in the total cost picture, it is quite amazing to note that hardly any machine buyer ever inquires about this figure when discussing an acquisition with a supplier! It is also amazing to know that many machine manufacturers are not even able to produce these figures! Ah, now to efficiency, the most overlooked parameter of all! A badly designed machine made with 'funny' components, a cheap machine in a few words, can never be efficient. A good machine, but without any sophistication just to save some, will produce high scrap levels, because too much is left to the judgment of unskilled labour. Cheaper machine, but not very efficient! It will take for ever to change product, because even if the labour were to be skilled, it can never ever be expected that it is as fast in job change-over as a machine management software can be. Again, cheap machine, but not efficient. To be honest in this respect though, many machine management software packages are designed to be used by highly trained and expensive specialists and cost a fortune, plus they are so rigid, that future upgrades or personalized versions are highly impractical if not impossible. However, this does not need to be so, as we will see!

Now then, as to the instruments crucial to assure a good, money-making investment. The most basic instrument of all is of course the naked machine itself. It should be well-designed in both the purely mechanical aspect, as well as from a rheological point of view, in short: a workhorse! The screw and die design need to be up to speed with tomorrow's demands, meaning the manufacturer needs to employ the best designers working closely with the resin people. Excellent cooling rings and well thought out IBC, together with reliable air chilling equipment, are a plus to get as many kilos out off that well-designed die as possible. There's a drawback though, experienced people and R&D do add to the overall cost, but it is money well spent! It results in a reliable piece of equipment, that the production manager can constantly run close to the performance edge, without having to worry that the maintenance people will be all over the machine on a frequent basis.

A good, automated resin conveying system is important as well. Depending on how often jobs are changed and how different the employed resins are, it may pay to automate the resin source/hopper loader selection process, meaning no unskilled labour sticking a suction pipe into the wrong day bin! Gravimetric dosing systems do not need to be expensive, they can be extremely maintenance friendly and highly intelligent. A very cost-effective and crucial instrument to make the production manager's life a lot easier and keep the balance sheets healthy.

A controversial instrument is the thickness measuring system and the closely related thickness control system.

Surely one of the most expensive ancillaries and sometimes hard to justify. It will remain an issue of a case-by-case matter to be confronted. Taking some of the above instruments for granted to some extent or another, the main ancillary has to be the machine management system. What does it need to do? Obviously it should control the basic processing parameters of the machine, like temperatures, extruder RPM's, line speed and cooling. In conjunction with the gravimetrics, which ideally should be an integrated part of the whole, it should also be able to assure the correct film gauge and layer distribution (in case of multi-layer films) from the first to the last roll of any job. The management system should be able to start up the machine completely automatically, i.e. bring it up to temperature, set the initial extruder speeds, set the initial cooling blower speeds, allow for manual pull up of the bubble and, as soon as the haul-off nips are closed, bring the film up to width, thickness and kilos at the mere touch of a button. As a matter of fact, there should be no reason what-so-ever to ever run the machine in manual mode, unless maybe when setting up a difficult and new product, when calibrating a system or when in maintenance. The management system should enable fully automatic job changeover! In practice this means, modulating the resin supplies towards the end of the job to end up with the amount of leftover resins when the job is done, to be expressed in fractions of kilos, start to call the resins for the new job, take the line speed down during job changeover to produce the least amount of scrap and adjust all the parameters of the machine so that the new job is up and running as quickly as possible. These parameters include not only temperatures, extruder RPM and line speed, but also the position of the layflat boards in the haul-off unit, the winding tension and the cooling blowers speeds and even the chiller settings, all of this with the least possible operator interference. Yes, it is even technically possible to let the management system determine when the film quality is such that the actual job can be started, so it is not left to the skill (or lack of same) and the whims of an operator! The management system should be able to export a full and complete costing report immediately after each job, produce immediate product spec reports with a log, be able to produce health-status reports so that down-times can be planned instead of coming as a surprise. It should be enabled for bi-directional communication with the most common database and accounting software around. The management system software should be open-source so that it can be streamlined to individual requirements by the user, not the supplier! It should be redundant, so that even when it goes down, the machine(s) will still produce and can be operated manually. It should be able to digest more than one machine and should offer remote accessibility, even from the other side of the globe. And, most of all, such a management system should be affordable, this also meaning being modular so that one can start with a basic package and add on as required in the future, and easy to trouble-shoot.

