

PolyMirae's innovative solution for premium *Meltblown* nonwoven!

Metocene MF650W, MF650X, MF650Y, MF650Z



Metocene Meltblown PP solution will provide opportunity to produce *Meltblown* nonwoven with excellent uniformity and finer fiber comparing to general *Meltblown* PP.

Poly Village

2020 20th Anniversary Special Edition Vol.45

20th Anniversary Special Edition

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PolyMirae Magazine

Poly Village Vol.45
2020 20th Anniversary Special Edition

Publisher

BangHyun Kim

Publication Date

September 1st

Planning

PolyMirae Magazine Team

Design

Everything Design

10, Gukjegeumyung-ro, Yeongdeungpo-gu,
Seoul, Korea

TEL +82-2-2167-8914

September 1 is a very meaningful day for PolyMirae, as it's our 20th anniversary. We would like to take this opportunity to express our sincere appreciation to all of the shareholders, affiliates, clients and local communities that have consistently provided their active support and assistance for the company's development in the 20 years since we were founded in 2000, and to all of our employees who have worked so consistently to fulfil their responsibilities.



Dear PolyMirae business partners and employees,

My name is BangHyun Kim, and I was appointed CEO of PolyMirae in March. It's nice to meet you all.

First of all, I would like to express my deep gratitude and respect to former CEO Martino Gabellich, for his exemplary leadership, dedication and achievements during his term. I wish him great success and blessings in Recycling & Sustainability, which is the area he has been newly assigned to by LyondellBasell.

Personally, it is a great honor for me to be leading PolyMirae in the year of the company's 20th anniversary. It seems even more significant to be the first PolyMirae CEO to have been promoted to the position from within the company. I feel a heavy responsibility in my heart as I take on such a critical role. I pledge in front of all of you to faithfully fulfill my role as representative of PolyMirae so that we can deliver outstanding value to our clients, employees, suppliers, service providers, communities and shareholders, while continuing to achieve success in the future.

Let's all fly together for another leap!

In our first 20 years, PolyMirae has faced many difficult circumstances, both internally and externally. But each time we faced an obstacle, we were able to make a stronger PolyMirae, by wisely overcoming it without fear of failure. The PolyMirae I am proud to be a part of today was created from the efforts and dedication of many leaders and employees. I would like to express my gratitude and respect to those who have laid the foundation for the company's sustainable growth over the past 20 years.

It would have been nicer if the external environment this year, as we mark our 20th anniversary, was a little friendlier, but unfortunately, the entire world is experiencing the unprecedented crisis of COVID-19, and PolyMirae is no exception. I am proud that PolyMirae is achieving remarkable things, not only in the safety, environmental and health sectors, which are a top priority, but also in the sales and financial areas, by doing our best through taking an innovative and passionate approach to our work. We should all be very proud of these achievements.

As of midnight June 21, we recorded a new safety achievement: 3,000 days without any accident. This is an important record that is widely recognized in the petrochemical industry. I am sure that this is the result of a policy that puts safety, the environment and health as our top priorities, as well as the strong execution ability of all employees. In addition, there is no doubt that it is a result that proves the special potential of PolyMirae.

We have also been delivering financial results that are better than expected thanks to the continuous diversification of our product portfolio and the development of differentiated product groups. In particular, in the area of social responsibility we are proud of our great contribution to suppressing the spread of COVID-19 by stably supplying as much as possible in the way of Metocene and Conventional Melt-Blown products, which are core raw materials for mask filters, to domestic and overseas markets. Thanks to the rapidly increasing demand for Metocene and Conventional Melt-Blown products, we recorded our largest-ever sales of specialty items as well as achieved the best monthly financial performance in May since our foundation.

In addition, we are focusing our investments and efforts to solidify sustainable growth. Ulsan PP, which was established as a joint venture through a partnership with SK Advanced, is currently going well as planned, and it is expected that a new production line will be operational in the first half of 2021. Ulsan PP products will be provided to global clients, in support of our expansion strategy.

With the intensified competition in the petrochemical industry and a very uncertain market situation, we are facing a very challenging time. In particular, in the petrochemical industry, it is expected that this unprecedentedly difficult environment will continue for a considerable period of time due to large-scale global expansion. PolyMirae aims to go one step further to achieve our vision of going beyond Asia to become the most respected company in the global polypropylene industry, through outstanding performance, competent human resources and the fulfilment of our social responsibilities by focusing on the strengths that we know we have, what we do best, in this uncertain business environment.

At PolyMirae, we have established ourselves as an example in the industry for process excellence and safety, and are widely respected for our product portfolio, quality, customer service and reliable supply. There is no doubt that PolyMirae will continue to differentiate itself from other companies in the future and become the most respected company in the polypropylene industry.

Since PolyMirae was founded, it has hit many remarkable milestones, but I still feel there is more to be done. We will not be afraid of the various new challenges that emerge based on the foundation of growth we have built up so far. Please join us at PolyMirae as we work for perfect safe driving, excellent financial performance and sustainable future growth. Together, we are strong, and will continue to become stronger. We look forward to entering a dynamic and successful future with you.

Congratulations again on PolyMirae's 20th anniversary. Thank you.

September 2020

BangHyun Kim, President & CEO

PolyMirae marks its 20th anniversary this year. It's safe to say that PolyMirae's 20th anniversary is thanks to our shareholders, associates, customers, and partners. Our shareholder LyondellBasell and Daelim Industrial, associate SK Advanced, customer GS Caltex, and partner Milliken, who have long been associated with us and have grown together in strong trust and faith, sent us congratulation messages.

Hope PolyMirae will continue its success story based on the achievements



Phil Pyman, CEO
LyondellBasell

On behalf of all of us at LyondellBasell I would like to offer our warmest congratulations to you all as we celebrate the 20th anniversary of PolyMirae together. Due to the difficulties travelling in the current situation, I am sorry that I will not be able to celebrate the important event in person but I do look forward to visiting PolyMirae as soon as restrictions are lifted.

On September 1st, 2000 when PolyMirae was founded we had a vision for PolyMirae to become a leading player in the polypropylene industry in Asia. As we look back on the PolyMirae's journey so far, you can all take great pride and satisfaction in all that you have achieved. We too are proud of our partnership with Daelim and of the company that PolyMirae has become.

A lot has changed in the past twenty years, although the fundamental drivers of PolyMirae's success have not. A highly skilled, dedicated and loyal team striving for the highest standards in safety and operational excellence and leveraging leading edge technology to manufacture high quality value added products to meet customer needs are at the core. These qualities have been all the more evident in recent months as PolyMirae has delivered some excellent results in the face of the major challenges presented by the global pandemic.

A distinguished history lays the foundation for future growth. These are exciting times as we look forward to the start-up of the new UPP plant in 2021 and take the next steps on the PolyMirae journey together.

So as we congratulate on your 20th anniversary and reflect on all the achievements, we look ahead with optimism to a successful future for PolyMirae and to celebrating many more milestones together in the years to come.

Many Congratulations from all of us at LyondellBasell !

