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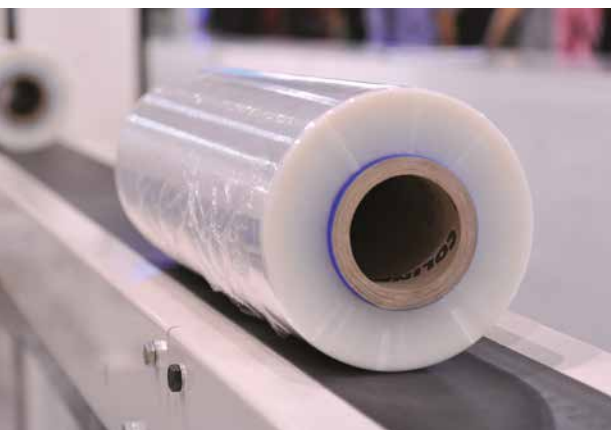
COLINES® IMPROVEMENTS

LATEST NEWS ON COLINES® TECHNOLOGICAL DEVELOPMENTS



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EDITORIAL PLAST 2018

DEAR CUSTOMERS, DEAR SUPPLIERS AND COLLABORATORS,

More than one year ago I had expressed a cautious optimism about the upswing of the investments and therefore of the market in our sector on worldwide level. Even though still today wars and political and economic tensions suddenly slow down the market in a "stop-and-go" mode in certain geographic areas, as far as we are concerned we can be more than satisfied with the recent period as well as with the present situation and the upcoming future. Sure enough, the constant growth of our activity has seen a doubling of the turnover compared to three years ago, with results such as to rank **COLINES® S.p.A.** among the 500 best Italian "Champions" in 14,632 companies considered as operating with a homogeneous activity, in terms of turnover, CAGR, EBITDA, PFN and rating (according to the research carried out by ItalyPost Centre for Studies for the economic section of "Corriere della Sera"). The strong overall growth of the companies controlled by **GRUPPO COLINES Holding (COLINES® S.p.A., Elav® S.r.l. and COLINES® AIR BUBBLE S.r.l.)** stems from the ability to innovate and therefore to raise the technical/technological level of our proposal, together with a special attention and support to our customers in the after-sales activity. These peculiarities count on the precious experience and the synergies deriving both from the verticalized companies controlled by B-PACK® Holding S.p.A. (B-PACK® S.p.A. and Imballaggi Protettivi S.r.l.) and from specific and close collaborations with selected customers.

It is worth mentioning and reaffirming that the resources and the engagement requested by such a complex overall structure are supported by a very strong financial solidity.

Of course, the mentioned expansion of the business requested, inter alia, two precise and accurate actions: the increase of the staff, especially in highly qualified roles, and the upgrade of the production structures. The production area was therefore enlarged by 10,000 square meters, considering the premises in Nibbia and in Marano Ticino. Our activity and our proposal for extrusion lines continue to be based on our traditional production ranges, which benefit from the constant focus on improvement in terms of energy consumptions, performances and cost/result ratio.

The most popular lines are presently the ones dedicated to the production of CPP film, air bubble film, stretch film (in conjunction with the great success of the **ALLWRAPPER®** packaging system using stretch film in place of heat-shrink film), **BUBBLE GUARD® BOARD** and hygienic film. For this latter production range we are fine tuning the line for breathable film made with blown technology; thanks to the development of this equipment, **COLINES®** is the only company in the world that can propose you both the cast and the blown technology for the production of hygienic film.

...there are, of course, many other things to tell you, so we will be glad to welcome you at our booth A/B 01/02, Hall 15 during the PLAST 2018 exhibition in Milan.



Eraldo Peccetti
CEO & PARTNER

NICOLA LOMBARDINI

ALLROLLEX® 1500: FLEXIBILITY AND TOP PERFORMANCES



THE BENCHMARK
OF THE CATEGORY
REINVENTS ITSELF:
**ANOTHER STEP
FORWARD IN
PERFORMANCES
AND QUALITY**

Since its debut in the stretch film production market (2006), the COLINES® HandrollEX® series of extrusion lines, which became AllrollEX® in 2014, has been a watershed for both product quality and impressive performance.

In particular, **the possibility to produce directly in-line reels for manual use on 2" cores** (and of course also on 3" cores, for certain markets) has exponentially expanded the catchment area of these machines, arousing the interest not only of the major producers but also of the distributors. The different requirements of a former distributor if compared with those of a big producer in terms of flexibility, rapidity on the production change and daily variety of the products, have been a big incentive for COLINES® in the evolution of the AllrollEX® series, which has always been a glaring example of **user-friendly, customer oriented machinery**.

In effect, since the beginning with this kind of approach, the main focus was on the ease of use of the line, both in terms of mechanical functionality (the lowest time and effort possible for the threading-up and the start-up, as well as for the format changes) and, above all, in terms operator's interface, now universally acknowledged as a touchstone.