A lot of the existing management systems satisfy most of the above requirements, but hardly ever all of them, and as good as never the last requirements, i.e. being affordable and easy to handle.

Colines is a machine manufacturer that takes all of these factors into account, based on the every-day experience from three of its sister-companies that produce many types of packaging materials in a competitive market place. A vantage point that no other machine supplier can boast! As a result, the basic machines will survive in that very hostile environment called production floor, the processing technology applied is quite advanced and the levels of automation are justifiable, reliable, affordable and most of all, simple to handle.

Talking to Colines will surely not only save you money, but also make you money! more info: www.barrierblown.com



- ultra modern, cost effective drive systems.
- unprecedented highly flexible screw design.
- high precision die design.
- best cooling technology available.
- ultra-rapid gauge control.
- truly operator-friendly process control.
- state of the art winding technology.
- unparalleled product quality repeatability.



Arkady Pickman

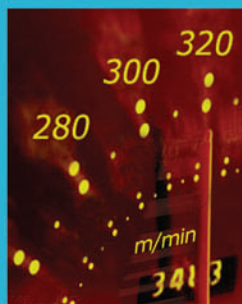
Russia expertise

To promote its commercial activity in Russia and the CIS countries, during the year 2005 GRUPPO COLINES® signed a cooperation agreement with the company VARIANT.

The Russian Company based in Moscow has local offices also in other CIS countries such as in Kiev, Ukraine and in Minsk, Byelorussia.

Active since many years on the Russian market, dealing mainly with printing machines, the company has recently set-up a new division exclusively dedicated to flexible packaging. The VARIANT project is in perfect agreement with the development programmes and the resolution of GRUPPO COLINES® to establish themselves on the market with a long-term project. Mr. Arkady Pikman is the project manager in charge of promoting and managing all the projects for the machines manufactured by GRUPPO COLINES®, supported also by B-PACK® HOLDING, with a joint participation in the recent UPAKOVKA/UPAK ITALIA exhibition which was held in Moscow last December 2005.

The next event is the ROSUPAK 2006 Exhibition in Moscow from June 19 to 23, 2006. Email address: pikman@variant.ru



Another record broken for CPP.
Polycast®
production speed over 300 m/min!

Polycast® is the brand name that identifies the extrusion lines for CPP developed by Gruppo Colines® in the last few years, with a view to improving the production performances with a dramatic cost reduction. As a matter of fact the limit in CPP production is notoriously given by the raw material used: polypropylene.

The production speed of CPP film is a critical factor, which varies according to the film to be produced, and the raw material used (additives, low modules copolymers, etc.) To compensate this critical point with the target of improving the production capacity, the only alternative was that of manufacturing extrusion lines producing wider and wider films. However, for the manufacture of these lines it was obviously not sufficient to enlarge machinery sizes, it required a deep analysis of technical and technological applications which were then designed and fitted to our equipment.

Technical characteristics

- Useful width up to 6000 mm
- Maximum capacity up to 3200 Kg/h
- Production speed over 300 mt/min
- Number of layers 3/5
- Number of extruders up to 5
- Diameter of the extruders according to the capacity and the materials, from 80 to 180 mm
- Feedblock and die Cloeren
- REFESAVE® system for in-line trim recovery
- Winder JUMBOWIND® with axial/peripheral and gap winding; contact pressure adjustable by means of load cells; reel diameter: 1000 mm; reel unloading on pallet; air-shaft extraction (option); handling for air-shaft re-positioning (option). More info: www.polycast.it



Record achieved in the process of commissioning Polycast® extrusion line for CPP film, 2100 mm, 5 layers

GRUPPO COLINES® has just shipped to a customer in South America, after successful acceptance test, a coextrusion line for 5-layer CPP film POLYCAST®, 2100 mm wide.