Dear PolyMirae employees, Congratulations on the 20th anniversary of PolyMirae

PolyMirae was founded in 2000 by the current shareholders, Daelim, to establish a new company that would operate the polypropylene business from a macro perspective in cooperation with the leading global company LyondellBasell, and strengthen the competitiveness of the polypropylene business.

Since its establishment in September 2000, PolyMirae has been awarded the Silver Tower on Trade Day in 2008, selected as a world-class company by the Ministry of Knowledge Economy in 2011, awarded as a company with excellent safety management by the City of Yeosu in 2016, received the best evaluation from the cooperation program for partner companies organized by the Ministry of Employment and Labor in 2017, achieved production of 10 million tons in 2018, and awarded the Order of Industrial Service Merit of the Korea Gas Safety Awards in 2019. It has performed in an outstanding way in all areas, including safety, process, labor-management relations, and marketing.

With Daelim's outstanding factory operation capability and various operational know-how in the world-class PP manufacturing technology of the Spheripol process, PolyMirae has established itself as an industry model in process excellence and safety. With an innovative product portfolio, a high level of quality, and committed customers, it has been able to take a leading position in the industry, through its service and trusted global sales network.

These achievements were made possible by the employees of PolyMirae, who have strived to constantly innovate processes and build a differentiated safety culture. In particular, thanks to PolyMirae's capabilities and market position, the company was able to establish the Ulsan PP in a joint venture with SK Advanced under the strong support of both shareholders. The Ulsan PP will be an opportunity for PolyMirae, which has established itself as Asia's leading polypropylene manufacturer, to prove its capabilities again.

With the strategic partnership between Daelim and LyondellBasell, PolyMirae is expected to maintain a low-cost, high-efficiency structure and continue to expand the proportion of high-value specialty products to maintain a high premium compared to competitors and secure a differentiated level of competitiveness. In addition, the company will establish itself as Asia's leading polypropylene company based on the ability to continuously produce innovative products that no competitor can easily match, such as automotive compound products, metocene, and meltblown.

Daelim, which is pursuing a strategy of advancing into new high-profit specialty businesses and low-cost regions, aims to achieve its vision of being a "Global Top 20 Petrochemical Company in 2025" by combining PolyMirae's outstanding Operation & Maintenance capabilities and product differentiation ability. In addition, Daelim will generously offer its capabilities to help PolyMirae achieve its vision. The relationship of trust between PolyMirae and Daelim, built over the past 20 years as business partners beyond the interests of the shareholders and joint ventures, is a valuable asset that remains unchanging in the unpredictable business environment. This is one reason why we are looking forward to our next 20 years.

Congratulations again on the 20th anniversary of PolyMirae, and always remember the amazing achievements the employees of PolyMirae have made possible. We are looking forward to making a new history in the future. Thank you.



JinHo Lee, CSO
Daelim Industrial
Petrochemical Division

Dear CEO BangHyun Kim and the employees of PolyMirae,



ChulJin Kim, CEO
SK Advanced

All of us here at SK Advanced are pleased to be celebrating the 20th anniversary of PolyMirae with you.

According to a Korean proverb, 20 years is the time it takes for the rivers and mountains to change twice. For a person, it is the time at which one becomes an adult. When PolyMirae was founded 20 years ago, it wasn't clear that it would grow to become the great "adult" it is today. During these 20 years, it has been through its potential, efforts, passion and sometimes tears that everyone involved with PolyMirae has pulled together to produce today's achievements. PolyMirae has become a healthy and strong 20-year-old adult who can generate profits, in any business environment.

It was around November 2016 when I met with the management team including PolyMirae's CEO at the time, Martino Gabellich, to discuss a partnership with SK Advanced for our propylene downstream project. In the first meeting, the more time we spent in discussion, the more I was attracted to the PolyMirae management team for their rational opinions and positive attitudes, and at the same time, I felt that harmony between the two companies had been well established. After negotiating based on this mutual respect, the merger agreement was signed in June 2018 and the Ulsan PP ("UPP") corporation was established in November. It was the first step toward a new future through the marriage of PolyMirae and SK Advanced.

Currently, the UPP project is progressing smoothly under the leadership of CEO Joe Hawkins, and the employees are doing their best, working in unity with the goal of the goal of mechanical completion in December in December this year and March next year. We are grateful for the active support from PolyMirae in appointing the management, securing competent members, and on-site training for the success of the project.

Looking back at the time we've spent with PolyMirae, the potential of PolyMirae, which has continuously been producing new achievements for 20 years, is in its sense of purpose and strong responsibility to achieve this goal for all members to continue to develop in any difficult environment. At every obstacle of business growth, your passion and dedication to creating the best products has finally created the great company that it is today. I am confident that the UPP produced by PolyMirae and SK Advanced will grow into a global top-tier PP company based on a unified mindset and professional competence between the two companies.

There is a saying, "Go alone to go fast, and go together to go far."

The future that both companies dream of is not short-term; it is a long journey of 50 or 100 years. On this long journey, we are happy to have the company of our reliable partner, PolyMirae. In addition, we would like to again express our appreciation for the remarkable achievements of PolyMirae, on its 20th anniversary.

Congratulations once again to PolyMirae on its 20th anniversary.
Thank you.

Celebration Message for the 20th Anniversary of PolyMirae

Congratulations on the 20th Anniversary of PolyMirae!

It feels quite personally significant to be celebrating the 20th anniversary of PolyMirae, which was established at the beginning of a new millennium and is a leader of the polypropylene market in Korea.

GS Caltex is a competitor of PolyMirae in the polypropylene industry. But we are also a partner that utilizes some of PolyMirae's polypropylene products as raw materials for GS Caltex composite PP products.

Thanks to PolyMirae's vision and corporate culture, with its drive to become "the most respected company in the Asian polypropylene industry," we believe that GS Caltex has been growing together with PolyMirae through a business partnership based on healthy competition.

PolyMirae's bold decisions and active cooperation have not only been the foundation for maintaining trust and an optimum business relationship between our two companies, but there is no doubt that they will also provide a sufficient driving force for both our companies to grow as leaders in the petrochemical field in the future.

Congratulations once again on the 20th anniversary of the company, and we wish the best for all employees of PolyMirae.



Kwon HyeokGwan,
Vice President
Head of Petrochemical
Business Division, GS Caltex

Hope PolyMirae will become the global leader in Polypropylene industry in the world

On behalf of Milliken group, I would like to give our warmest congratulations to PolyMirae's twentieth year in the business. PolyMirae has achieved a great success during all these years. PolyMirae has been built by innovation strategy as well as all employee's hard work. Its success has been a model of the chemical industry. Focusing on advanced technologies and close partnership with industry leaders will enable PolyMirae to achieve continued success in coming years. We are happy to be a part of PolyMirae.



Zhaolin Zhou, Ph.D.
Vice President
Asia Pacific Milliken Chemical

With 20 years of passion and harmony, we stand out as the leading polypropylene company!

