

PND COSCHEM **BUSINESS** **INTRODUCTION**

Customer-tailored Chemical Solutions





PNW
CO



ID

**Global
leading chemicals
manufacturer**

SCHEM



Honest

Innovative

Trusted

Moving the hearts

pnd
COSCHEM

CONTENTS

About the Company	.....	06
Business Area	.....	10
Laboratory Introduction	.....	14
R&D Performance	.....	15
Product Introduction	.....	16

Chemical manufacturer that continuously grows with its customers **PND COSCHEM Co., Ltd.**

PND COSCHEM Co., Ltd. has grown alongside the history of the petrochemical industry in Korea. As a chemical company with 45 years' history, we have been providing optimum solutions to satisfy our customers based on our highest expertise in surfactants for textiles.

Our company has secured excellent competitiveness by constantly conducting R&D of new products, building more production facilities, and expanding business areas. We have established a sustainable business portfolio based on our stable operation ability.

The various product lineups of PND COSCHEM Co., Ltd. include spin finish oil, surfactants, release agents, anti-tack agents, detergents, and household chemical products. These products are applied to all industries as well as daily necessities that are easily accessible in everyday life.

Company name

PND COSCHEM Co., Ltd.

CEO

Son Byoung Chul

Address

406, Nongongjungang-ro, Nongong-eup

Dalseong-gun, Daegu, Republic of Korea

Foundation date

Mar. 2, 1978

Telephone no.

82+ 053-616-5171~5

Major production items

Spin finish oil, release agent / anti-tack agent

detergent, textile auxiliaries, color enhancer,

non-fluorine water repellent agent



We promise **a better future**
for our **customers**,
society, and **environment**.

Since its foundation in 1978, PND COSCHEM has grown with the Korean chemical industry in various areas such as textiles, automobiles, and household chemicals.

A company pursuing a life of abundance

As a result of consistently devoting ourselves to the rich life of mankind, we have been producing products that enhance the value of our everyday life in various areas, such as textiles, automotive industry, daily necessities, cosmetics, and quasi-drugs.

Securing the future growth engine!

Advanced Technology and Competitiveness with 45 years' history!

We are striving to become a company trusted by customers, leading the future with our competitiveness in technology and quality accumulated for 45 years, and endeavoring to secure a future growth engine through continuous R&D and new businesses.

PND COSCHEM promises a better future for our customers, the society, and the environment based on our calling and innovation to contribute to the rich life of mankind.

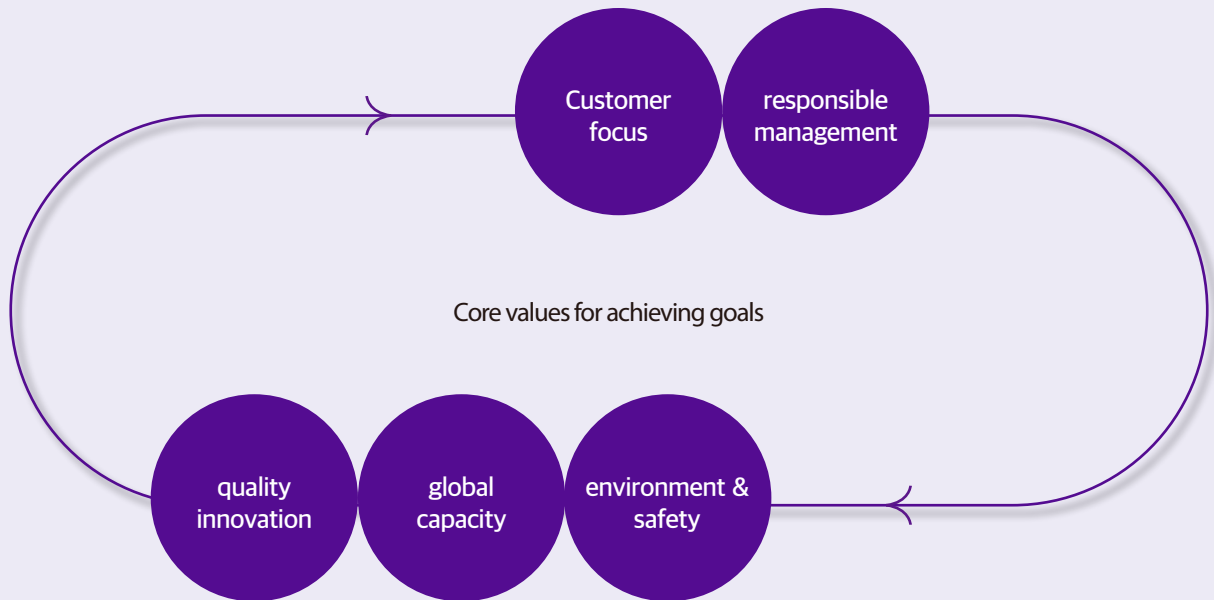
Thank you.

PND COSCHEM Co., Ltd. CEO Son Byoung Chul

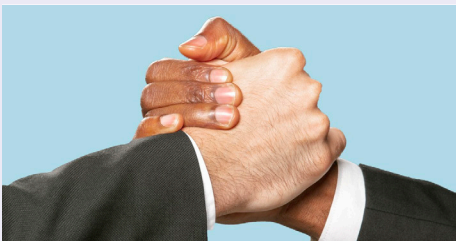
About the Company | VISION

A global chemical corporation that continues to grow with customers based on the highest professional expertise

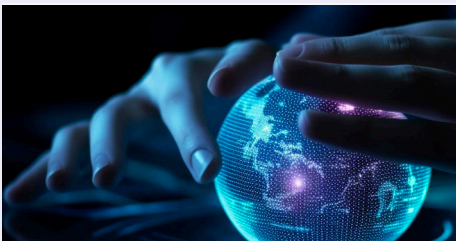
| VISION



Provide optimum solution to improve customer values
Satisfy customers with innovative products and services



Put customers' trust and faith first
Pursue long-term Win-Win partnership with customers



Upgrade global competitiveness
by increasing investments in R&D
Establish a safe manufacturing environment
for sustainable growth

About the Company | History

We are making new history as a global chemical corporation with know-how accumulated for 45 years.

| History

- 1978**
Founded Daesung Chemical Company
- 1980**
Released textile auxiliaries
- 1993**
Changed company name to "Daesung Chemical Ind."
- 1996**
Expanded and relocated Daesung Chemical Ind.
Completed construction of Ihyun factory
(Expanded the monthly capacity of production facility to 800 tons)
- 1999**
Changed company name to "Daesung Chemicals"
Completed construction of Nongong factory
(Expanded the monthly capacity of production facility to 2,000 tons)
- 2000**
Selected as a venture corporation by SMBA
Acquired Quality Management System (ISO 9001) certification
- 2001**
Selected as a company designated for hygienic processing
Developed antibacterial substance Neotrisan and applied for patent (Korea 01-88951)
- 2002**
Launched the fine chemistry division
(for manufacturing pharmaceutical intermediates)
Launched cosmetics division. Founded PIOKOREA Co., Ltd.
(for manufacturing cosmetics and antibacterial household chemical products)
- 2005**
Acquired INNO-BIZ certification (No.R6035-3329)
Established corporate R&D institute (No.20052768)
- 2007**
Developed color enhancer, non-fluorine water repellent agent
Registered patent for skincare textile finishing agent containing ceramide (No.10-0761643)
Registered patent for Antimicrobial Flocking Binder and Process of Flocking using such (No.10-0718441)
- 2008**
Developed spin finish oil for Polyester, Nylon, Acryl, Polypropylene
Registered patent for Multifunctional Surfactant for Polyester Dyeing (No.10-0848220)
- 2009**
Established corporation in Qingdao, China
- 2010**
Designated as a star corporation by Daegu Metropolitan City
- 2011**
Developed industrial release agents, anti-tack agents, and detergents, including rubber hoses, oil seals, etc.
- 2012**
Developed spin finish oil for Spandex, Aramid
- 2013**
Changed company name to "PND COSCHEM."
Registered patent for Process of Producing Organic-Inorganic Hybrid Finishing Agent for Fabrics with High Durability (No.10-1251814)
- 2016**
Acquired Quality Management System (ISO 22716) certification
- 2018**
Corporation's conversion into PND COSCHEM Co., Ltd.
- 2022**
Recorded exports worth 1 million USD
- 2023**
Designated as a Global Small Hidden Champion

Business Area | Release agent, Anti-tack agent, Detergent

PND COSCHEM's release agent is trusted by numerous customers based on the company's accumulated experience and cutting-edge technologies. We are producing release agents, anti-tack agents, and detergents that can be applied to all industries including rubber industry and automotive part industry.