During the acceptance test, made under constant customer's supervision, with duration of 5 days, different films structures from 15 to 50 microns have been tested and the production record of 1050 kg/h for polypropylene film has been achieved.

This result could be obtained thanks to the significant technological developments in the extrusion section and winding unit. This line is mainly destined to the production of twist cast polypropylene film for the packing of sweets and candies, but can also produce the whole range of CPP and cast PE structures. GRUPPO COLINES® has been chosen as business partner thanks both to the extensive experience in the CPP film extrusion and to the highly innovative solutions which can be proposed as a result of the close cooperation with the associated company B-PACK DUE®, Italian leading producer of CPP film.

More info: www.polycast.it



New breathable film 3-layer coextrusion line 2400 mm.

GRUPPO COLINES® has been operating with success worldwide for many years, supplying many cast film lines and distinguishing itself for its strong impulse towards innovation. In the year 2001 a new technologically advanced cast film line for the production of breathable film has been designed and manufactured. GRUPPO COLINES® has been manufacturing for over a decade mono-stretch units with its own design, either sold individually or included in specific production lines.

Therefore, taking advantage of the experience gained, GRUPPO COLINES® focused its activity on an innovative product such as breathable film, involving also the design of a particular mono-stretching unit, incorporated in a special design cast film line. In this plant the mono-stretching (the core of the plant) works in two steps: a first stretch/stabilization of the film is followed by a second stretch/stabilization. This particular process permits to control the micro-porosity of the film to the optimal conditions. In addition, a technical choice was adopted of the mono-stretching unit vertical construction, thus simplifying the film path and reducing the overall dimensions of the plant. In addition a particularly sophisticated electronic control system provides user-friendly solutions through the operator's control panels, for the automatic control of all functions.



Main technical production data of the plant for breathable film for diapers and sanitary napkins:

- max web width 2.500 mm
- breathable film (according to compounds used) from 15 to 40 gr/sq. mt
- max speed (depending on percentage distribution of the two stretching nips, according to: type of compound, film thickness, breathable characteristics required) 300 m/min
- max stretching inlet speed 120 m/min
- first stretching group max speed 220 m/min
- second stretching group max speed 300 m/min
- max stretching percentage first group 300%
- max stretching percentage second group 300%

There is a significant demand of film with thickness of 15 μ , especially required for lamination with woven-non-woven.

Bema calender for PVC

The principle of calendering

With the term calendering is called the lamination of hot plastic mass in foils (films) and sheets. It is carried out by means of three, four or five heated rolls (cylinders). The machine is called Calender. Depending on the layout of the rolls, calenders distinguishes between I, F (or reversed L), S, L and Z roll arrangement. The choice of the type of calender is depending on the raw material and the type of foils and sheets to be produced. The plastic material prior to be fed to the calender is pre-plasticized by means of a roll mill or preferably with the much more efficient two-stage planetary extruder with cascade system COLINES® which is offered with the BEMA calender.

The concept of the calender type BEMA

Our calender has three melt rolls which are disposed in the form of the letter "F" (called also reversed "L"). The calender type BEMA distinguishes from conventional calenders for: Minimum space requirement, Low construction, Feeding from top for easy operator control, Better visibility of the plastic mass between the rolls S2 and S3, Good access to the rolls even when machine is in operation, Easy introduction of the substrate to be laminated, Easy variation of the passage of the web by means of guide rollers and widening devices, Automatic unwinding and winding of the material.