In the early stages of our company, the dedication and efforts of our PolyMirae employees have always been there to help the company grow to become what it is today despite difficult global economic situations and fierce competition in the polypropylene industry. We would like to take a look at the 20 years of the company's history we have made together and the footsteps that will serve as the foundation to become a global leader in the polypropylene industry in the future, moving toward a bigger vision.



In September 2000, PolyMirae Co., Ltd. was established as a joint venture between LyondellBasell and Daelim Industrial. In the early days, there were many difficulties, such as instability in the internal and external business environments and capital impairment due to the economic downturn across the industry. However, despite many difficulties, PolyMirae has pursued proactive and challenging projects such as obtaining ISO 14001 and ISO 9001 certifications, continuous facility investment, and product quality improvement.

2000~2004

2000's~



Through maximization of production and expansion of supply, the company was awarded the \$600 Million-Dollar Export Tower and Silver Tower Order of Industrial Service Merit in December 2008. By producing high value-added specialty products, we have diversified our product portfolio and expanded the market to various material fields such as fiber, automobile, and food packaging. In 2010, PolyMirae expanded our annual production capacity from 610,000 tons to 680,000 tons through the debottlenecking project.



2006~2009



<p>2000.09 Established PolyMirae</p>	<p>2000.12 Acquired ISO 14001/9001 certifications</p> <p>2001 Constructed Line 4 liquid reactor high pressure/high temperature operation facility</p>	<p>2004.11 Awarded the 400 Million-Dollar Export Tower and Dongtan Industrial Medal</p>	<p>2005.07 Executed the debottlenecking Project</p>	<p>2006.06 Received an award from the Minister of Commerce, Industry and Energy</p> <p>2006.09 Declared labor-management harmony</p>	<p>2007.12 Received LyondellBasell Operability Award</p>	<p>2008.12 Awarded the \$600 Million-Dollar Export Tower</p> <p>Awarded Silver Tower Order of Industrial Service Merit</p>	<p>2009.01 Introduced AMH and Metocene technology and constructed the facilities</p> <p>2010 Executed the debottlenecking Project</p>
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PolyMirae strives to create a safe workplace with safety/environment/health as the top priorities. The company has maintained continuous safety achievements through obtaining Grade P, the highest grade in the regular PSM evaluation by the Ministry of Employment and Labor in 2012, receiving Grade A for the first time, another highest grade in the safety and health cooperation program in 2013, and being selected as the best company in safety management by the city of Yeosu.



In 2018, we have achieved a cumulative production of 10 million tons of polypropylene, and increased our annual production capacity to 730,000 tons through an additional debottlenecking project. We have grown to become a company that supplies polypropylene to more than 40 countries around the world by improving the profit structure in our sales activities and developing new overseas customers based on our strategy with a portfolio of 130 products optimized not only for specialties but also for customer needs.



2012~
2018



2010's~

2012.12
Obtained Grade P, the highest grade in the regular PSM (Process Safety Management) system evaluation by the Ministry of Employment and Labor

2013.11
Received Grade A for the first time, the highest grade in the safety and health cooperation program by the Ministry of Employment and Labor

2015.03
Selected as the best company in safety management by the city of Yeosu

2016
Received LyondellBasell Goal ZERO bright star award

2018.01
Achieved 10 million tons of PP cumulative production

2018.10
Executed the debottlenecking Project

For sustainable growth, PolyMirae formed a partnership with SK Advanced, and PolyMirae and SK Advanced established Ulsan PP through a joint venture.

In the first half of 2021, products production through Ulsan PP's new line is expected to commerce, and we believe that this will contribute significantly to PolyMirae's market expansion strategy.



2018~2020



Under the slogan "Safety Perfection without Exception," PolyMirae has implemented system improvement and investment projects to establish the safety culture, achieving safety performance of 3,000 days accident-free on June 21, 2020.

In addition, while the world is facing an unprecedented crisis due to COVID-19, we are contributing greatly to preventing the spread of infectious diseases by stably supplying polypropylene, an essential raw material for Melt-blown, a core material for mask filters, to the global market.



PolyMirae will take a leap forward to become a company that leads the future of the global polypropylene industry beyond Asia and fulfills its social responsibilities through a reinforced product portfolio and excellent production technology with safety as our top priority.

2020's

2018.11
Established an investment joint venture, Ulsan PP

2018.12
Obtained Grade A in a series of symbiotic cooperation programs by the Ministry of Employment and Labor

2019.01
Received Korea Gas Safety Awards Industrial Medal

2019.04
Selected as an excellent partner of Yuhan Kimberly and received a plaque of appreciation

2019.04
Selected as an excellent partner of Cepla and received a plaque of appreciation

2020.06
Achieved 3,000 days accident-free

With the foundation of the PolyMirae, there are those who have grown together for 20 years. For those, the meaning of the 20th anniversary of PolyMirae will be greater than anything else. We interviewed them to hear about their memories and meaning of the past 20 years in PolyMirae.

Looking back on the past 20 years of PolyMirae



"History is not what just happens; it is on people who make it." I hope that I can provide the foundation to make the next 20 years full of hopes.

KY Yoon, Plant Manager

I remember the establishment of PolyMirae as vividly as if it had happened yesterday, but it has already reached its 20th anniversary. Following the split of the monomer and polymer divisions, which began with Daelim and Hanwha's big deal, PolyMirae was created through a joint venture with LyondellBasell for the PP (polypropylene) division. I remember the employees were full of hope as LyondellBasell owned the original PP technology. After I started as the production team 1 leader at the time of the company's establishment, the time I spent together with the employees without major accidents for over 20 years through different positions including production team 3 leader, process team leader, and plant manager, provided me with the most valuable memories. I would like to take this opportunity to convey my respect and gratitude to all of the employees I have ever worked with.

Looking back on the past 20 years I have spent at PolyMirae, I reminisce about hard work, achievements reached through challenging new tasks, and happy times with the employees.

The first decade of PolyMirae was a challenging time for us.

In the first three years of PolyMirae, the PP market was fiercely competitive and difficult to operate in, resulting in an unexpectedly large operating deficit. But fortunately this period of hardship did not last too long. Like any company in deficit, everyone's attention was on cost saving and sales expansion, and under the severe pressure we had to see several colleagues leave PolyMirae. In particular, the poor product mix, focusing on general-purpose products such as HOMO Injection and Yarn, was the main factor in our failure to achieve as much profit as expected.

But these difficulties in PolyMirae's early stage provided a strong stimulus for us to improve the product mix into high value-added products. At the end of 2001, starting with the introduction of the high-temperature and high-pressure process at Pyeongyeo plant, a lot of efforts were made to improve the quality of copolymer (RACO & HECO) products. At that time, I remember working hard to produce high-

quality HECO products, suffering numerous process problems as the production team 3 leader.

China's rapid economic growth, which came after the company had suffered a lot of difficulties in managing itself for our first three to four years, brought about a sudden high demand for petrochemical products and created great benefits for all Korean petrochemical companies, including PolyMirae. Furthermore, it gave us an opportunity to build new factories to expand production capacity. We promoted a de-bottlenecking project for each plant to increase production, opening the era of 680,000 tons annual production capacity in 2010. At that time, I served as the head of the process team, leading a number of debottlenecking projects. I am proud of the times when I was able to report to management that we had achieved a new maximum monthly output. Of the production increase activities, the AMH and Metocene projects in particular, on which I served as the project team leader in 2009, were a great step forward in expanding the scope of PolyMirae specialty products. I still remember the difficult work of dismantling and re-installing the Gas Reactor structure.