While maintaining these peculiarities, **COLINES® has now boosted the research of even higher performances**, given that the present guaranteed values already make our lines the benchmark in the category, being in fact unequalled by competitors and as demonstrated by the sales data of the latest years. Despite this unquestioned leading position, COLINES® decided to invest notable resources in the development of several improvements aiming at the goal of the "fateful" **speed of 1000 m/min** even using "normal" recipes and resins, in other words **without introducing extra costs** that would be hardly compatible with such a competitive industry as the stretch market.

This innovative drive involved all the parts of the line, from the extruders, improved in terms of energy yield as well as of blend mixing, to the cast unit, featuring a high diameter chill roll with an optimized thermal exchange, thanks to specific technical solutions, peculiar to COLINES®.

The winder too underwent various improvements aiming at guaranteeing the maximum stability and reliability even with extremely low thicknesses and very high speeds; the absolute absence of vibrations and the possibility to produce reels actually characterized by the "CD-rom" effect are an indisputable evidence of that.

The well-known Bigmouth® recovery system designed by COLINES® was **further improved and automatized**, minimizing the operator's intervention regardless of the type of resin used and succeeding in **assuring the perfect constancy in feeding even in case of such heightened performances**.

All these innovations did not diminish at all the ease of use typical of the AllrollEX® series, well synthesized by the management system Live Check®, which includes a great number of functions designed to simplify and optimize the operator's work, starting from the programmed maintenance to end with the historic trends collected in graph form for an immediate and thorough understanding.

The exceptional performances and the typical flexibility of use of the AllrollEX® series has convinced even the most skeptical that in the present market it is not always necessary to chase wider and wider values to get profitability, on the contrary, with the market fragmentation and the higher and higher demand for practically "just-in-time" productions, the availability of so versatile machines is considered an essential plus.

GABRIELE PECCETTI



ALLROLLEX®:
DEVELOPMENT
GOES WIDER



COLINES® is proud to introduce the **new line AllrollEX® 3000 mm** (6-UP) with exciting technological upgrades. In the last 10 years we have developed specific technologies to perfect our cast stretch lines with widths ranging from 1 m (2-UP) to 4 m (8-UP) so that the market could define COLINES® as a benchmark in cast stretch film technology thanks to its superiority in effective energy saving, flawless winding quality and layout flexibility. Our research and development department for stretch technology has recently focused on developing lines from 3 meters upwards, with particular attention to:

1 PERFORM-EX® EXTRUDERS

- The latest design extrusion screws have been engineered to achieve higher homogenization of the materials, like metallocenes/elastomers/PP, mainly used for the production of technical films.
- Adoption of new conception “static filters”, either of cartridge type or of disc type. This solution gives better results in terms of filtration of the melt impurities while preventing excessive differences in the pressure values, and allows to diminish the frequency of change of the filters themselves.
- Low energy consumption thanks to the use of infrared ray heaters and insulating mattresses for the melt pipes

2 CHILL ROLL UNIT

- The second cooling roll is positioned in such a way as to maximize the wrap-up angle of the film on the chill roll (up to 309°!), so the frost line can go down to 7 ÷ 8 o'clock, which is the key factor for the production of film with high elongation. The edge pinning devices are characterized by an automatic graduated positioning. This parameter can be saved into the recipes, helping to speed up and minimize the time to change recipe and/or thickness.
- A temperature sensor on the film monitors **the position of the frost line**, which is very useful to obtain uniformity and repeatability of the film characteristics.

3 BIGMOUTH® RECYCLING SYSTEM

- The COLINES® “close-loop” system, now further improved, is able to recycle the edge trims up to 50% of the instantaneous capacity of the extruder, as it can make the fluff reach a density very close to the virgin raw material, with the result of producing different format reels and a narrower web with wider trims avoiding the die deckling (a huge advantage over a standard size scraptruder or a side extruder).

4 ALLSPEEDY® WINDERS

COLINES® has recently developed the fourth generation of the ALLSPEEDY® winder, in particular in the double 1500 mm module. The latest model of ALLSPEEDY®, covered by 5 patents, for 2” and 3” cores, presents the following features:

- Special surface finishing of the rollers to minimize the air entrapment with high speeds and low thicknesses, thus obtaining a perfect reel geometry.
- Additional adjustable contact roller system during the change phase helping to minimize the reel tail.
- Production of reels with diameter up to 406 (16”) mm (with 3” cores).
- Availability of several formats: 250 mm, 300 mm, 450 mm, 500 mm, 750 mm and further formats.
- Possibility to combine and run different formats at the same time like, for example: 1x500 mm + 5x300 mm or 2x750 mm + 2x250 mm etc., a unique feature in the world.

COLINES®’s distinctive feature has always been a special attention to the Customer’s specific requirements, also in terms of design flexibility: for instance the 3000 mm wide AllrollEX® stretch film line can feature the double winder both in a horizontal layout, i.e. on the ground, and the arrangement with superposed winders, to suit different configuration needs.

FRANCESCO PECCETTI

FUTURE IS NOW: THE NEW FRONTIER OF FLEXIBLE PACKAGING

The innovative patented ALLWRAPPER® project, born about 5 years ago with the aim of stimulating and promoting the use of stretch film outside the pallet application, is the ideal solution for bundling of product groups, whether in bottle, flacon, can, dispenser, box, etc.