The raw materials which can be processed on the calendering line type BEMA: For calendering are suitable polymers which at thermoplastic stage have a sufficient viscosity and remains stable within a large range of temperature. The following thermoplastic polymers are suitable for calendering: rigid PVC (without plasticizer), semirigid and soft PVC (with the addition of plasticizer), PVC co-polymers, Polyethylene high and low pressure (low and high density), Poly-isobutylene, Polypropylene, Polystyrene, Polyurethane elastomers (TPU), Polymeric blends of PVC with chlorinated polyethylene (CPE) or other polymers and thermoplastic elastomers, Thermoplastic elastomers (TPE), e.g. nitrile rubber

However, PVC is still the most important plastic material in terms of volume for the production of calendered foils and sheets.

If necessary it is possible to add other products to the polymers, for example: mineral fillers like calcium carbonate, plasticizers, lubricants, stabilizers, pigments. These products are mixed with the PVC powder in a hot/cooling mixer combination. The obtained dry-blend is then fed to the hopper of the plasticizing extruder. The calender type BEMA allows to laminate directly in-line the plastic film with various substrates as: fabrics from natural and synthetic fibres, nonwovens, knitted material, paper, other plastic films

The field of applications of the materials manufactured on the calender type BEMA are for example: Films and foils of rigid, semirigid and soft PVC, Polyurethane film for lamination, PVC foil for lamination with steel strips, Handbags and travel goods, Synthetic leather, PVC floor covering, Protective clothing, Tarpaulins and tent materials, Conveyor belts, Ventilation hoses for coal mines, Technical items, Hospital items (mattress covers), PVC table cloth, Vinyl paper for bookbinding, Baby chairs and carriages, Insulating material for building industry (roofing membranes), Waterproofing and wrapping products, Packaging materials and many other items.

The products obtained on the calender line type BEMA can be embossed (glossy, matte or with engraved pattern) directly in-line and printed and /or lacquered on a printing machine off-line.



Complete technology for refrigerators field

GRUPPO COLINES®, manufacturer of extrusion lines, is offering an all-embracing technology for the field of machines and equipment for refrigerators.

GRUPPO COLINES® manufacture coextrusion lines for ABS and PS CRYSTAL-HIPS coextrusion lines destined to the production of thermoformable plastic material for refrigerating cells and back-doors. These lines have an useful width up to 2 meters and an output over 1000 kg/h. The produced sheet is afterwards thermoformed thus obtain the typical shape of the refrigerating cell, with both vertical and horizontal development.

As far as the refrigerator back cover is concerned, GRUPPO COLINES® offer the extrusion line for Bubble Guard® Board polypropylene sheet. Both the technology and the production process of the product are patented.

The Bubble Guard® Board sheet, laminated with metallized polypropylene sheet is providing exceptional performances in terms of thermal insulation and condensate-proof.

Bubble Guard® Board is a coextruded air bubble sheet, made of polypropylene, each consisting of 3 sheets each one on its turn formed by 3 single layers (A-B-A). Grammages range from 200 gr./sqm to 3500 gr./sqm

The extrusion lines to produce the BUBBLE GUARD® BOARD have a useful width up to 2500 mm with output of 900 kg/h of sheet-formed material.

Whilst the central layer has the typical structure of the air bubble film, the two outside layers have a smooth surface, which can be printed and laminated in-line, and is also hermetically sealing the central air-bubble layer. This innovative structure provides a very high strength to compression and a high rigidity on both the transversal and longitudinal direction.

For more detailed information www.bubbleguard.com

To complete the technology referred to the production of parts for refrigerators, COLINES® that recently finished the new production facility in Azzate (VA) manufacture extrusion lines for the production of PVC gaskets and magnetic profiles. In the last ten years more that 200 different profiles have been designed in order to cope with an constantly more demanding market which is more and more oriented towards energy saving. As a consequently the evolution of profiles is embracing both the structural design and the production technology.