The first 10 years of PolyMirae was the time of challenge when we needed to work to significantly expand the production capacity of the plant and to transform the product structure to one focused on specialty products.

The second half was the period when everyone became one, in the spirit of One Team.

The rapid growth of the Chinese economy, which started in the mid-2000s, led to a boom in the Korean petrochemical industry including our company that lasted several years. But an increase in supply due to large-scale petrochemical investments by Middle Eastern oil producing countries after 2010 brought about a painful learning moment, in which we realized that it was difficult for us to keep competing with general-purpose products alone.

You can only survive through difficult times by uniting together as one group. I remember that the head office and the plant all cooperated like a one team, shouting the slogan "One Team" numerous times. Of course, we are still working with the One Team mindset even if we don't shout it out anymore, but during these difficult times, the One Team slogan was our commitment to bring about positive changes ourselves.

If we say the first 10 years of PolyMirae can be characterized by work to increase production and improve the product mix, the time from 2010 to 2020 was filled with achievements such as the continued market expansion of specialty products such as Metocene and Meltblown, and the development of more differentiated products. Especially, the fact that the production of Meltblown products, for which demand has rapidly increased this year due to the COVID-19 outbreak, was diversified to PP lines 1, 2, and 3 and we achieved



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The record of 3000 days accident-free that we reached in June was a great achievement based on the thorough safety mindset of our employees and the company's enhanced safety culture.

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additional sales, is a symbolic demonstration of our employees' excellent abilities to respond promptly and operate. In addition, the record of 3000 days accident-free that we reached in June was a great achievement based on the thorough safety mindset of our employees and enhanced safety culture.

The second 10 years of PolyMirae should be looked at as a time when the company's competitiveness has risen to the next level compared to the first ten years, and the company has been reborn as a stronger one with high sales and safety performance.

In the next 20 years, PolyMirae will continue to advance as a better company that realizes the dreams and hopes of employees. Today, industry and market changes happen faster than in the previous 20 years, and competition is intensifying, both within the country and abroad. Developing

and maintaining good products are critical to becoming a more competitive and stronger company, but what's more important is what the employees working inside create. As you can't expect a company to develop without the growth of its employees, I wish to contribute to creating a company where the dreams and hopes of employees are alive and the company considers employee satisfaction before customer satisfaction.

As someone in charge of plant operation, the safety and health of the employees are a top priority. I pledge to do my best to make the cleanest and safest workplace in the world.

There is a saying, "History is not what just happens; it is on people who make it." As PolyMirae has gone through a difficult journey and become the stronger company it is today, I hope that I can provide the foundation to make the next 20 years full of hopes.

additional added value in the market. In particular, line 2 could only produce certain products, and only about 800 tons of specialty products could be manufactured once every 3 months. Operating profit was in a deficit, and as the market conditions worsened, it became difficult to operate the plant. Commercial shutdowns, which are not common for petrochemical plants, also occurred. Due to poor management performance, doubts emerged regarding the company's sustainability, and rumors spread that the management would soon change. In this situation, PolyMirae's method of producing PP products by purchasing propylene raw materials was to develop specialty products that could increase production volume and added value.

Accordingly, when PolyMirae was launched in 2000, the annual output was only 470,000 tons. But in 2003, the bottlenecking project that would maximize the productivity of the entire process was launched with the goal of finding and addressing all of the bottlenecks in production that caused congestion. As we progressed, we were able to achieve 680,000 tons of production in 2010. Since then, as the production of high value-added and specialty products with low hourly output such as *Metocene*, *Pellet Melt Blown*, *Anti-tiger stripe*, *2GPR Heco*, and *Pipe grade* increased, the total plant production decreased. By relaunching the project, we did not build new factories, but

ensured that our existing facilities were utilized to the fullest, increasing production again to 680,000 tons in 2019. PolyMirae has overcome a lot of hardships and obstacles, and now produces specialty products with high added value, such as *Metocene*, *Pellet*, and *Melt-Blown*. Significantly, PolyMirae has become an important company given the recent outbreak of COVID-19, by ensuring a reliable supply of the raw materials needed for masks.

PolyMirae has taken on many challenges, with some resulting in success stories such as *Metocene* and debottlenecking, and others failing to achieve the expected results, such as the line 1 AMH and the line 3 pipe projects. But the reason why PolyMirae has been able to improve in response to its initial difficulties and achieve its current performance is the fact that the management of PolyMirae can quickly grasp the needs of the market and invest boldly when there is a possibility of success, not only in Korea but around the world. This has been enabled by our sales, our factories that safely and reliably produce high-quality products, and our customers who recognize PolyMirae's efforts. Through our work over the past 20 years, PolyMirae has become the company it is today, thanks to cooperation between labor and management. In the future, we look forward to growing steadily through continuous investment and safe plant operation.

It has been 20 years since PolyMirae was launched.

In 1999, Hanwha's PP plant (Pyeongyeo plant) was transferred to Daelim as a result of Daelim and Hanwha's big petrochemical deal, and in September 2000, PolyMirae was launched through a joint venture between Daelim and LyondellBasell.

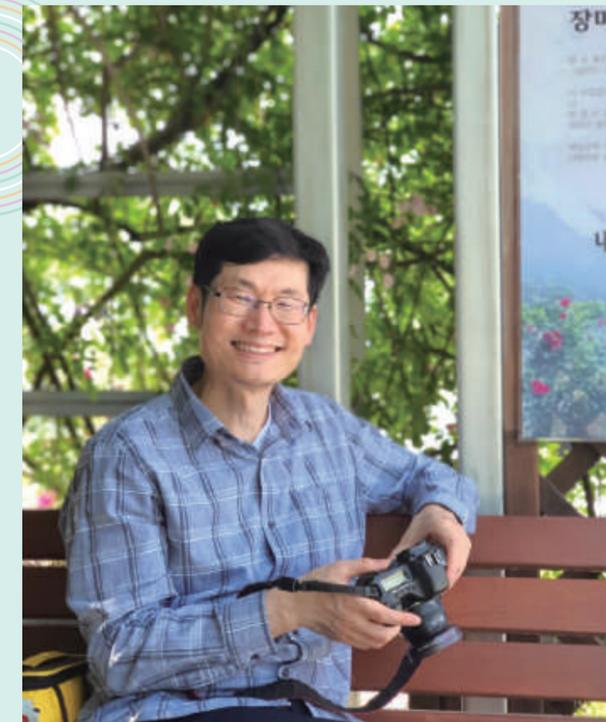
DB Ha, Process/QA



Today, PolyMirae can boast an excellent record of management performance and achievements over the past five years. As a supplier of meltblown PP raw materials, we are fulfilling our social responsibility by ensuring a stable supply while demand for masks is increasing due to COVID-19.