PND COSCHEM's "NEEMA" series are release agent products that can enhance the production quality of customers, reduce the working time, and respond to environmental regulations.

| Use



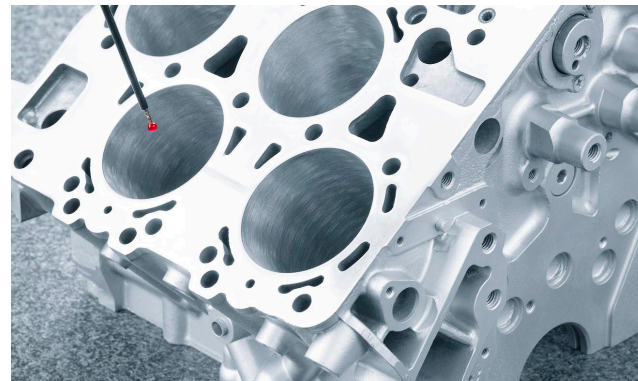
For rubber hose



oil seal



polyurethane



die casting

Business Area | Spin Finish Oil

PND COSCHEM is trusted by customers as it supplies products with the highest quality and function by entering the Spin Finish Oil business. We are doing our best to satisfy various customers who need everything from clothing yarn to industrial yarn, special yarn, and raw cotton. Our “IEVATAS Series” is Spin Finish Oil capable of ensuring the production efficiency of customers, upgrading yarn quality, and meeting the environmental regulations. We will continue to develop new products with the highest quality through constant research and grow as a global corporation creating values that customers want.

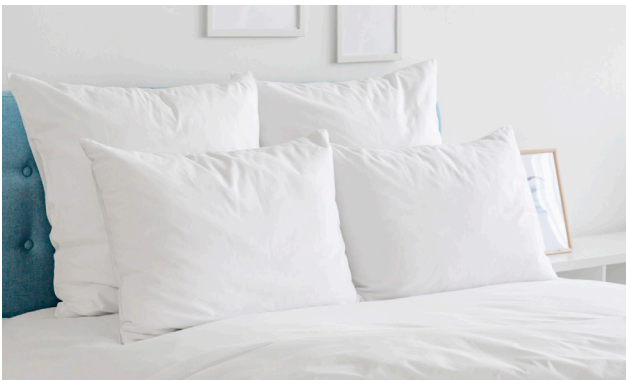
| Use



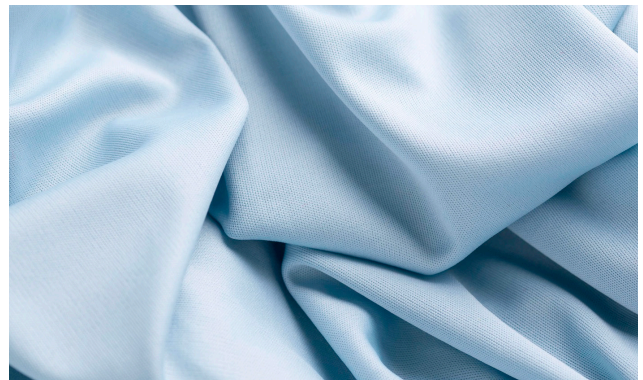
For spandex



aramid



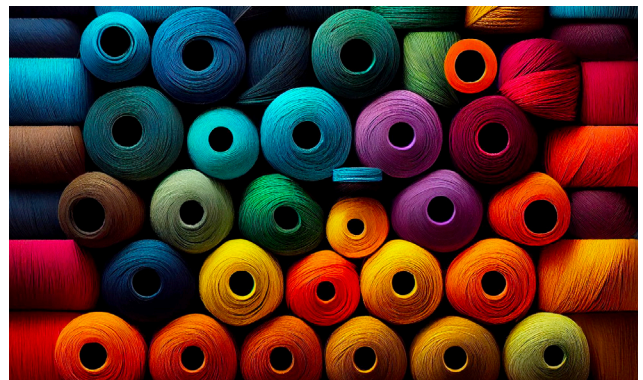
polyester



nylon



acrylics



polypropylene

Business Area | Textile Auxiliaries

This is PND COSCHEM's core business that has been supplying pre-treatment agents, dyeing agents, and post-treatment agents for more than 45 years. We are producing and supplying differentiated textile auxiliaries based on various new technologies secured through R&D. We possess the highest competitive edge in product quality and reliability with our technical expertise and know-how accumulated for 45 years.

| Use



Pre-treatment Process Agents



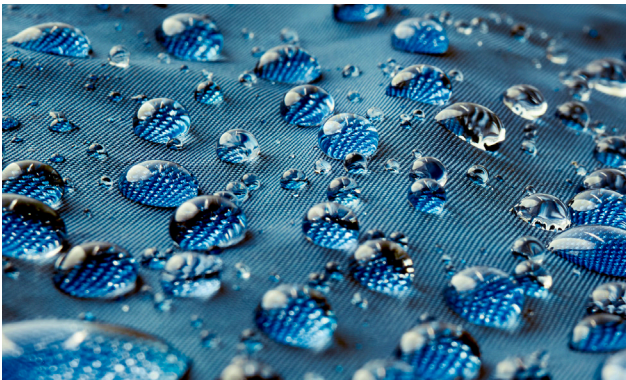
Coloration Process Agents



Finishing Process Agents



Color Enhancer



Non-Fluorine Water Repellent Agent

Business Area | Fine Chemistry

PND COSCHEM's fine chemistry division directly produces and processes pharmaceutical intermediates, electronic materials, other organic compounds, OEM-processed and antibacterial deodorants, and sunscreens. Since we have various kinds of equipment for organic synthesis and process know-how accumulated for over 20 years, we provide optimum customer-tailored solutions and enjoy popularity among many customers. We will grow with our customers and always think and behave from their perspective at all times. Thank you.



We have various kinds of analysis equipment, organic synthesis equipment, and highly skilled operators.

Reactor facilities		storage facilities		reactor facilities	
SUS 5m3 Reactor	1	Cold warehouse	20m3	Tray vacuum dryer 1m3	1
SUS 3m3 Reactor	2			Rotary vacuum dryer 1.5m3	1
G/L 4m3 Reactor	1			Hot air tray dryer 1.5m3	2
G/L 3m3 Reactor	1			Centrifuge filter 48"	1
G/L 2m3 Reactor	1			Centrifuge filter 32"	1
SUS high vacuum Reactor	1			Oscillator	1
				Filter 0.3m3	4
Analysis equipment					
HPLC (High performance liquid chromatography)					2
GC (Gas chromatography)					1
FT-IR (Infrared spectrometer)					1
UV-Vis					1
Karl Fischer					1
Bacteria detector					1

Laboratory Introduction

A global chemical corporation that continues to grow with customers based on the highest professional expertise

| Research areas

We create high added values and pioneer new markets with various R&D.

Release agent anti-tack agent detergent

- oil seal
- rubber hose
- polyurethane
- die casting

Spin finish (for use on clothing)

- Spandex
- polyester
- nylon
- acrylic
- polypropylene

Spin finish (for industrial materials)

- aramid
- tire code
- carbon fiber

Textile auxiliaries

- Pre-treatment Process Agents
- Coloration Process Agents
- Finishing Process Agents

Color Enhancer

- resin
- silicon

Water repellent

- Non-Fluorine
Water Repellent Agent

Fine chemistry

- electronic material
- pharmaceutical intermediate
- various organic compounds
- antibacterial deodorant
- sunscreen

Analysis

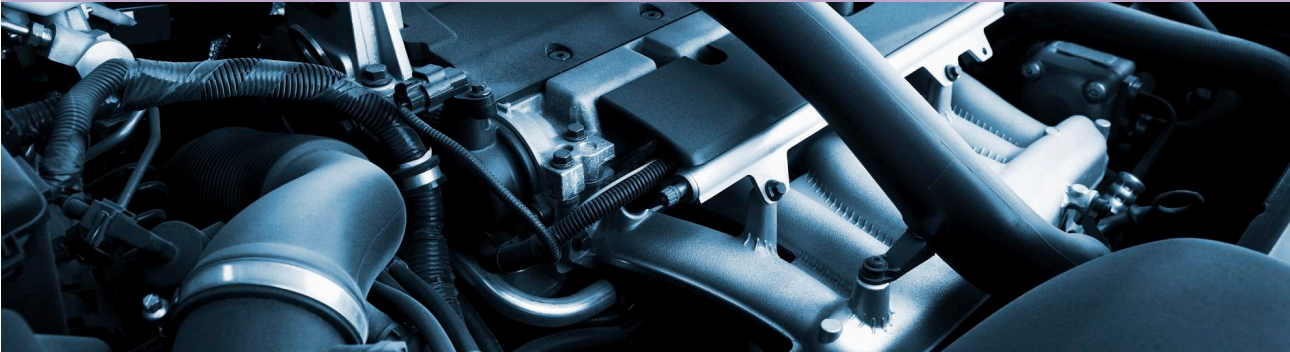
- GC
- FT/IR
- HPLC
- C/C analysis

Development Performance

PND COSCHEM laboratory is working hard to discover a new growth engine for developing new products and for sustainable growth.