On the strength of a simple and reliable operating principle absolutely similar to the pallet wrapping machines, it takes place through the wrapping of stretch film (with specific characteristics) on a matrix of products, obtaining a better holding force between them when compared to the traditional system with heat shrink tunnels. In addition, it is worth underlining the possibility of considerably reducing the amount of film used (up to over 60%), compared to the amount needed using the traditional heat shrink tunnel technology (with heat shrink film).



The ALLWRAPPER® range currently offers packaging solutions mainly for the beverage, food and medical sectors, with particular attention to the application for the bundle packaging of PET bottles and vacuum bags of coffee, rice and wheat flour.

The system capacity covers production from 12 to 210 bundles per minute depending on the composition of the ALLWRAPPER® system. In fact, we talk about the composition of the machine as the system is completely modular, so it can receive upgrades in the future (i.e. due to increased production capacity of the products to be bundled).

The fully automatic version, called ALLWRAPPER® HS, provides for the continuous shrinkage of a large quantity of products (i.e. PET water bottles), covering production up to over 100,000 bottles per hour (in the 0.5 lt format).

The ALLWRAPPER® LS versions are dedicated, instead, to applications such as bags, whether they are salt, coffee, wheat, flour or rice, whose bundles usually have a weight from 8 to 12 kg. To make a bundle with our technology, only 8 grams of stretch film are needed, a remarkable saving if compared to any other plastic film doing the same job!



The electric power saving is simply impressive, as it allows cutting up the monthly energy bill to over 90%. This is because the system does not include any shrink oven to generate the film shrinkage, while as mentioned, it is carried out with controlled tension through servo drive.

Moreover, the system can be started-up only when it is actually required: no preheating operation is needed.

Safety first! In case of bundling of under-pressure or highly flammable products, **the ALLWRAPPER® technology is particularly advisable, thanks to the obvious advantages of not having heat sources.**

A secondary incidental advantage is the saving in ancillary and complementary packaging items, such as interlayers, which in some cases can be reduced to a minimum number thanks to the improved friction effect between the bundles themselves. It is clear that shrink wrapping is characterized by a higher slipperiness between the bundles, ultimately making the entire pallet less stable.

The Customers of COLINES® producing stretch film can take advantage of the ideal set up: ALLrolLEX® extrusion line + ALLWRAPPER® LS, thus providing a unique service to their customers and carrying out packaging tests directly at their facility.

With various ALLWRAPPER® references active around the world, COLINES® has developed a collaboration with Lanfranchi, to which it has licensed the sale and installation of this technology.

Do not hesitate to contact us: we will be pleased to provide you with all the details about ALLWRAPPER®!



“DOUBLE BUBBLE” HONEYCOMB REVOLUTION

Over the years, various alveolar thermoplastic materials have been developed with different shapes and weights. Through this short article we will try to give an overview of the branch. Let's start by dispelling any doubt concerning products with linear structure (i.e. twin-wall sheets) that can't be considered as alveolar due to their own, too different structure, but must be identified as side-by-side walls.

Other materials, having different structures (conic, cylindrical or conical trunk) homogeneously arranged, are on the other hand considered proper honeycomb structures.

Each of them has different features and possibilities of use: starting from simple and light panels for general-purpose packaging (layerpads for stainless steel plates), we can get, with the appropriate laminations and compound receipt, up to the car interiors and to the construction of containers for logistics or plates for advertising graphics.

Going through these products, the COLINES® Group in collaboration with IP, has noticed a lack in the market of materials in high thickness (nowadays the highest manufactured thickness is around 13 mm).

Thus, thanks to the support of external laboratory partners, structures have been developed to perform important mechanical features with a thickness range from 15 to 30 mm.

The material we named “Double Honey” is manufactured by a COLINES® machine with double rollers and instantaneous welding. This project has been developed for two-fold calendering, for both conical and cylindrical structures.

Thanks to this technology we have made available weights and thicknesses ranging from 3 Kg /m² for 15 mm to 6 Kg /m² for the 30 mm.

Furthermore we do have the possibility, as for the current production of BUBBLE GUARD® BOARD, to thermally or mechanically laminate a wide range of materials through a controlled coating, according both to aesthetic (dilour, needled, fake leather) and structural requirements (woodstock, PET, curves).

The “Double Honey” offers a huge quantity of applications, but at this moment we envisage various ones in the field of interior design as well as outdoor architecture.

We therefore expect to develop garden and bar furniture and, due to its light-weight feature, we also expect a great success in all those applications such as panels for caravans or boats, where lightness combined with aesthetics and rigidity will improve everyone's life.

Lightness in tables, furniture and floorings – the long and short of it – “Lightness in Building”.