But when it was founded, PolyMirae was very different from the company that exists today. The IMF economic crisis of 1997 had a tremendous impact on all companies in Korea, and the petrochemical industry was no exception. Hyundai Petrochemical of Daesan was split into two companies, LG and Lotte, and Samsung Petrochemical also transferred its stake to Total and changed its name to Samsung Total (now Hanwha Total).

For PolyMirae as well, management of the company in the early days was very difficult. Since most of the products at the time were general-purpose products, it was difficult to obtain



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In the future, we look forward to growing steadily through continuous investment and safe plant operation.
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Mega trend is changing the world. As the COVID-19 spreads worldwide, the business environment such as telecommuting, video conference, online sales, etc. is rapidly changing and the market situation is difficult to predict. Celebrating its 20th anniversary this year, PolyMirae prepares for the uncertain future looking back on the time that has passed by while thinking about how to predict global changes and how to create long-term value.



Vision 2020

The Past 20 Years of PolyMirae

Grace Kang, ADTSI / HS Lee, Business & Asset Management

2020! This year marks the 20th anniversary of PolyMirae, which was founded on the grand dream of becoming the most respected company in the polypropylene industry based on outstanding performance, competent human resources and social responsibility. I am proud of the fact that I have been able to grow with this company for the last 12 years since joining in 2008, and now can enjoy the company's 20th anniversary. I have heard from co-workers that there were many difficulties in the early days of PolyMirae. PolyMirae must have faced so many challenges such as capital impairment due to internal and external business environment difficulties, and unstable and worried employees due to the establishment of a new organizational culture. I can't imagine any of these in today's PolyMirae. The co-workers have created the PolyMirae that we are proud of today through continuous and structural improvements. In addition, based on the slogan of "Safety Perfection" in the fields of safety/environment/health, which the company considers our top priority above all else, they boldly promoted system improvement and investment projects to establish a perfect safety culture. In addition, the high productivity we currently enjoy was made possible through continuous production capacity expansion projects and timely facility investments. Many other projects were executed successfully as well including Metocene and AMH projects to secure our shares in new markets, and competitive

marketing activities and product development to increase the brand value of the company. Based on this, the company is showing remarkable performance in all areas including safety, production, sales marketing and product development on this year of our 20th anniversary. In particular, the achievement of 3,000 days accident-free as of midnight June 21 is considered a great record in the petrochemical industry. We also have set a number of other monumental records this year, including the highest monthly sales of specialty products and the highest monthly financial performance since our establishment. In the past 20 years, I believe that the employee slogan "One Winning Team" has been the biggest factor that enabled the company to develop a more solid footing, despite many uncertainties. "One Winning Team" was able to serve as a foothold for successful business through organic communication in a series of activities by various departments ranging from product production, sales and marketing activities to customer value delivery. It has now become an essential part of PolyMirae employees' DNA. We are at a critical moment, where we must prepare for a powerful take-off for the next 20 years while taking pride in the achievements of the past 20 years. In a rapidly changing environment, we will have to further develop the strengths of PolyMirae and take a step forward, without fear of new challenges.



Vision 2040

PolyMirae in 20 Years

20 years old, for a person, it is the age at which we start to realize myriad dreams by taking our first steps in society based on our past efforts. PolyMirae has turned 20! What will it look like in the next 20 years? I would like to draw a picture of PolyMirae that its employees dream of and want to achieve as its protagonists after 20 years.

PolyMirae leads the future of the global polypropylene industry beyond Asia:

Even after the next 20 years, PolyMirae will continue to spur product, market and customer development, providing a wider range of high-value-added products in the global polypropylene market with a stronger product portfolio than now. In addition, we will increase the market dominance by adding up to 400,000 tons of production from Ulsan PP, which will operate from the first half of 2021. As a result, PolyMirae, which has a supply capacity of over 1 million tons per year, will become a leading company in the global polypropylene industry by developing and providing the products desired by customers in a timely manner, delivering outstanding value to customers while maintaining active technical support and stable supply.

The leader of polypropylene technology:

Over the past 20 years, we have developed a variety of products by continuously pursuing product differentiation strategies through continuous technical cooperation with our shareholder,

LyondellBasell, which has enabled us to expand our market dominance across various industries. For the future, PolyMirae pledges to never stop working to develop innovative products and technologies that improve quality of life and deliver value to our customers. In particular, during the COVID-19 outbreak, PolyMirae made a major contribution to preventing the spread by stably supplying *meltblown* and *metocene*, key raw materials for mask filters, to the global market. There is no doubt that we will continue to be the most respected company in the polypropylene industry by developing differentiated products that surpass our competitors in the future.

The company you wish to work for:

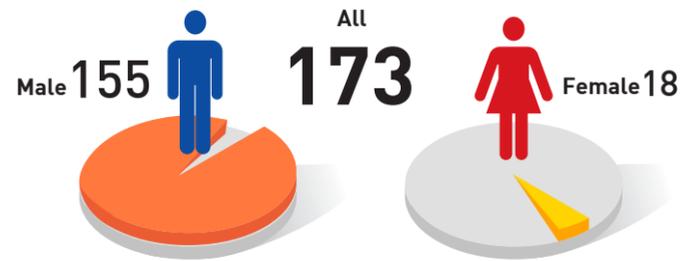
PolyMirae is a company where there are wonderful employees who respect each other and learning is endless and there is no time to be bored, with a rational organizational culture, "Play hard, Work hard." PolyMirae's employees have the slogan "One Winning Team" built into their DNA, and care for and love each other. This is the bedrock of PolyMirae's high productivity and financial performance. We will enter the next 20 years of PolyMirae's bright future as the protagonists, where the employees wish to work for the company in which they can be happy and satisfied, and are proud simply to be part of this great company.

How much do you know about "PolyMirae?"

PolyMirae celebrates its 20th anniversary this year in 2020. We will look at various records of PolyMirae for the 20 years through numbers and infographics. The figures shown below through the infographics will be a good guide to understanding the company "PolyMirae."

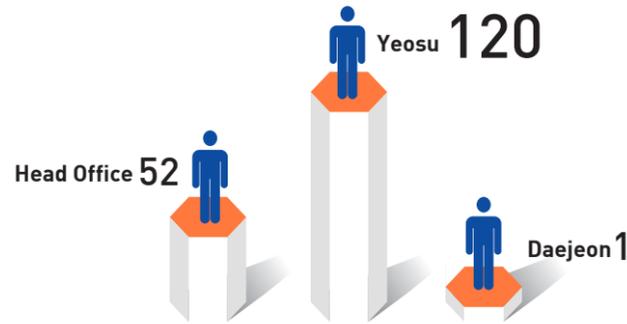
Gender ratio

Gender ratio of PolyMirae is 1 to 9, and the majority consist of the male employees. As a manufacturing company specialized in polypropylene, most employees are in charge of product production; therefore, the proportion of male employees is higher.