Automotive industry

Eco-friendly release agent / anti-tack agent / detergent

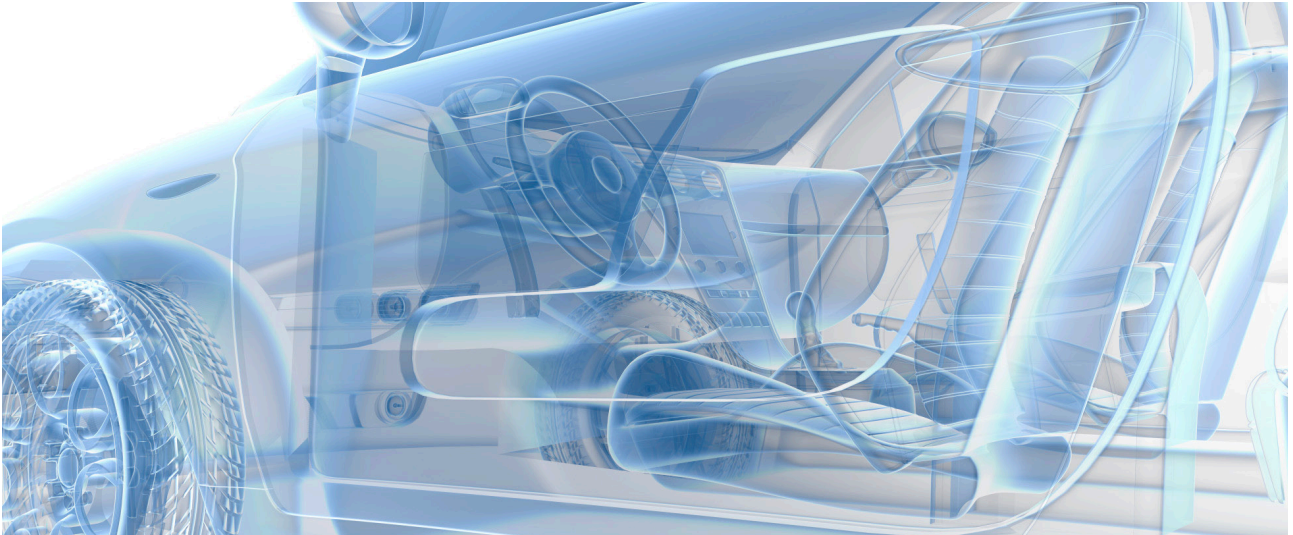


Textile industry



Product Introduction

| Release agent, anti-tack agent, detergent



Release agent for rubber hose



oil seal release agent



core & urethane release agent



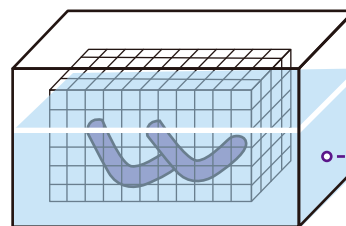
mold release agent



anti-tack agent



detergent



Rinsability

Water
(Cleaning temperature:
20~95°C)

Product Introduction

| Release agent

Release agent is used to prevent the contamination of mold and facilitate insertion and foam removal by providing lubrication to mold and mandrel when vulcanizing raw rubber.

| Mandrel release agent

This is a water-soluble type release agent used on mandrel when vulcanizing various rubber hoses. It prevents aging and cracks as the drawbacks of silicon release agents to extend the life of rubber hoses and displays excellent dimorphic effect.

- It is a release agent for EPDM, ECO, and CM, providing excellent releasability.
- It extends the life of rubber hoses by preventing aging and cracks as the drawbacks of silicon release agents.
- Due to its excellent cleaning ability, the release agent attached inside the vulcanized hose can be completely removed with hot water rinsing without using a separate detergent.
- Due to its excellent lubricity and releasability, it can maximize effects like productivity enhancement, defect rate reduction, and product quality improvement.
- Due to its excellent anti-corrosiveness, it prevents the corrosion of the scouring kier.

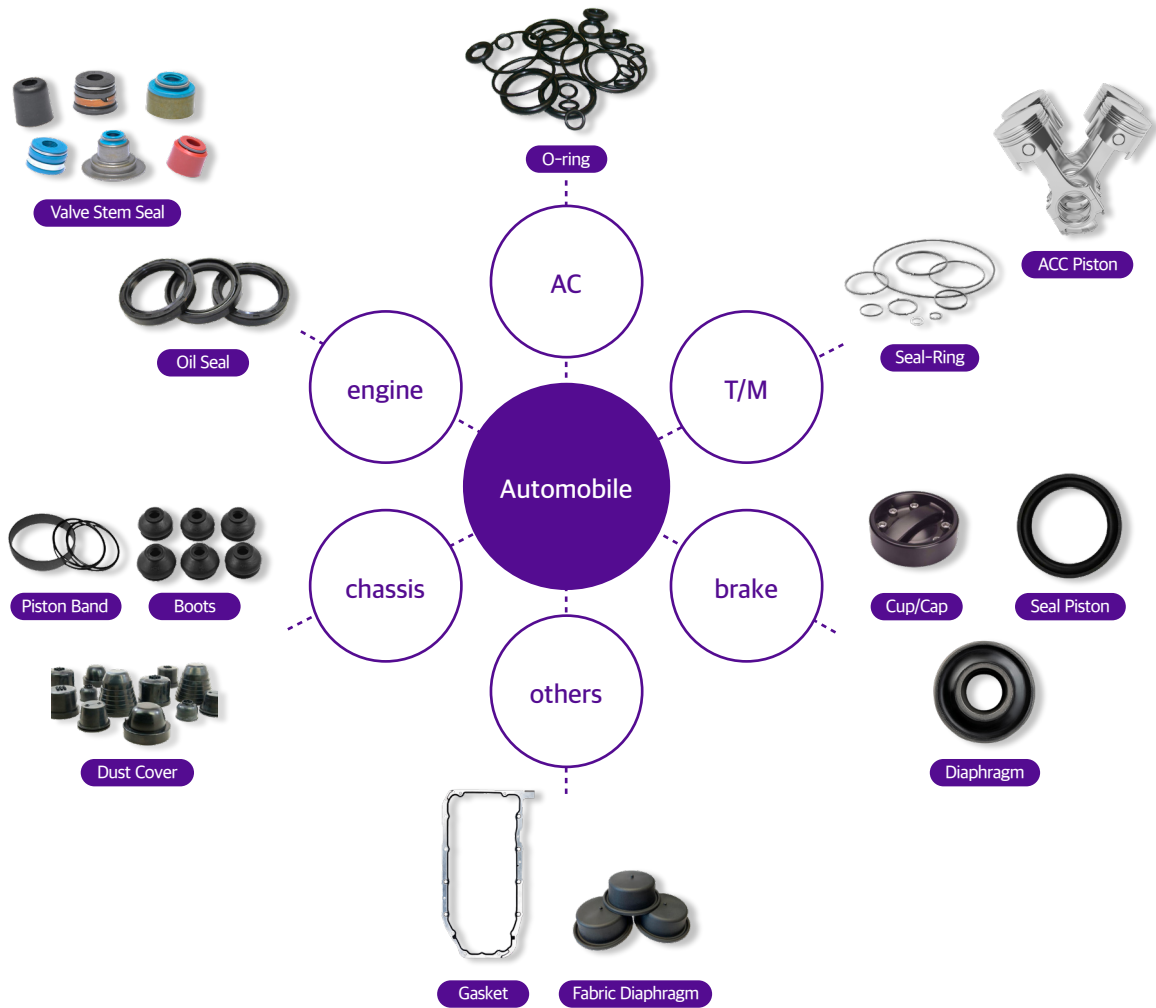


Product name	Use	Features
NEEMA RH-Series	NR, NBR, EPDM, P-EPDM, SBR, BR, ECO, ACM, CSM, etc.	Hose release agent for Mandrel

Product Introduction

| Oil Seal Release Agent

- Used on all rubber products and plastic, it displays excellent mold dimorphic effect.
- It neither corrodes a mold nor has an adverse effect on it.
- There is no sticking, ripping, or warping of the shaped articles.
- There is no contaminating effect on molds and products.



Product name	Use	Feature
NEEMA RO-Series	All Polymer	Water-soluble Type

Product Introduction

| Urethane Release Agent

This is a water-soluble release agent for urethane foam. This release agent does not stick that much to shaped articles, it is chemically stable, and it neither corrodes nor has an adverse effect on molds.

- It is a water-soluble release agent that does not stick that much to a shaped article.
- Due to its excellent spreadability, it displays superior releasability when shaping complicated molds.
- It is not harmful to the environment and the human body since it does not contain solvents.
- It is chemically stable, and it neither corrodes nor has an adverse effect on molds.
- Due to its excellent releasability, it can provide fast and easy removal of molds.