THE “DOUBLE HONEY”
OFFERS A HUGE QUANTITY
OF APPLICATIONS



NICOLA LOMBARDINI

BLOWN BREATHABLE FILM: DEVELOPMENT IS THE “KEY”

THE DIFFUSION OF BREATHABLE
FILM HAS THEREFORE LED
**PRODUCERS TO INVEST
BIG RESOURCES IN
THE RESEARCH AND
DEVELOPMENT**



The hygienic film market is one of the most active and vibrant in the universe of flexible packaging, thanks both to the increasing demand from the developing countries and to the undoubted progresses achieved in the latest years in terms of processes and raw materials. As a logic consequence of these two aspects, we are witnessing a radical change also in the end users' behavior, with a decided expansion of the use of the so-called breathable film, now widespread on a large scale, to the detriment of embossed film, which has now been relegated to the status of pure commodity and whose appeal is lower and lower.

The diffusion of breathable film has therefore led both machine manufacturers and raw material producers to invest big resources in the research and development in this sector, which, together with the increasing ecological awareness of the industry, has resulted in a predominant downgauging process, as we are now used to seeing in the world of flexible packaging. However, this trend clashes with the present technological situation of the breathable film production lines, typically based on the cast technology.

The need to use raw materials suitable for the production with cast technology and the intrinsic, undoubted difficulties in producing very thin primary (i.e. non stretched) films with blends containing 50% of calcium carbonate, led **COLINES® to the determination to invest in a development activity that gave birth to a new series of lines for breathable film based on the blown technology.**

Such a choice was dictated by a number of reasons deriving both from careful and accurate market researches and from the more than twenty-year experience in the field of hygienic film, and constitutes a real challenge to tradition.

Adopting the blown technology in place of the cast method, more widespread in this specific sector, involves a series of undeniable advantages, which can be briefly listed here below:



- The possibility to use a broader spectrum of raw materials offers the concrete opportunity to make thinner film without making use of special blends, difficult to process (for instance blends with polypropylene).
- The better general mechanical characteristics of the films obtained with blown technology are connected precisely to the use of more appropriate resins, which would not be processable by a cast line.
- The speed, substantially halved with respect to the speed of a cast line with a similar throughput and net width, allows to obtain a melt cooling that favors the amorphous phase on the primary film, thus enhancing its stretchability.
- The absence of the neck-in phenomenon connected to the extrusion of the primary film permits a remarkable reduction of the trim quantity, such as to even allow its recycling directly in line, without using an expensive (above all in terms of power consumption) repelletizer.
- As a direct consequence of the point above, it is also not necessary to use a dryer for the regenerated pellets, with a further saving in the investment and in the use of the machine.

It is clear that, to make a blown line with MDO unit efficient, COLINES® had to tackle and solve the main issue connected with this kind of production, id est the need of a sort of “target profile” for the primary film in order to compensate the unbalance caused by the unavoidable neck-in caused by the mono-orientation process.

COLINES® has conceived a solution, of course resulting in a new patent, which stemmed from a completely innovative point of view, actually “overturning” the classic approach in the management of the profile in blown lines.

The MDO unit itself, moreover, represents another step forward in the technology, with its innovative heating system of the cylinders by infrared rays; this extremely efficient solution allows an absolutely precise management of the film temperature, with an immediate response, without “filters” between the temperature reading and the action of the thermoregulator.

In terms of energy consumption and global efficiency the advantages are easy to guess, but this innovative solution also gives many benefits from the process point of view, as it guarantees absolute steadiness of the thermal power applied through the whole heating area, without any thermal differential, besides allowing a management of transversal bands.

The total absence of dedicated piping and the space saving (all the water/oil thermoregulating units are eliminated) are other very interesting aspects for the end users of this kind of equipment, who won't be anymore struggling with high expenses for the maintenance and the disposal of waste oils.

Furthermore, even the configuration of the MDO has been completely reworked by COLINES® just in the light of the production necessities with blown lines, and above all on the basis of the experience gained on field also acquiring data and information from prototype lines for the optimization of the system, which now boasts a compactness and a user-friendliness that you will not find in any other similar machine on the market.

NICOLA LOMBARDINI

THE PRESENT AND THE FUTURE OF MONO-ORIENTED FILM ARE IN COLINES®'S HANDS



It is a fact that **COLINES®** has been able to establish itself over the years in the market leading position in the field of polypropylene cast lines, thanks also to the considerable synergies and verticalization implemented since the late 90's with B-PACK DUE®, film making company created by the same founders, which in a few years became one of the largest European producers of CPP and was then sold to the AMCOR group. The experience gained in recent years, together with the possibility of drawing on the knowledge acquired also in other similar but not adjacent sectors, such as stretch film, barrier film and hygienic film, have led COLINES® to the development of cutting-edge technologies, anticipating a market trend that is gradually becoming more focal.

We are talking about the mono-orientation applied to CPP films (but also to CPE films, another undertaking carried out by well in advance of all the main competitors), which can represent in the immediate future a real revolution in the way of conceiving the fabrication of polypropylene cast films.

The increasing trend towards downgauging, together with the need to guarantee the typical characteristics of CPP film (transparency, sealability, impact resistance), represents the real challenge that COLINES® has taken on in the development of an innovative MDO unit specifically designed for this particular application, and equipped with all the latest advances already applied in other fields.