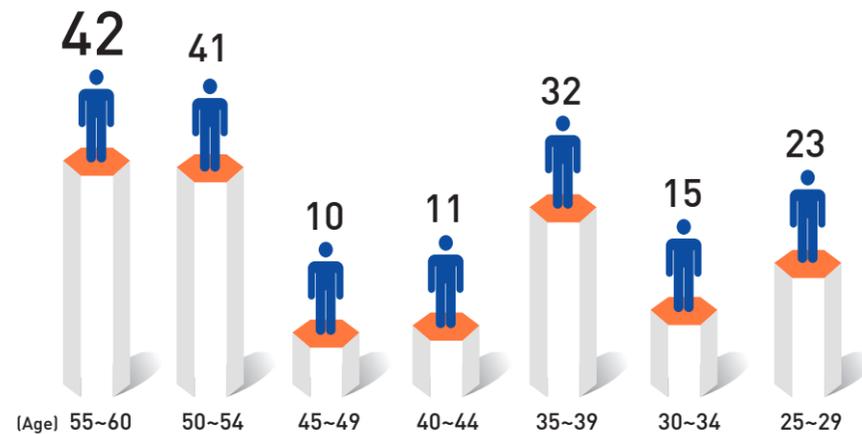
Number of employees by each place of business

PolyMirae has its head office in Yeouido, Seoul, and has plants in Yeosu and Daejeon. While many of the employees work in the Yeosu plant, the company has been promoting harmony through company-wide employee exchange activities such as workshops.



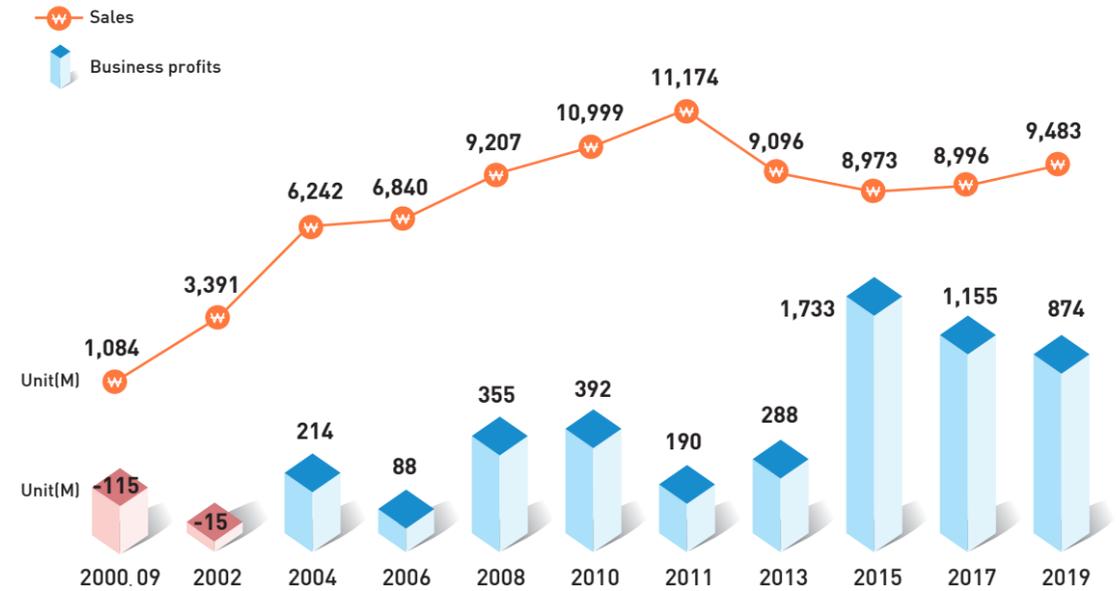
Number of employees by age

PolyMirae employees are of various age groups from 25 to 60 and the average age is 40. In particular, more employees are in the mid to late 30s and 50s.



Sales and business profits by year

Since its establishment, PolyMirae has achieved a steady sales growth, and currently maintains a stable sales figure.



Product output by year

Through the debottlenecking project and process innovation activities, the company has been steadily expanding its production.



What PolyMirae would look like In 2040...

These days, the world has entered the New Normal era, where 'Untact' which is a trend across industries where brands utilize technology to reduce person-to-person contact is getting common because of COVID-19. Now, non-face-to-face and AI have become the present or the near future, not the distant future. The following writing is about what I imagine what PolyMirae's future would look like in 2040, 20 years later considering the current situation.

SC Cho. CFO



June 30, 2040, Sunny, New COVID Cases: 58

As I was enjoying a delicious café latte this morning, I got a call from General Manager Chae Hyun-joon. The company is planning to hold an event to mark the 40th anniversary in September, and he was asking me to send a congratulatory video message. He said he was going to ask a few retired OBs. While I felt honored to be selected as a speaker for the 40th anniversary video message, it caused me to reflect on how time had flown by so fast, as when we celebrated the 20th anniversary of PolyMirae, Mr. Chae was a new employee who had just joined the company. At that time, due to the COVID-19 outbreak the 20th anniversary event could not be held according to the existing plan. Now, more than 20 years later, it is very regrettable that a commemorative event has to be held at the cyber banquet hall due to the more evolved COVID-19.

Since it was the first phone call we'd had in a long time, I asked for the latest news about PolyMirae. He said that since 2032, the only new recruits have been robots, and the total number of employees in the company is under 100. Due to the ongoing COVID situation, Robotic Process Automation (RPA) was introduced in some tasks to support untact and remote work about 4 to 5 years before my retirement; now, the RPA's share of work within the company has increased considerably. Teams consisting of five members had been downsized to two, with the missing positions replaced by full-time and part-time RPAs. The RPAs are used on a subscription basis, enabling the company to respond flexibly to changing workloads. Just before COVID-19 was in full swing, the IT-related division of a global consulting company visited PolyMirae to give a promotion on the theme of "Artificial Intelligence-based forecasting." At that time, I thought "Would that really work in reality?" and dismissed it as just another unrealistic sales pitch, typical of consulting companies at the time. But now, even market information companies such as ICIS and Platts are using AI to produce reports. As well, our company reflects and processes the company's situation in the form of information received from various market information companies, which it utilizes in weekly/monthly/annual management plans. When the RPA was first introduced, it started out with simple repetitive tasks, but by the time I retired, I had thought to myself "the RPAs actually do work quite well." As such, it is very surprising for someone like me, born in the 20th century, to hear that they can even do work at a level requiring considerable thinking. Also, one of the two human team members is a non-permanent freelancer, or a 'Gig Worker' as we call it. Since COVID-19 in 2020, working from home has increased, various technologies have been developed to support it, and the restrictions on working conditions related to time and place have been greatly reduced. As a result, many tasks are performed by "Gig Workers," and "employee sharing" has also been introduced for tasks that don't require much security.

While Mr. Chae was explaining things to me, he mentioned that the old generation like him feels his role has been reduced due to the RPA and Gig Workers and there is no place for him in the company. He was worried about whether he would be able to retire safely, and said he was jealous of me for having retired before the robots took over everything...

Being exposed to all of the news related to the 'new normal' that has been triggered by COVID-19, I decided to write about an imagined future in journal format. Currently, many things are changing, and changes that were taking place slowly have been accelerated. I hope that this situation will be overcome well, and the new normal will develop in a positive direction.