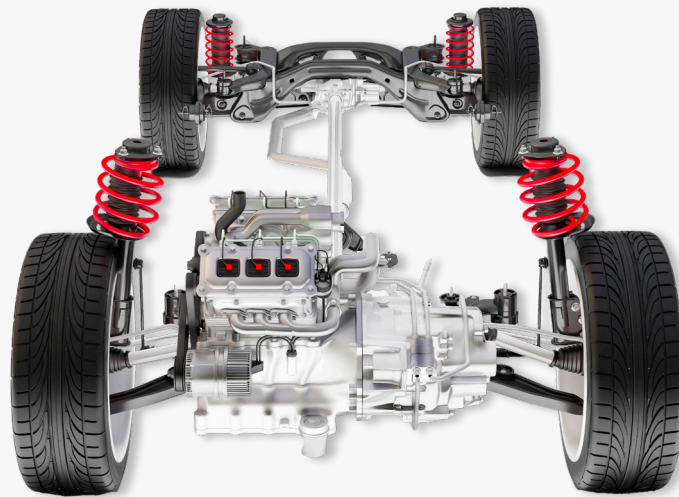
Product name	Use	Features
NEEMA RD-Series	Used on urethane foams and cores	Water-soluble Type

Product Introduction

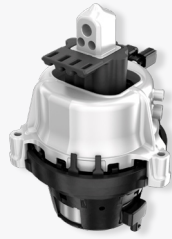
| Mold Release Agent

- This is a release agent forming a semi-permanent film on the mold surface at temperatures above 150°C.
- The multi-functional release agent polymer system forms a chemically stable and thin microfilm on the mold surface.
- It can be used in all processes with mold temperatures continuously above 150°C as well as on natural or synthetic rubber products.

POWER TRAIN MOUNT



SWITCHABLE HYDRO MOUNT



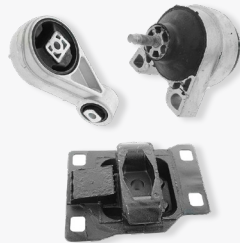
SWITCHABLE HYDRO MOUNT



HYDRO MOUNT



ENGINE MOUNT



TORQUE REACTION ARM



TRANSMISSION MOUNT

Product name	Use	Feature
NEEMA RM-Series	NR, NBR, EPDM, SBR, BR, ECO, ACM, CSM, etc.	Prevents corrosion of metal surface

Product Introduction

| Anti-tack Agent

An agent for preventing compounded rubber from attaching to the surface, used on all rubber products

- Used on all rubber products, this agent prevents stickiness to crude rubber in various processes.
- Since it is diluted in water, there is no possibility of workplace contamination due to uneven arrival or dispersed powder on the surface of crude rubber unlike the existing process.
- It can produce gloss on the surface of treated products.
- It is easy to work with since it prevents sticking when loading calendered rubber products.



Product name	Use	Features
NEEMA BC-Series	NR, NBR, EPDM, SBR, BR, ECO, ACM, CSM, ACM, AEM, etc.	Metal salt aqueous dispersion
NEEMA SF-Series		silicone surface tack eliminator

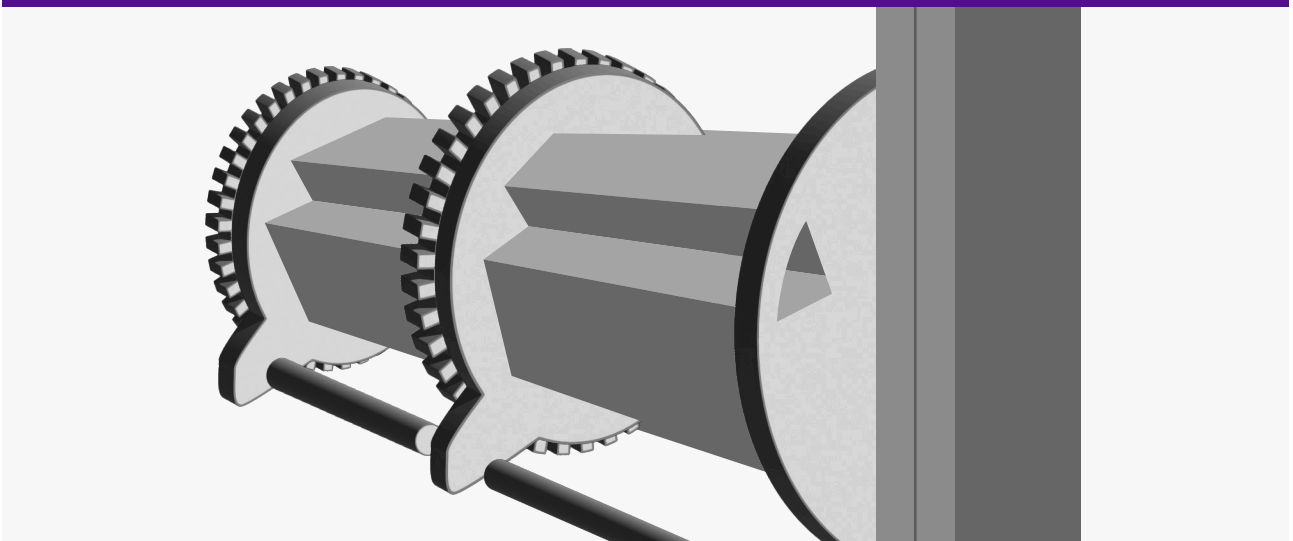
Product Introduction

| Rubber Cleaning Agent

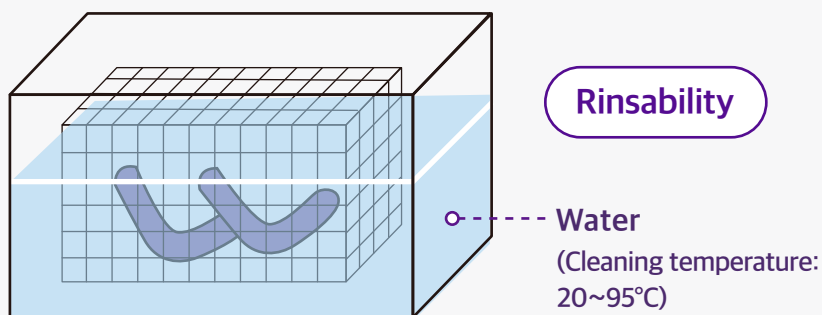
This is an eco-friendly cleaning agent with excellent performance in cleaning the release agents used on mandrel when vulcanizing various rubber hoses.

- It completely removes various substances contaminating the rubber surface with superior penetration and dispersion force.
- There is no reattachment in the cleaning process since it has excellent emulsifying dispersion force.
- There is no bleaching effect after cleaning.
- It has excellent storage stability, and it can be used even on light water.