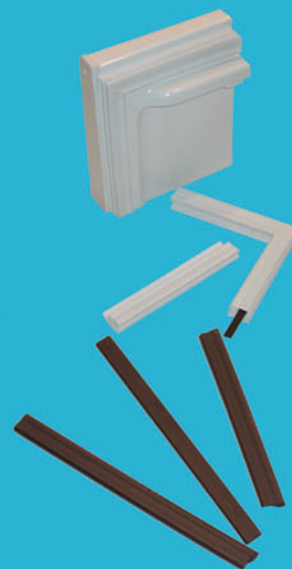
The latest generation dies, have undergone some modifications, permitting to obtain always more precise profile tolerances, with consequent time saving for machine start-up and normal production.

Moreover, the cooling of the profile, which occurs immediately after the extrusion, has been remarkably improved, thanks to the double-cell tanks with water re-circulation at constant and controlled temperature (approx. 10°C) to give to the extruded profile an elastic memory.

A further improvement is consisting in the scrap decrease due to the profile cutting at the line end. For instance, for the production of angular profiles for refrigerators, a 45° cut is performed, in order to permit the welding of the profile and consequently forming a right angle following the shape of the refrigerator doors.

Normally this process was producing a material scrap between 60 and 80 mm, but the latest technology of the new cutting station has permitted to reduce the scrap by nearly 50 %, obtaining an approximate value of 45 mm.

This result has been obtained thanks to the close collaboration COLINES® has developed with the major producers of refrigerators worldwide, creating a cycle of very efficient feedback information. This is proved by numbers: more than 250 lines sold all over the world which are renowned for the quality of the manufacturing method and of the extruded product.



Welding Machinery latest developments

Welding Machinery S.r.l. is an international leading company located in Gallarate (25 km far from Milan) that designs, manufactures and directly sells machinery for the air-bubble film, foam film and blown film converting sector.

Constantly open to the synergic flow coming from the companies of GRUPPO COLINES HOLDING, which it belongs to, besides the constant improvement and innovation of its machinery, known and used all over the world, WELDING MACHINERY presents its production range and the upcoming new proposals. Among them, there are machines for converting Bubble Guard® Flex and the other innovative products created by Imballaggi Protettivi another company of GRUPPO COLINES HOLDING;

welding and/or cutting machines for converting air-bubble film and foam film;

transversal pre-cutting equipment for converting air-bubble film, foam film or blown film;

machinery for the production of bags for pallets (also with square bottom)

using blown film with or without gusset;

automatic packaging machinery for air-bubble film reels (or other types of film);

machinery for the production of protective postal envelopes with PE or PP air-bubble film and PE-coated paper;

machinery for the continuous and multiple production of air-bubble film mini-tubulars rewound up in single reels.

The standard production widths of the machines are: 800 / 1000 / 1300 / 1600 / 2000 / 2500 mm.

Among the future developments WELDING MACHINERY announces a machine for the production of protective postal envelopes (Mailers) entirely made of PP air-bubble film, which multiplies the strength in comparison with the standard PE-coated paper envelopes with PE air-bubble film, and favor the recycling of the used envelopes in accordance with the environmental protection.



www.weldingmachinery.it



Fairs & Events 2006

Plastindia 2006 - New Delhi, India

Domotecnica - Colonia, Germany

Plast 2006 - Milano, Italy

Open House 2006 - Novara, Italy

Argenplas - Buenos Aires, Argentina

Plastimagen - Mexico City, Mexico

Syskeyasia - Atene, Greece

China Plast - Shanghai, China

Colombia Plast - Bogota, Colombia

Iranplast - Teheran, Iran

K 2007 - Dusseldorf, Germany

www.colines.it

www.colines-stretch.it

www.weldingmachinery.it

www.polycast.it

www.air-bubble.com

www.barriercast.com

www.barrierblown.com

www.bubbleguard.com

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