Introducing the newly relocated PolyMirae head office

On February 1st, PolyMirae has moved its head office from Yeouido Yusu Holdings Building to the 17th floor in Yeouido Three IFC Building. With the growth of the company and the need to secure office space by recruiting employees, the head office has been relocated to secure employee training and communication spaces such as conference rooms, relaxation rooms, and multipurpose rooms. The decision has been made based on these factors. Through this office expansion, a more comfortable working environment has been created, and above all, the satisfaction level of all employees in PolyMirae head office has increased.



“ The comfortable and convenient working environment in the office and a relaxing space with a different atmosphere to refresh your body and mind have been constructed so that you can rest assuredly when you relax and concentrate on your work during working hours. Also, they are designed to improve work efficiency offer a variety of spaces so that the employees can get enough rest and new ideas. ”





“ Private conference rooms with a sense of openness are created by dividing the space with glass, and individual workstations are decorated as open spaces with an emphasis on communication between the employees. Sound-absorbing carpets are placed on the floor to block noises so that the employees can concentrate on your work.

”

“

In the middle of the conference room, a moving wall with excellent sound insulation is as installed, so that the conference room can be used efficiently depending on the size of a meeting and the number of participants.

”



“

Small and medium-sized conference rooms with multi-party video conferencing equipment are placed throughout, allowing the employees to communicate and collaborate more closely to maximize work efficiency.

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Customer Visits in India, the Middle East and Turkey

PolyMirae CEO BangHyun Kim and Market Development Team visited customers located in India, the Middle East, and Turkey, the main sales countries of BIT (Basell International Trading), over the course of 11 days, from January 7 to 17. During these visits, we had an opportunity to meet with major clients in the automotive compound and meltblown nonwoven fabric market, which we mainly sell, to introduce PolyMirae's Advanced PP and to identify the market demand, customer requirements, and trends.

As India is the market with the second-largest growth potential after China, we visited the major customers in the automotive compound market to introduce Anti-tiger Stripe products along with Metocene products and new high crystalline polymer block PP products developed to meet strengthened automotive industry regulations, and to discuss commercial plans for a continuous increase in sales volume.

In addition, in Turkey and the Middle East, we met with large meltblown clients who had difficulties in sales due to fierce price competition, and introduced the excellence of our products once again and promised a stable supply. Through these customer visits, PolyMirae's various Advanced PPs are expected to generate potential demand in the Indian, Middle Eastern and Turkish markets in the future.

HS Kim, Market Development



2020 Yeosu Plant Workshop

Unlike previous workshops, which were held outdoors for 2 days and 1 night, the 2020 Plant Workshop was held as a one-day event in Yeosu due to COVID-19. The first part of this workshop held on February 7 involved sharing announcements on the 2020 team management plan and the year's operation directions and major projects. The second portion of the event was a group discussion that aimed to promote a better understanding between different generations of employees. There are three different generations working together in PolyMirae, from baby boomers to millennials. In line with this, each group was divided into a team leader, senior manager, middle working group, and junior working group to provide an opportunity to share and understand different ideas. In addition, an action plan to narrow the gap between these thoughts was prepared for each group, and presented to be put into practice. The plant manager, who watched this, asked members to take the initiative in suggesting useful and practical ideas, and expressed a strong interest in confirming and reflecting this practice in the year-end performance evaluation.

Although the 2020 Plant Workshop could not be held outdoors, I was convinced that 2020 will be a hopeful one, as everyone actively participated and did their best to share various thoughts and have discussions in a limited environment.

JK Jung, Process/QA



Head office Moved to Yeouido Three IFC

On February 1, PolyMirae moved its head office from Yeouido Yusu Holdings Building to the 17th floor of the Yeouido Three IFC Building.

With the company's growth and employee recruitment making it necessary to secure more office space, the head office was relocated to secure a space for employee education and communication, such as conference rooms, lounges, and multipurpose rooms. In consideration of public transportation access, building facilities, safety, and the surrounding amenities, the decision was made to move to the Three IFC Building.

It is expected that work efficiency will increase by creating a more pleasant working environment through this office expansion.

JG Lee, HR•ER

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Mr. Kim Inaugurated as PolyMirae President/CEO

PolyMirae Vice President BangHyun Kim was appointed as President/CEO on February 28.

CEO BangHyun Kim has developed his leadership through experience in a wide range of fields such as production, procurement, logistics, business management, and sales and marketing, and has contributed greatly to the success and innovation of PolyMirae as a former plant manager and general sales and marketing executive.

The new CEO Kim commented, "Based on my experience in PolyMirae and the polypropylene industry, I intend to faithfully fulfill my role as a leader and address the current issues."

SH Sung, HR•ER



Donation of Masks to Yeongdeungpo-Gu Office to Prevent the Spread of COVID-19

On Saturday, March 14, PolyMirae visited Yeongdeungpo-gu Office to donate masks. Considering the current difficulties experienced nationwide due to the low mask supply, PolyMirae decided to deliver these masks to Yeongdeungpo-gu Office to support the government's efforts to prevent the spread of COVID-19 and help local prevention practices.

Making the donation, PolyMirae HR Team Leader SH Sung directly shared words of appreciation for the employees of Yeongdeungpo-gu Office who are struggling with COVID-19 prevention.

MJ Yoo, HR•ER



Achievement of 3,000 Accident-Free Days (2020.06.21)

On June 21, 2020, PolyMirae achieved the significant record of 3,000 days without accidents.

The significance of this is even more remarkable, as it was achieved by safely completing seven major maintenance tasks, various projects, and large and small tasks since 2012. This achievement is a source of pride for all PolyMirae employees, who have directly implemented PolyMirae's safety and environment policies, "Safety Perfection, Without Exception!" and "The cleanest site in the world!"

Everyone should work harder together to achieve a 100% accident-free record by continuously maintaining this mature and open safety culture.

JY Lim, HSE

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Highest Monthly Specialty Items Sales Since PolyMirae's Establishment

Following the initial COVID-19 outbreak in Wuhan, China in December 2019, the global economy contracted due to its spread around the world. For months, people around the world have been threatened by the pandemic. Many countries are implementing high-intensity measures at a national level, such as social distancing, wearing masks, and locking down to reduce the ever-increasing contagion. As requests for meltblown for facial masks have increased sharply along with the severity of the outbreak since January, we have realized our social responsibility as an Asian leader of PP meltblown products, in this difficult environment. For this reason, we have focused on the production and supply of meltblown. By boldly investing in the expansion of our meltblown production line, we have been able to stably produce and supply the target quantity in a short period of time. As a result, starting in February, the sales volumes of the specialty products in March and May have been continuously renewed. We are proud to say that it is the result of the efforts of each relevant department, working with a sense of social responsibility.

SH Jung, Sales & Marketing Director

BIT Marketing Meeting and Customer Visit

On January 13, the company held a marketing meeting with the BIT (Basell International Trading) team at LyondellBasell office in Dubai, UAE. BIT is an overseas sales channel for PolyMirae products, and is in charge of sales in West Asia, the Middle East, Africa and Turkey, and India.