THE INTRINSIC CHARACTERISTICS OF THE MDO UNIT PROPOSED BY COLINES® ALLOW FOR A TOP-LEVEL FLEXIBILITY OF USE



In this regard, it may suffice to recall the innovative (and unique on the market) possibility of heating the cylinders of the MDO unit with IR lamps, which guarantees absolute homogeneity of the surface temperature regardless of the width of the cylinders, as well as a drastic reduction both of the set-up times and of the overall energy consumption.

In addition, the possibility to directly measure the film temperature and the equally important feature of being able to independently adjust the temperature in transversal bands allow a flexibility of use absolutely unknown to all other similar applications.

The mono-orientation can represent, as said, a milestone in the evolution of the production of films with cast technology, as it allows to achieve physical and mechanical characteristics of the film unattainable by a normal production process; the progressive transition from the amorphous to the crystalline configuration, in fact, determines a series of advantages easy to guess from the point of view of mechanical and barrier properties, and the presence on the market of many raw materials with specific characteristics also allows to overcome the limit of the lower sealability determined by the stretching action.

The countless experimental tests carried out by **COLINES®** have **allowed us to determine the actual advantages offered by this technology** numerically; of course, the margins of development are still huge and various possible application areas are still to be analyzed and validated.

Naturally it was necessary to study and design an MDO unit able to satisfy such an enormous variability of possible requests; since this technology is still relatively “young”, no literature or “tradition” is yet available to draw on.

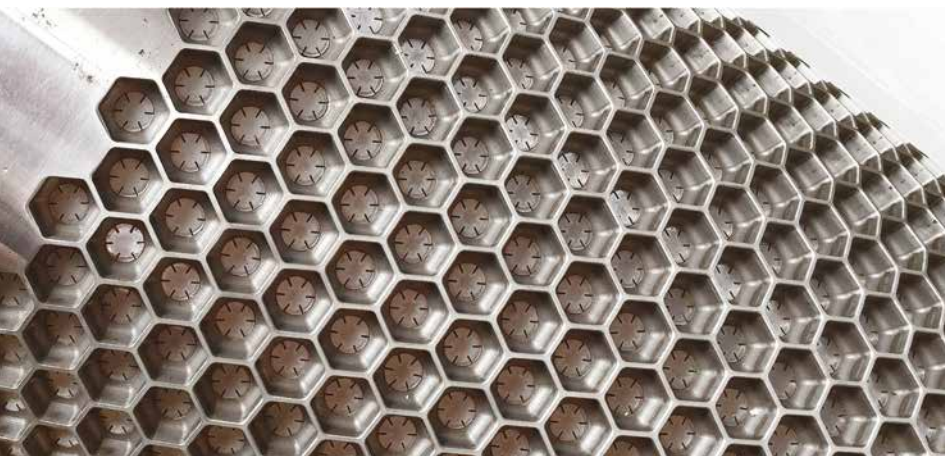
COLINES® therefore chose a modular approach, in order to be able to envisage future modifications and upgrades of the basic machine, following the logics and new market demands while minimizing the necessary investments.

This approach has led to the development of an extremely flexible unit in terms of mechanical configuration, thus offering the end customer the opportunity to choose from a wide range of solutions to meet their specific needs; for example, the presence of an independent motorization for each cylinder of the MDO unit is a guarantee of absolute flexibility in the speed management, as well as having a pressure roller for each cylinder permits the application of stretching in every point of the machine.

Furthermore, the possibility of applying even very high stretching ratios at extremely high line speeds led to the decision to apply a management system of the length of the stretching gap, so as to avoid local overtemperature phenomena due to the excess energy released during the process. Logically, the new knowledge acquired from these experiences has been beneficial also for the rationalization and improvement of the MDO units used for other applications, such as breathable film or film for roofing.

FRANCESCO PECCETTI

BUBBLE GUARD® SIMPLEX IS BETTER!



COLINES® recently introduced a new innovation in the field of the existing patented BUBBLE GUARD® technology, presenting the entry level model of the now well-known product, and calling it BUBBLE GUARD® SIMPLEX (or BGS), to highlight the simplified production process. This equipment has been calibrated upon the actual market requirements, with a special attention to the low/medium grammages. The BUBBLE GUARD® SIMPLEX extrusion machine operates in a production range from 100 to 1500 gsm, with min-max sheet thicknesses from 1.5 to 5 mm.

The yearly production capacity can vary from 3.000 to 5.000 tons, according to the configuration of the extruders, with widths of the finished product from 1200 to 1800 mm. The reference markets are the printing sector, packaging, automotive and building industries, covering the manifold application varieties which these sectors deal with.

The process consists in the simultaneous production of 3 coextruded layflats which are then welded together through a heat sealing process. The central layflat is thermoformed, as is the custom of BUBBLE GUARD® technology, giving the opportunity to choose between different moulds (bubble, hexagon, cone, pyramid), each of which characterizes in turn the final plate and its use.

The board thus produced can be laminated on both external sides with different materials (films, fabrics, foams, etc.), allowing the production of PP-based composite panels with outstanding mechanical and aesthetic features. If printing is required (using also the most common technologies, such as digital print), in-line corona treatment units are provided for subsequent inks anchoring to the sheet surface.