Barrel washing



Rinseability



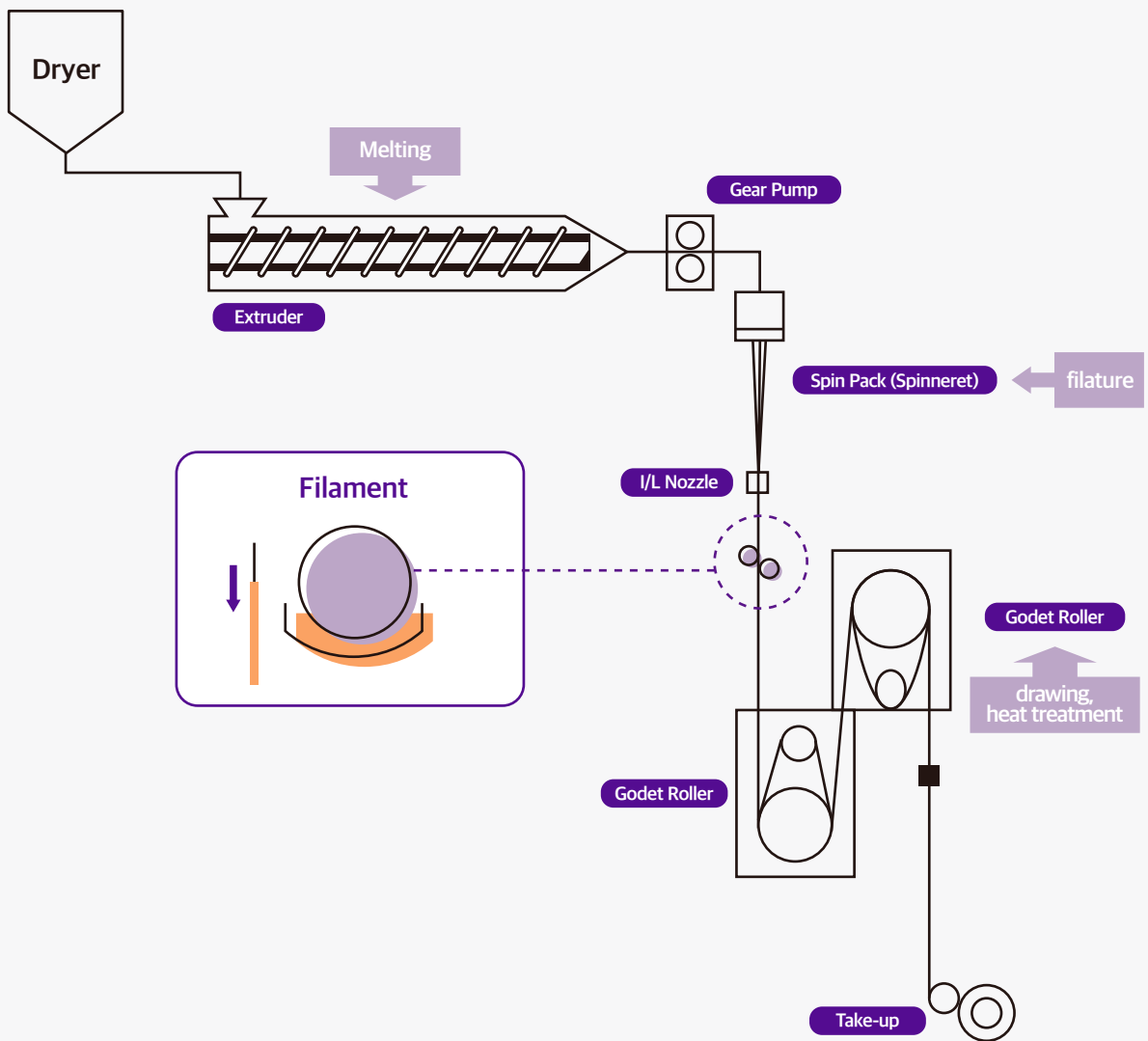
Product name	Use	Feature
NEEMA RS-Series	All Polymer	Used in the hose production cleaning process

Product Introduction

| Spin Finish Oil

- It has excellent uniform adhesion under high speed and displays suitable F/F and F/M friction.
- It has less declination.
- It has excellent stretchability, cake form, and unwinding property.
- It generates less fumes and tar.
- It has excellent metal wear resistance.
- It has excellent detergency and biodegradability.

Filament process



Product Introduction

| Spin Finish Oil for Polyester Filament

Product name	Use	Features
IEVATAS SFP-5065	FDY process	<ul style="list-style-type: none"> · It has good lubricity and excellent workability at high speed. · Cake form is superior thanks to interlacity, antistatic, and appropriate F/F.
IEVATAS SFP-207	For POY-DTY combustion	<ul style="list-style-type: none"> · It enhances combustible workability by providing appropriate F/M and F/F. · It has excellent heat resistance and extends the cleaning cycle of Heater-plate.
IEVATAS SFP-5697	HOY process	<ul style="list-style-type: none"> · It provides appropriate lubricity, and it is easy to apply to Fine-denier due to its good penetrability. · It has excellent interlacity, antistatic, and heat resistance.
IEVATAS SFR-4030	For Tarpaulin industrial material	<ul style="list-style-type: none"> · Due to its superior heat resistance at high temperatures, it enhances stretchability. · It has excellent interlacity and antistatic, including excellent Cake form.
IEVATAS SFT-9180	Tire-Cord	<ul style="list-style-type: none"> · Due to its superior heat resistance at high temperatures, it has excellent workability in producing high-tenacity yarn. · It displays excellent performance in Tire cord properties due to its superior compatibility with corduroy.
IEVATAS SFP-808	Mother Yarn	<ul style="list-style-type: none"> · It enhances warping workability by providing appropriate lubricity. · It has excellent injection point when warping and no occurrence of Scum.
IEVATAS SFP-6030	Mono filament	<ul style="list-style-type: none"> · The unwinding property between Monofilaments is good. · Due to its good scouring effect, the lightness of the fabric is excellent when dyeing after weaving.

| Spin Finish Oil for Polyester Staple Fiber

Product name	Use	Features
IEVATAS SSF-4244	For spinning, drawing	<ul style="list-style-type: none"> · It consists of eco-friendly surfactant with none of the substances regulated by ZDHC and ECHA. · It has excellent antistatic and provides appropriate F/M and F/F. · It has excellent workability such as carding property in post-processes.
IEVATAS SSF-1025	Wet laid (Short Cut)	<ul style="list-style-type: none"> · It can be applied for industrial or hygienic purposes since it consists of eco-friendly surfactants. · It has excellent antistatic effect, dispersion force between monofilaments, penetrability, and hygroscopicity.

Product Introduction

| Spin Finish Oil for Nylon Filament

Product name	Use	Features
IEVATAS SFN-9160	Fish-net	<ul style="list-style-type: none"> · It has excellent lubricity, antistatic, and interlacity. · Stable at high temperatures, it has excellent stretchability, which makes it suitable as a yarn for industrial materials.
IEVATAS SFN-4711	Nylon66 Tire-cord	<ul style="list-style-type: none"> · Its internal carbonization is excellent at Godet R/O due to its superior heat resistance at high temperatures. · It has good adhesive stiffness to Cord due to its superior compatibility with Dip-corduroy.
IEVATAS SFN-2280	Oxford (Emulsion Type)	<ul style="list-style-type: none"> · Due to its good scouring effect, salt stains do not occur when dyeing. · It has favorable interlacity and antistatic and provides appropriate F/M and F/F characteristics.
IEVATAS SFN-2300	Oxford (Straight Type)	<ul style="list-style-type: none"> · Due to its good internal carbonization rate at high temperatures, there is no contamination of Godet R/O. · Due to its good scouring effect, warp stripe does not occur when dyeing.
IEVATAS SFN-300	FDY Process	<ul style="list-style-type: none"> · Because it consists of special lubricant, it has excellent wear-resistant color fastness to rubbing. · Its Cake form is excellent due to good antistatic and interlacity.
IEVATAS SFN-520	Mother Yarn	<ul style="list-style-type: none"> · It enhances warping ability by providing appropriate F/M and F/F characteristics. · It has superior unwinding property due to good antistatic, and its Cake form is excellent.
IEVATAS SFN-2800	B.C.F Carpet	<ul style="list-style-type: none"> · Its elastic restoring force is excellent since it contains a special surfactant. · It has good weaveability by providing appropriate F/F characteristic.

| Spin Finish Oil for Nylon Staple Fiber

Product name	Use	Features
IEVATAS SFN-1700	P/N Conjugate	<ul style="list-style-type: none"> · It has good hygroscopicity and penetrability as a Hydrophilic-type product. · Due to its good antistatic, it displays superior performance for microfiber yarn.
IEVATAS SFN-0606	Non-woven fabric	<ul style="list-style-type: none"> · It enhances the tearing strength of felt by providing appropriate F/F frictional force. · It has excellent carding property due to its antistatic and penetrability.

Product Introduction

| Spin Finish Oil for Spandex Filament

Product name	Use	Features
IEVATAS SFS-5000	Monofilament	<ul style="list-style-type: none"> · It has excellent uniform adhesiveness to Filament. · It provides appropriate F/F and F/M friction characteristics.
IEVATAS SFS-5030	General-purpose grade, circular knitting/warp knitting, etc.	<ul style="list-style-type: none"> · It has good Cake form and unwinding property by inducing appropriate F/F friction force.
IEVATAS SFS-5050	Applied when reducing Mg-st in the polymer process	<ul style="list-style-type: none"> · It minimizes the unwinding tension fluctuation between inner and outer layers when unwinding.
IEVATAS SFS-5080	Premium circular knitting	<ul style="list-style-type: none"> · It has excellent crude liquid stability since it maximizes the solubility of heavy metal soap salt. · There is no occurrence of Scum by completely dissolving heavy metal soap salt.
IEVATAS SFS-5090	Special yarn type	<ul style="list-style-type: none"> · There is no Stick and Slip phenomenon when unwinding. · Its release rate is very low since it contains a special scattering inhibitor.
IEVATAS DASP-001M-35	Dye accelerator	<ul style="list-style-type: none"> · It is a Polyurethane Resin compound that promotes the enhancement of dyeing property. · It has excellent dyeing fastness, high temperature stability, and UV stability. · Dyeing heterogeneity, dye dropout phenomenon, and yellowing do not occur at all.

| Spin Finish Oil for Aramid

Product name	Use	Features
IEVATAS SFA-5700	Spinning emulsion	<ul style="list-style-type: none"> · It has appropriate F/M & F/F and excellent antistatic. · It has excellent interlacity and opening between yarns by adding a special surfactant. · It has good spinning property and good fiber properties as Spun Yarn characteristics.
IEVATAS SFA-3968	Non-woven S/F drawing oil	<ul style="list-style-type: none"> · It has appropriate F/M & F/F and excellent antistatic. · It has excellent interlacity and opening between yarns by adding a special surfactant.
IEVATAS SFA-6050	Filament	<ul style="list-style-type: none"> · It has good spinning property and good fiber properties as Spun Yarn characteristics. · It has excellent antistatic and penetrability. · Stable at high temperatures, it has excellent Carding property and tearing strength.