The BIT marketing meeting is held every year, with executives and staff from both companies participating. Through this meeting, as much information is shared as possible and detailed discussions are held on each issue. Comprehensive sales strategies linked to technology such as the market trend and future market direction forecast and development, product promotion and export of existing products, and sales/marketing of business in each region in India, West Asia, the Middle East, Africa and Turkey are prepared.

In addition, the company shared various success stories related to specialty products (metallocene, meltblown, and high-functional compound products) and encouraged continuous sales expansion to the BIT regions.

HS Kim, Market Development

Ulsan PP Project Team's Visit to PolyMirae Yeosu Plant for HSE Benchmarking

The Ulsan PP (UPP) project team, a joint venture between PolyMirae and SK Advanced, currently under a new plant project in Ulsan, visited the Yeosu plant on February 21 to benchmark PolyMirae's safety, environment and health management system.

UPP is a joint venture that operates with the same polypropylene products and processes as PolyMirae. In addition to process operation, safety management is also an important part of the plant operation.

The UPP's visit to PolyMirae was an opportunity for exchanges that will help the normal operation of the UPP in the future by sharing PolyMirae's safety management organization and excellent safety management system.

C Park, HSE

Starting Promotion of Meltblown for Facial Masks

In April, the company started promoting meltblown for face masks to increase the sales volume due to the spread of COVID-19.

First of all, we launched advertisements on Google (portal site), Baidu (Chinese portal site), LinkedIn (social network site), and Non-woven Industry (specialized information site related to non-woven fabrics) to expand the market. A Chinese version of the website was launched in order to attract Chinese customers.

In the future, we plan to promote our products through brochures with an introduction to meltblown, our flagship product, and a YouTube channel. This will be a great opportunity to promote the excellence of our products to the world again.

HS Kim, Market Development

PolyMirae realizes the value of sharing

PolyMirae has been engaged in a range of social contribution activities to convey warm love to the underprivileged in the local community. Starting with a volunteer club in 2000, the company has been engaged in social contribution activities since 2011 with the goal of fulfilling its corporate social responsibilities and realizing the value of sharing.

The company spreads the joy of sharing through economic support and emotional connection such as donations, daily living convenience support, residential environment improvement, environmental cleanup activities, kimchi volunteer activities, etc., and continues to take positive steps to ensure that everyone can live a joyful and happy life.



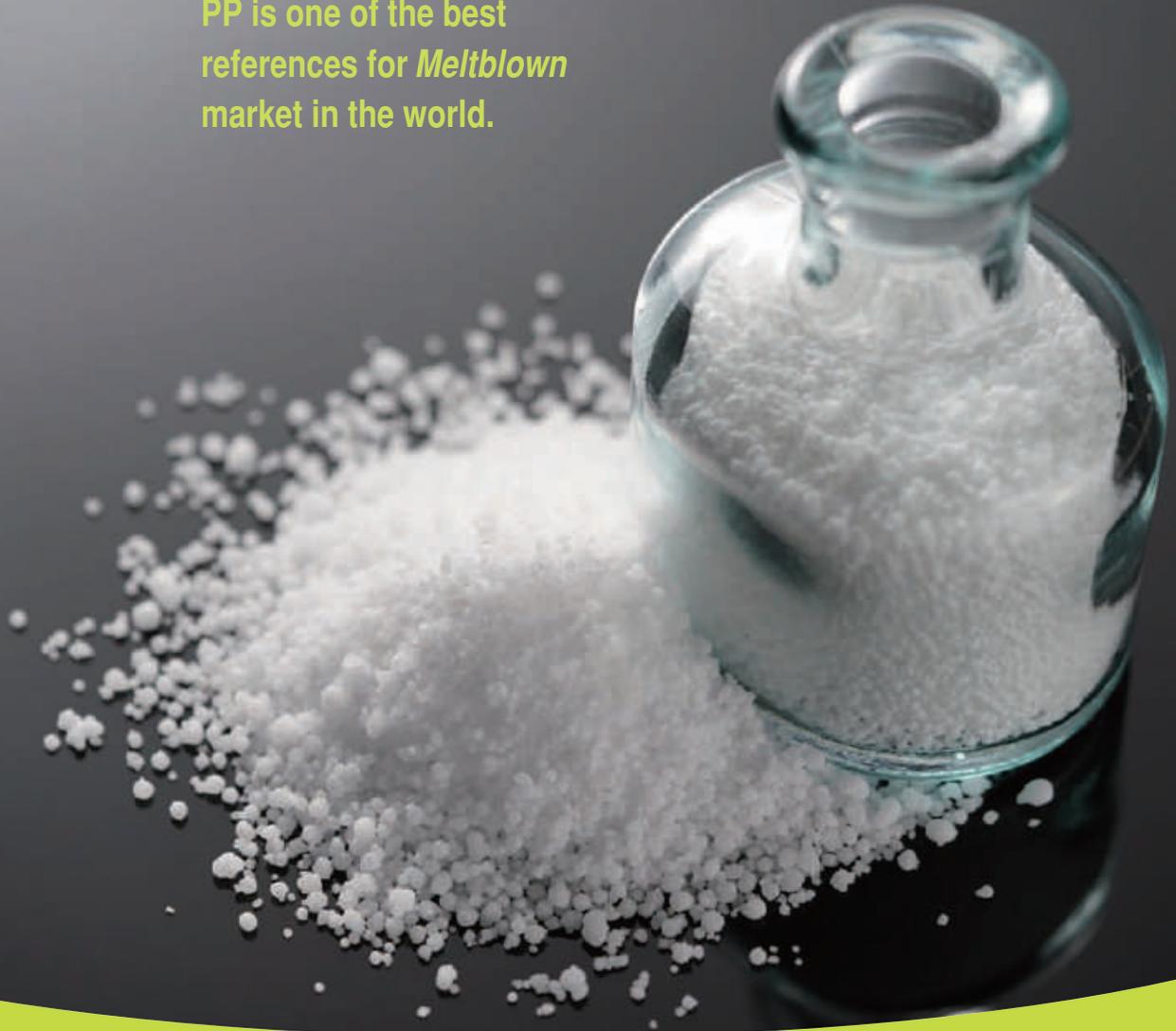
In addition to this, the employees of PolyMirae have organized a volunteer group called "Hansarang Mirae Volunteer Group" to regularly donate products, and the company sponsors regular group volunteer activities, as well as a Matching Fund program to match employee donations in order to empower our employees to participate in voluntary sharing.

PolyMirae plans to continue its employee-led volunteering and social contribution activities, as well as to consider ways to make more practical contributions to society. The company will strive to support all employees so that they can lead healthy lives by putting a spirit of sharing into practice.



Moplen HP561X, HP461X, HP461Y, HP465Y

PolyMirae's Meltblown
PP is one of the best
references for *Meltblown*
market in the world.



Meltblown PP having outstanding and stable performance provides an exceptional value which is verified by global leading customers.