Finally, there is a tracking cutting system that guarantees the repeatability of the plate length with the aid of a meter counter or a precision sensor. More lightness, higher mechanical resistance in low/medium grammages, better material handling, outstanding planarity and surface quality for printing applications, extremely low process cost: these are the keywords of the BUBBLE GUARD® SIMPLEX project.

In addition to the mentioned pluses, the BUBBLE GUARD® SIMPLEX production line offers the advantage of a limited initial investment, proposing a complete but simplified technological solution, if compared to the traditional BUBBLE GUARD® BOARD and DUPLEX production lines.

COLINES® KEEPS
INNOVATING AND
PAYING ATTENTION
TO THE MARKET
REQUIREMENTS



DARIO PAGETTI

COLINES®, MARKET LEADER ALWAYS FASTER, ALWAYS MORE EFFICIENT

THE BENCHMARK OF THE CPP LINES CATEGORY REINVENTS ITSELF:

With more than 30 years of experience in the construction of polypropylene cast film lines and more than 20 years in film production experience with the partner company B-PACK DUE® (transferred to the giant AMCOR a few years ago), COLINES® is a world leading manufacturer, thanks to the synergy achieved with its customers and suppliers, allowing a constant improvement in the quality and performances of its POLYCAST® lines.

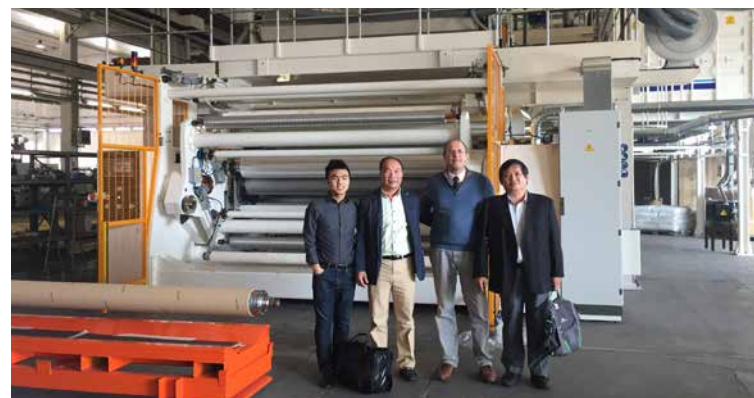
THE LATEST DEVELOPMENTS:

CPE FILM PRODUCTION:

One of the market sectors that is increasingly emerging is the so-called CPE, i.e. polyethylene based film produced with the cast technology rather than using the classic blown method. The reasons for this change are absolutely evident and can be easily listed.

- Production with cast technology allows to obtain optical characteristics that are undoubtedly incomparable to what can be obtained with the blown process, with better control of the frost line which also allows to better manage the characteristics of the film from the point of view of mechanical properties.
- Similarly, the management and adjustment of the profile of the film produced in cast is much better than what is possible even on the most modern and efficient blown lines, thanks to the direct mechanical action controlling the extrusion die; this results in a further increase of the speed on converting machines, thanks to the improved overall flatness of the film.
- The “mono-orientation” of the film produced with a cast line is greatly appreciated and advantageous for different here, stead, applications, where, instead, the typical “bi-orientation” determined by the blown process is often a constraint and a limit.
- The latest and most recent innovations in terms of energy saving, which has always been one of the “leitmotifs” of COLINES® production, have actually allowed the historical gap between these two technologies to be overcome from this point of view too, without penalizing either the quality of production or the actual productivity.

COLINES® is always at the forefront of every aspect concerning the production of films with cast technology, and therefore we could not miss the appointment; the possibility of producing CPE films of various thicknesses and characteristics is therefore a fact, thanks to the peculiarities of our cast unit and especially to the solution designed by COLINES® for the under-die suction, suitable for production with all different types of polymers. One of the more recent successes is the commissioning of a new POLYCAST® line for our loyal customer KY PHAT in Ho Chi Minh City. The line can produce 2800 mm wide 5-layer CPP and CPE film for lamination and metallization, with special formulations developed by our R&D department for this purpose.



ZERO GELS:

With the COLINES® POLYCAST® lines there is the possibility to produce CPP – CPE film with a practically negligible residual gels presence. This feature, together with the in-line web inspection system and with the latest developments in terms of “web-cleaning”, will permit to produce films that can be employed in pharmaceutical or food packaging, which require the absence of gels. The special static filtration system that can be installed in our lines permits not only to extend the

interval of cleaning of the filters, but also to make the operation much quicker than in any other static filter equipment.

Another advantage of the special filtration system installed in the POLYCAST® lines is the reduction in production costs, because the duration of the filtration pack will be extended by several weeks, with drastic reduction of the polymer waste and reduction of the line downtime.