Product Introduction

| Spin Finish Oil for Acrylic

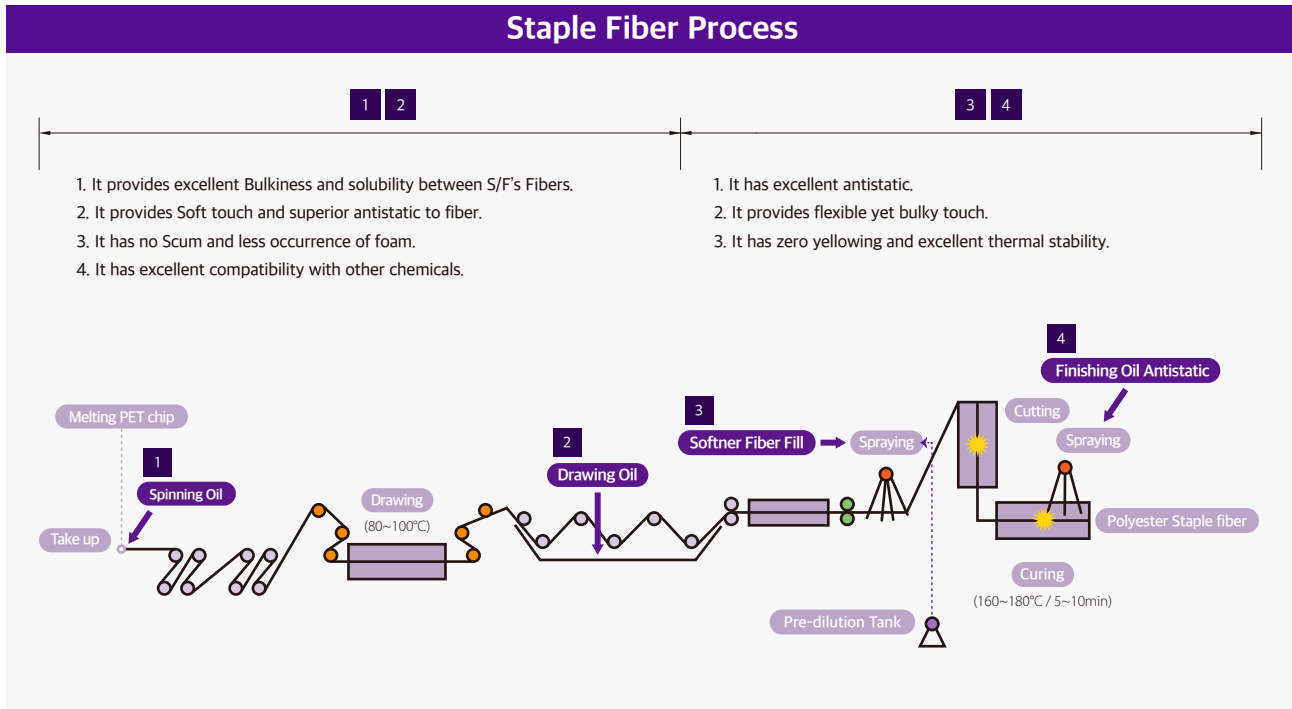
Product name	Use	Features
IEVATAS SPA-6200	Cotton spinning	<ul style="list-style-type: none">· It can be applied for industrial or hygienic purposes since it consists of eco-friendly surfactants.· It has excellent antistatic effect, dispersion force between monofilaments, penetrability, and hygroscopicity.
IEVATAS SPA-6600	worsted spinning	<ul style="list-style-type: none">· Mainly applied to 3Denier, it provides excellent antistatic effect.· It provides excellent effect on spinning workability thanks to appropriate F/F.· Shrinkage(%) of yarn can be managed easily and appropriately.
IEVATAS SPA-7800	High-Denier	<ul style="list-style-type: none">· It effectively provides friction between F/F due to its excellent antistatic.· It has good spinning workability since it contains a special surfactant.

| Spin Finish Oil for Polypropylene

Product name	Use	Features
IEVATAS SPP-3000	Regular	<ul style="list-style-type: none">· Workability and Cake form are good thanks to the provision of appropriate F/M and F/F.· It induces minimal dye disengagement from Dop-Dyeing yarn.
IEVATAS SPP-4202	High-tenacity yarn	<ul style="list-style-type: none">· It is suitable for high-tenacity yarn for industrial materials due to its excellent stretchability.· It has excellent interlacity between Filaments.

Product Introduction

Staple Fiber



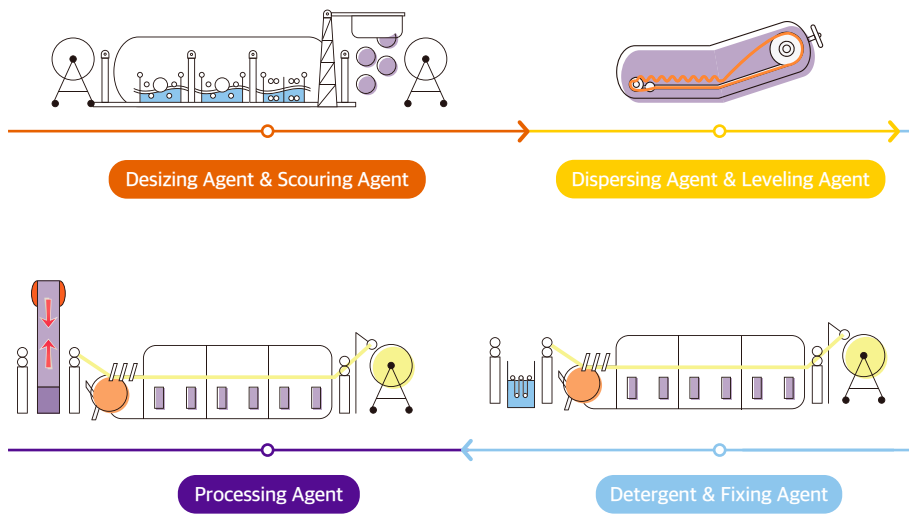
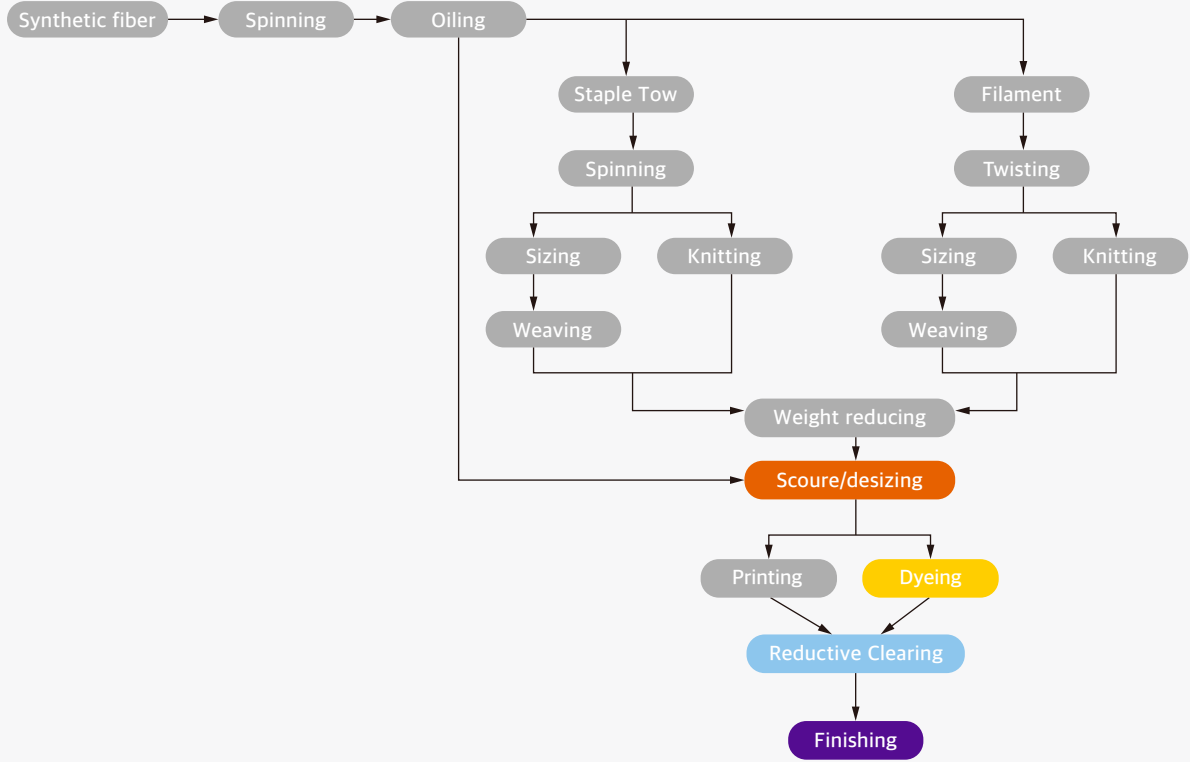
Spin Finish Oil for Staple Fiber