THE NEW LIFE OF AIR BUBBLE FILM: TREMENDOUS GROWTH FOR COLINES® AIR BUBBLE EXTRUSION LINES

After a few years of stable demand in the air bubble extrusion lines segment, in the last couple of years COLINES® has been experiencing a tremendous growth in sales involving all the 5 continents. From North America, passing through Europe, as far as Australia, COLINES® sold the full spectrum of equipment for air bubble film production:



■ POWERBUBBLE

Mono extrusion film line (regular or with twin screw extruder)

■ COEX

Coextruded film line (regular or with twin screw main extruder)

■ BAD

Off-line film line

■ RP

Coreless rewinders

Further to the integration with the company Torninova (which was acquired by COLINES® in 2016) and the strong efforts of the COLINES® R&D department pushing hard on innovation, we have been able to raise the bar setting a new technological goal. As a matter of fact, COLINES® succeeded in manufacturing the widest air bubble extrusion line ever built (3.7 meters wide), a new fully automatic winder able to run jumbo finished rolls with diameter up to 2500 mm, production speed over 100 m/min and a complete system for roll palletization, packaging and stretch wrapping inline.

We are also very proud to be the reference partner for air bubble film lines of leading multinational groups in this sector that have chosen COLINES® to supply multiple equipment to their different operation sites around the world. One of the largest European manufacturers of air bubble film with over 10 production sites around Europe has gone for COLINES® for their latest equipment purchase, choosing a POWERBUBBLE extrusion line 2500 mm wide.

Looking for high output, flexibility in job change, high film quality and fully turn-key/customized supply, COLINES® was the right choice to achieve all their targets.

The POWERBUBBLE LINE 2500 mm wide is equipped with the best solutions available, such as our "quick change" system for the bubble forming cylinder (only 20 minutes for the complete operation), 3rd layer hot oil double rollers lamination unit to allow a perfect lamination of substrates (e.g. kraft paper, metallized film, foam, printed film, etc..) with no production speed reduction, 4th layer lamination, in-line perforation working at full speed with minimum stroke, in-line edge trims recovery system, fully automatic 2-shaft turret winder (able to run multiple rolls in-line) with automatic cores loading system and extraction cradle to rolls pick up position.

As common in COLINES® supplies, thanks to the developments carried out by ELAV®, all electrical components are stored in an air-conditioned container with industrial router for remote connection in case of online support and the full control of the line is made through a stylish totem with 19" touch screen.

TWIN SCREWS FOR AIR BUBBLE FILMS, PICKING THE MARKET UP!

The manufacture of extrusion lines to produce air bubble film has always been one of the most familiar sectors for COLINES®, since the time of its foundation in the now distant 1973. After some years of stagnation, due to the absence both of innovations proposed by the manufacturers and of inventive drive from a receptive market, **the market of air bubble films has undergone a sharp pick-up just thanks to COLINES®**. The recent acquisition of the company branch of former Torninova relative to air bubble films lines has offered the opportunity to compare the different technological solutions, create a synergy between them and extrapolate the best from both, especially in terms of efficiency and performance level of the lines. More specifically, one of fields of research started by Torninova was the application of a twin screw extruder on an air bubble machine; such solution, which COLINES® aimed at realizing for a long time, was implemented by Torninova on a couple of recent lines and was resumed and engineered by COLINES® with the collaboration of a supplier specialized in this equipment.



For a basic commodity with a low added value like the air bubble film, such a choice unquestionably endows an extraordinary increase in efficiency, as a matter of fact, the twin screw extruder allows the use of a huge variety of resins in any form available (pellets, flakes, powder), always guaranteeing a correct homogenization and dispersion, thus permitting to dramatically reduce the first cost items in the production of air bubble film, namely raw materials.

The possibility to use extremely high percentages of reclaimed pellets and flakes coming from various production wastes (of course also contemporaneously) constitutes in fact a real revolution from the point of view of the approach to the process, chiefly in the current market, where the demand for lower and lower grammages is now standard; without the support of this particular extruder it would be materially impossible to guarantee the expected quality unless massive percentages of first quality virgin pellet is used, otherwise a drastic decay of the mechanical characteristics of the finished product would be inevitable.

A correct and careful study of the extruder feeding system (obviously based on the concept of gravimetric loading) besides the use of downstream accessories (screenchanger, gear pump) has made it possible to achieve an absolute benchmark in the production quality from all points of view, while maintaining its ease of use and the user friendly graphic interface typical of all the COLINES® lines.

In particular, the management of the twin screw extruder, basically and deeply different from that of a classic single screw extruder, has been fully automatized, reducing the operator's intervention to mere mechanical and routine operations that are common to any extrusion line.

No less important is the aspect related to energy consumption; thanks to the special processing of the polymer at low shear, the line can reach a significant energy performance. Field trials have demonstrated that it is possible to reduce by 20% (!) the specific real consumption with respect to an extrusion line with the same production capacity equipped with "normal" single screw extruders; it is evident that with such figures the higher initial investment, due to the greater complexity of this non-standard solution, can be amortised very quickly and proves to be definitely gainful.

INTRODUCING

COLINES® IS GLAD TO INTRODUCE SOME NEW RESOURCES WHO RECENTLY JOINED US.

COLINES®



DARIO PAGETTI
Sales Area Manager



FRANCESCO SILVERA
Sales dept.



PAOLA BOVI
Sales Assistant



STEFANIA FERRARO
After-Sales Service Assistant



LORENZO ERBETTA
Technical dept. Manager



STEFANO BERTOZZI
Technical dept.