Product name	Use	Features
IEVATAS JSS-800/500	Spinning oil	<ul style="list-style-type: none"> · It displays F/F and F/M friction. · It provides excellent Bulkiness and solubility between S/F's Fibers. · It provides Soft touch and superior antistatic to fiber.
IEVATAS JSS-50N/700	Drawing oil	<ul style="list-style-type: none"> · It provides excellent Bulkiness and solubility between S/F's Fibers. · It has excellent spinning property and crimping due to appropriate friction.
IEVATAS JSS-55AS	Drawing antistatic agent	<ul style="list-style-type: none"> · It has excellent antistatic. · It has less yellowing and excellent thermal stability.
IEVATAS JSS-886/900	Antistatic agent	<ul style="list-style-type: none"> · It provides excellent Bulkiness and solubility between S/F's Fibers. · It provides Soft touch and superior antistatic to fiber.
IEVATAS JSS-556	Spinning oil	<ul style="list-style-type: none"> · It has excellent antistatic.
IEVATAS JSS-820	Spinning oil, antistatic agent	<ul style="list-style-type: none"> · It has less yellowing and excellent thermal stability. · It provides excellent Snow touch.
IEVATAS FTS-330/100S	Fiber fill	<ul style="list-style-type: none"> · It provides excellent Feather touch.

Product Introduction

| Textile Auxiliaries

Textile Auxiliaries Process



Product Introduction

Desizing & Scouring for Pre-treatment

Textiles have impurities such as thickening agents that are used when processing coloring, oil, or inorganic substance and fabric or knit with natural impurities.

Because such impurities become potential obstacles during the dyeing process or other functional processing, the process of removing impurities is essential.

- Desizing/Scouring for removing natural impurities, thickening agents (wax), and spinning oil.
- Promotes whiteness degree by bleaching the inherent pigment of natural textiles.
- Mercerizing to provide a soft touch.
- Relaxing to provide uniform colors.
- Pre-setting to stabilize the density and area of textiles.

Desizing Agent

Product name	Use	Features
PULIS S-606/DS-1181	Polyester /Nylon	<ul style="list-style-type: none"> · Since it has very good stability against Alkali, it proceeds with desizing in a short period of time and has excellent emulsification dispersion force. · It has good penetration and emulsification stability, and it is very easy to use as continuous scouring agent since there is no reattachment. · It enhances dispersion stability when dyeing with disperse dye, prevents condensation of oligomer and reattachment to machinery, and improves color sharpness and color reproducibility. · It provides uniform scouring effect since it effectively blocks, saponifies, softens, disperses, extracts, and removes various impurities and various minerals contained in raw cotton.
PULIS S-AN	All textiles	<ul style="list-style-type: none"> · It effectively removes contaminants such as fat, wax, and oil. · It prevents recontamination due to its excellent emulsification dispersion force. · It shortens the scouring time with excellent penetration and detergency and ensures that there is no damage to touch. · It has good effect as soaping agent after dyeing.

Enzyme Desizing Agent

Product name	Use	Features
PULIS S-HP	Cotton / Mixed Yarn	<ul style="list-style-type: none"> · The active range of titer at low and high temperatures is wide thanks to the excellent expansion and wetting force of starch. · The titer of enzyme does not decrease even when used together with other chemicals.

Scouring Agent

Product name	Use	Features
PULIS S-NF	All textiles	<ul style="list-style-type: none"> · It displays excellent effect in removing oils or contamination by oils, which is not removed well with general scouring agent, such as machine oil attached to various textiles during weaving and other work. · It has excellent alkali and acid resistance and good compatibility with other chemicals. · It can prevent reattachment when scouring. Sufficient effect can be obtained with one-time scouring through fast and complete deoiling and defatting.
PULIS E-F	All textiles	<ul style="list-style-type: none"> · It displays excellent effect in removing oils or contamination by oils, which is not removed well with general scouring agent, such as machine oil attached to various textiles during weaving and other work. · It has excellent alkali and acid resistance and good compatibility with other chemicals. · It is characterized by not only satisfactory deoiling effect but also excellent emulsification dispersibility regarding thickening due to excellent workability with low foaming.
PULIS UDT-110	All textiles	<ul style="list-style-type: none"> · Due to its excellent penetration, it can completely disperse oil that is not removed with general scouring agent during weaving and other work. · It has excellent alkali and acid resistance and good compatibility with other chemicals. · It has excellent workability and deoiling effect due to its low foaming. · It can prevent reattachment when scouring with fast and complete deoiling and defatting. · Due to its excellent penetration, it completely removes impurities in cotton. · There is no environmental pollution issue due to its excellent biodegradability.

Product Introduction

Chelating Agent

Product name	Use	Features
PULIS IG-218	All textiles	<ul style="list-style-type: none"> · Its effect is sustained even at high temperatures. It is even more effective on high-density fabric. · It displays not only powerful metal ion binding under Alkali but also excellent dispersion force. · It prevents the formation of mineral salts and crystalloids such as calcium or magnesium forming scales on Rollers or Cylinders of scouring and H₂O₂ bleaching bath. It also prevents pinholes and promotes a bleaching effect. · It enhances the refining property and prevents various accidents in subsequent processes.

Penetrating & Wetting Agent

Product name	Use	Features
PULIS D-DP	Polyester /Nylon	<ul style="list-style-type: none"> · It quickly penetrates when scouring since it has excellent penetration dispersibility. · It has good Alkali penetrability and contactability of textile as well as excellent rewetting and penetration solubilization effect.
PULIS PAH-389	All textiles	<ul style="list-style-type: none"> · Since it has less foaming, workability is excellent. Especially when dyeing thick textiles, distinct colors can be obtained due to its excellent rewettability due to scouring.
PULIS DP-100	Polyester / Cotton	<ul style="list-style-type: none"> · Various textiles can be reworked by using together with the desired dye without dewatering or desilicone treatment. · Since it has extremely powerful instant hygroscopic power, it can be applied for multiple purposes by using it together with other chemicals. · It increases the fastness of printed material if used together in arc mixture when printing. · It has excellent workability since it has less foaming.

Peroxide Stabilizer

Product name	Use	Features
PULIS SBL-101	Natural textile	<ul style="list-style-type: none"> · As it is non-silicate, it poses no issues when working by preventing scales on machines and textiles that can occur in silicates. · Since it has the ability to block metal ions, it can reduce the amount of chelating agent and prevent the reattachment of impurities. · This is a new product with no possibility of degradation of fiber strength and whiteness degree, which is the drawback of silicates.

Anti-foaming Agent

Product name	Use	Features
BELLUS C-200AF	All textiles	<ul style="list-style-type: none"> · Due to its excellent anti-foaming properties, it has superior performance even when using a small amount. · It has resistance to alkali and displays a superior effect when used in the pre-treatment process. · It has excellent anti-foaming properties after high-temperature treatment.
BELLUS C-200	All textiles	<ul style="list-style-type: none"> · It has very excellent anti-foaming effect even with only a small amount. · It is almost odorless since it is non-volatile. It can also be used in an extensive pH range. · There is no danger from Spot issues.

Product Introduction

| Dyeing & Fixing Agent for Coloration

Dyeing is a process of coloring threads, fabric, or knit using dye.