PAOLO CATTANEO
Test-Run Coordinator



GIUSEPPE ROSSI
Purchase dept.



DEBORA EREMITA
Accounts dept.



GIUSEPPE MADDALUNO
Marketing & Communication



MAURIZIO CROCCO
IT Manager



GABRIELE MAININI
Technical dept.



COLINES® MANUFACTURING TEAM AT MARANO TICINO FACTORY.

“COLINES® AND VOLLEYBALL, A WINNING FELLOWSHIP”

In the last six years COLINES® has been promoting also in the sports world those positive values that became distinctive features of the company.

Being sponsor of the club Igor Agil Volley (founded in 1984 and involved in high level women-volleyball), COLINES® had the chance to join a winning and educational project and the company became a supporting column thanks to the direct involvement of Eraldo Peccetti, CEO and founder of the COLINES® Group, in the club's technical committee.

After the victories of the Italian second national league (A2) in 2013 and the Italian Cup (2015), in 2017 Igor Agil Volley (which plays the Italian first national league, with Igor Volley denomination) achieved an historic national title: it was the first time ever for Novara. Just in the latest months, COLINES® celebrated two more prestigious trophies: Igor Agil Volley won its first Italian Supercup in November 2017, and its second Italian Cup in February 2018.

The club keeps on improving thanks to the involvement of some of the brightest stars in volleyball world, such as Francesca Piccinini (former Italian National Team captain, with more than 800 games played in her career) or Cristina Chirichella (current Italian National Team captain) and Paola Egonu (the rising star of Italian volleyball, only 19 years-old): right now Agil Volley is stable among the top 4 clubs in Italy and will join in 2018-2019 the European Champions League for the third time in the last 4 years.



Meanwhile, Igor Agil Volley is taking the chance as well to spread its founding values (friendship, joy, commitment and loyalty) among the hundreds (which can be thousands if we consider the partner clubs all around Italy) of young players, currently members of the club junior and youth teams.

The bond between COLINES® and Igor Agil Volley today is stronger than ever, and the company is proudly one of the partners who support the club and the team step by step, even on the court: the COLINES® logo stands out both on the players' jerseys and on the promotional panels, to testify the strong rooting in the local community life of a globally oriented company as we are.



COLINES® LOOKS
CONFIDENTLY FORWARD
TO NEW IMPROVEMENTS
AND TARGETS TO BE
REACHED TOGETHER

GIUSEPPE MADDALUNO

HOW TO BECOME A CHAMPION

A new outstanding performance for COLINES®: the company led by Eraldo Peccetti was ranked a few weeks ago as one of the 50 Italian top performers, according to the "Champion" report realized by ItalyPost, a highly-qualified team composed of skilled financial analysts coming from the ModeFinance rating agency. By analyzing all the Italian companies with a turnover between 20 and 120 millions, ItalyPost aimed at highlighting those who performed above average in the years 2010-2016. COLINES® satisfied all the requirements set by ItalyPost to be a "Champion" company. In those years considered by the report, COLINES® performed an average CAGR (Compound Annual Growth Rate) of 16.39% (more than double than the required 7%, a value that ranks COLINES® among the best 100 Italian performers), had an average EBITDA rate (Earnings Before Interest, Taxes, Depreciation, and Amortization) of 11.55% (the requirement was 10%) and a -2.619NFP (Net Financial Position) ratio, scoring also a BBB rating. Among the 500 "Champions", 397 of them are located in Northern Italy, with a homogenous spread from the West to the East. A meaningful result, which undoubtedly certifies how Italy is receiving a strong boost from the northern area for an upswing after years of crisis.

"COLINES® RANKED AMONG THE 50 ITALIAN TOP PERFORMER COMPANIES BY THE ITALYPOST"



DARIO PAGETTI

A STRONGER TEAM TO COMPETE IN ASIA

Step by step, the Italian company led by Eraldo Peccetti is working hard to create a stronger and stronger working team worldwide and just in last nine months, COLINES® started several new partnerships for the Asian market. Mr Duki Lee and his professional team (PT Batumas Indah) will take care of the Indonesian market: their corporate office is in Kembangan, Jakarta Barat. Mr Somkiat and Keerati Sripraputchai with their professional team (Sky Engineering), will bring COLINES® business to Thailand: their office is in North Bangkhuae (Bangkok). Mr Cho Og Lae (Tec Plus) will be the company's partner for South Korea: thanks to his long-term experience in this kind of business, he will lead COLINES® business in the country from his corporate office in Seoul.

COLINES® KEEPS INCREASING THE WORLDWIDE SALES NETWORK AND SERVICE THROUGH THE COOPERATION WITH WELL KNOWN PARTNERS

COLINES® started also a new and important co-operation partnership for the Japanese market: Matteo Martini (Martini Tech, with agency located in Tokyo), who will be the company agent in one of the most developed areas in the world. All of them joined the partnership with COLINES® in the last months and the company is currently looking forward to share with its new cooperators a strong growth in Asian market.





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Novara



COLINES®

Azzate



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Marano Ticino



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