- Uniform dyeing using various dye auxiliaries such as dispersant and leveling agent.
- Reduction detergent and soaping agent remove unfixed dye.
- Fixing agent fixes the dye used on cotton or nylon fiber.
- Dye type and dye auxiliaries are some of the methods for raising the dye fastness of textiles, and they vary by type of textile.

| Dispersing Agent, Leveling Agent

Product name	Use	Features
BELLUS RP-200	Polyester	<ul style="list-style-type: none"> · It is a non-foaming agent that does not have spot phenomenon due to foaming when dyeing. · It does not cause Tarring due to its excellent dispersibility and dye aggregation. · It has excellent foamability, leveling, dispersibility, and migration effect.
BELLUS OK-3476	Polyester	<ul style="list-style-type: none"> · Since it has good chlorine resistance, it is not sensitive to water quality and it has excellent metal ion blocking power.
BELLUS GL-500	Nylon	<ul style="list-style-type: none"> · It provides leveling by dyeability effect as well as excellent migration effect. · It is used as leveling agent of Polyamide textiles. · Leveling proceeds with moderate migration effect effect and migration effect.
BELLUS NFA-50	Nylon	<ul style="list-style-type: none"> · Superior Leveling is realized when using acid dyes and 1:2 metal dyes. · It has tremendous effect on dyeing correction and stripping. · When dyeing, it solubilizes the metal ions attached inside and has great ability of preventing scales.

| Fixing Agent

Product name	Use	Features
BELLUS FIX-AK	Cotton / Nylon	<ul style="list-style-type: none"> · It provides excellent wet-color fastness with one bath treatment method on acid-dyed goods of Polyamide fiber. · There is neither coloring on Nylon fiber nor discoloration such as dye dropout and color darkening upon treatment. · It does not affect fiber touch due to fixed agent treatment.
BELLUS FIX-VN	cotton	<ul style="list-style-type: none"> · It promotes the wet-color fastness of cellulose fiber dyed with reactive dyes wherein non-fixed dye is not completely removed. There are no changes to treated dyed goods. · It enhances the chlorine-resistant fastness without reducing the color fastness to light of the dyed goods. · It provides the best wet-color fastness that can be obtained from cellulose fiber dyed with reactive dyes. It also has excellent compatibility with other chemicals. · It has almost no effect on dye color and almost no tendency of discoloration on any color.

Product Introduction

| Soaping Agent

Product name	Use	Features
BELLUS SA-RC	Cotton / Nylon	<ul style="list-style-type: none">· It has excellent penetration and solubilization as well as extremely superior emulsification dispersibility that quickly removes non-fixed dye.· There are no issues due to foaming since it is a non-foaming agent. It has superior anti-lipophilic property and metal ion blocking power.· It displays excellent effect as a soaping agent of naphthol dye, Vat dye, and oiled dye besides reactive dye. It not only makes dyed goods distinct but also enhances dyeing fastness.· It prevents reattachment and has no recontamination at all.

| Carrier

Product name	Use	Features
KARENA CA-MT	Polyester	<ul style="list-style-type: none">· It is the Carrier of aromatic Methylnaphthalene and is suitable for dyeing at room temperature and atmospheric temperature.· It forms uniform salt while dyeing proceeds slowly.· It displays superior performance in dispersion due to the emulsification process of special polymeric compound and dyeing as the lifeline of the Carrier.· Since dyeing is performed due to excellent penetration when re-dyeing dyed goods, one of the advantages is the ability to complete work successfully.

Product Introduction

| Processing Agent for Finishing

It is the processing of providing touch and various functions to the end product while making the most of the fabric's characteristics.

- Flexible processing providing softness and hardness of touch.
- Water repellent/oil repellent processing for preventing contamination to water or pollutant.
- Flame-retardant, antistatic, deodorizing, antimicrobial processing, etc.
- Processing methods include continuous process, single process, coating, etc.

| Antistatic Agent

Product name	Use	Features
KARENA STAT-Series	All textiles	<ul style="list-style-type: none"> · It can be used in combination with resin, displaying superior antistatic even when used together. · It does not affect friction fastness. · It is not corrosive and it has no skin toxicity. · There is neither reduction of fastness when treating dyed goods nor discoloration.
KARENA AA-Series	All textiles	<ul style="list-style-type: none"> · It has excellent compatibility with resin upon textile processing and provides superior antistatic used in combination with Cation Resin and Anion Resin. · It is not corrosive, and it does not have an adverse effect even upon contact with skin. · There is neither reduction of fastness when treating dyed goods nor discoloration. · There is no corrosion trouble.
KARENA PAA-200	PET/PET mixed spinning	<ul style="list-style-type: none"> · It maintains antistatic and soil-resistant finish in polyester and polyester-blended fabric. · It is not corrosive, and it does not have an adverse effect even upon contact with skin. · It forms a hydrophilic film on textiles and provides excellent moisture absorption power. · It can be removed oil more easily than attached by increasing the interfacial tension between oil and textile. · It suppresses the increase of pair voltage by increasing the conductivity of textiles.

| Softening Agent

Product name	Use	Features
KARENA S-500 /SS-706	All textiles	<ul style="list-style-type: none"> · It enhances the thermal resistance of Cotton, T/C, Spandex, Nylon fabric, and Knit, provides moisture absorption, and serves as excellent flexible leveling agent. · It provides a unique soft touch to knitted textiles, and it is used in post-treatment requiring flexibility; has excellent compatibility with other chemicals. · It is a high-quality flexible leveling agent that does not affect the dye fastness and whiteness degree. It also provides a unique touch to textiles.
KARENA H-300	All textiles	<ul style="list-style-type: none"> · It is reasonably mixed with Silicone. It is better than Dimethyl softening agent. · It can be used in combination with other chemicals, and it is compatible with a textile processing agent. · It has good rebound elasticity to various knitted fabrics, excellent hygroscopicity, and good antistatic effect. · Oil spots do not occur thanks to excellent emulsion stability.
KARENA P-200	All textiles	<ul style="list-style-type: none"> · It provides a unique touch, and it is effective even when used in small amounts. · It displays a high sense of touch unlike silicone. · There is no discoloration after processing. It is also effective in promoting fastness.
KARENA S-500P	All textiles	<ul style="list-style-type: none"> · It applies to all textiles and has excellent rebound elasticity and flexibility. · It provides crease resistance to textiles, has zero yellowing and excellent compatibility with other chemicals. · Since it is durable even when washed numerous times, it can provide high-value textiles.

| General Softening Agent

Product name	Use	Features
KARENA S-N	All textiles	<ul style="list-style-type: none"> · It is highly compatible with other resin when processing textiles, and it has excellent leveling and durability. · It has zero yellowing in high-temperature treatment and semi-permanent resistance to laundering.
KARENA NS-800	All textiles	<ul style="list-style-type: none"> · It is highly compatible with other resin when processing textiles, and it has excellent leveling and durability. · It has zero yellowing in high-temperature treatment and semi-permanent resistance to laundering.

Product Introduction

Softening Agent in Bath

Product name	Use	Features
KARENA D-CH	All textiles	<ul style="list-style-type: none"> · It provides semi-permanent yet moist, flexible effect to all forms of cotton, rayon, acetate, and synthetic textiles. · It is used regardless of type of textile, and it effectively prevents wrinkles. · Discoloration or yellowing does not occur when drying, curing at high temperatures, or heat setting.

Special Processing Agent

Product name	Use	Features
ALLEEN CUT-UV	All textiles	<ul style="list-style-type: none"> · Easy UV blocking effect for various textiles and enhancement of intrinsic light fastness. · Good dispersion stability for ultra-fine particles. · It is harmless to humans since it is used in raw ingredients of functional cosmetics. · 99% blocking effect can be obtained even when using only a small amount.
ALLEEN BIO-520	All textiles (industrial)	<ul style="list-style-type: none"> · It is stable against heat and harmless to humans. · When wearing BIO-520 treated product, a comfortable feel can be experienced. · No need to worry about skin disease because it eradicates and blocks Staphylococcus aureus, which is harmful to humans.
ALLEEN SILP-NQ	All textiles	<ul style="list-style-type: none"> · It displays a slip-resistant effect to all types of textiles. · It does not affect the fastness of textiles, increases the tensile strength and tearing strength, and does not affect flexibility. · When used together with Cation-type surfactants, apply after testing.
ALLEEN COAT-SR	All textiles	<ul style="list-style-type: none"> · Dust, impurities, and residue do not stick. · It not only removes attached oil easily but also has antistatic.

Color Deepening Agent

Product name	Use	Features
TAMASA NSR-4042(1st)	Polyester Formal Black	<ul style="list-style-type: none"> · It induces light Bluish color and has excellent continuity. · It has excellent uniform deep color effect.
TAMASA NSS-5063R(2nd)		<ul style="list-style-type: none"> · It has excellent flexibility and no Chalk marks. · It has good uniform adhesiveness to fabric and excellent yellowing fastness.
TAMASA NSR-2052CB	Polyethylene/Cotton	<ul style="list-style-type: none"> · It induces a Bluish color for Cellulose textiles. · It has excellent absorptiveness into textiles and no dyeing out.
TAMASA NSR-4052CR	Polyethylene/Cotton	<ul style="list-style-type: none"> · It induces a Reddish color for Cellulose textiles. · There are no changes in deep color over time after treatment.

Non-fluorine Water Repellent

Product name	Use	Features
MEGALOS BSJ-Series	Polyester blend	<ul style="list-style-type: none"> · It is an eco-friendly water repellent since it has no fluorine. · It applies to the union cloth of all textiles and has excellent water repellency.
MEGALOS BSJ-Series	Cotton blend	<ul style="list-style-type: none"> · It has excellent fastness to laundering and adhesive-peeling strength after resin coating treatment. · It has good biodegradability and good storage stability, and it is easy to handle.



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