

Optimizing BOPP film production with CONSTAB®
Masterbatches and Compounds

BOPP



Working together for the future of plastics.










Kafrit Group is a leading producer of Masterbatches and Compounds for the plastics industry and currently employs more than 470 people. In 2021, the Group achieved USD 302 million \$ turnover with an available capacity of more than 120,000 MT. Moreover, the company is active on a global scale and has set up production sites all over the world.

All of this began in 1973 when the company was founded in Israel. Since then, the company has grown primarily via acquisition.

Today, the Kafrit Group incorporates **Kafrit Industries (1993) Ltd. in Israel, CONSTAB Polyolefin Additives GmbH and Delta Kunststoffe AG in Germany, China's Suzhou Constab Engineering Plastics Co. LTD, Polyfil Inc. in the USA, the Canada-based Kafrit NA Ltd. and Addvanze AB in Sweden.** With more than 50 years of experience in the plastics processing industry, the company can draw on high levels of expertise and technical know-how. Kafrit Group places a high value on sustainability and has made it to one of the cornerstones of our corporate strategy.

Our unbridled dedication to environmental, social and financial issues makes us to one of the leading business partners in the plastics industry. Our customers value our passion and appreciate our ecological awareness and social commitment. Moreover, they recognize our world leading services and consider our products as among the best within our industry.

We develop and produce cost-efficient solutions which will enhance the completion of high-quality end products in many areas of the plastics industry, such as packaging films (BOPP, BOPE, CPP, PE), PC sheet, agricultural films and derivatives, biopolymers, flame retardant applications, PEX, pipes, fibers and nonwovens.

-  KAFRIT IL ①
-  CONSTAB GER ②
-  CONSTAB CN ③
-  KAFRIT NA ④
-  POLYFIL USA ⑤
-  ADDVANZE SWE ⑥
-  DELTA KUNSTSTOFFE GER ⑦



● Kafrit Group production sites ● Agencies/Distribution

Our Purpose

Unite talent and technology to drive the future of plastics, together.

This purpose is the driving force of our organization. The reason we do what we do, why we come to work every day. And although our group is made of many different Companies around the world, our purpose unites us.

These three pillars support our purpose

TOGETHER TO THE FUTURE

The world doesn't stand still, and nor do we. We're always looking ahead, searching for new ways to sustainably grow and thrive. To push our technology and keep working on the next generation of solutions to benefit our customers. Working together in perfect synergy to achieve something great, today and tomorrow.

TALENT

Around the world, we have hundreds of talented colleagues and partners. All with unique skills, multidisciplinary knowledge, and deep industry experience. Innovators with brilliant ideas and the drive to see them through. People striving for excellence in everything they do.

TECHNOLOGY

After decades in the plastics industry, we have more than high levels of expertise, a strong focus on customer service, and vast technical knowledge. We also have a burning passion for innovation and transformation. A passion that drives us to seek out new solutions, new machinery, and fresh ways to give our customers just what they need.

Together we have the power to drive the future of plastics – within our community and around the world. And we'll keep doing it, today, tomorrow and always.

But the real magic happens when we work together. There's a spark, an energy. A belief that anything is possible. And that's how we provide the best solutions for our customers.

And with the latest technology in our hands and new innovations within our grasp, there's only one question. How far can we go?



Defining new production goals

Experience the new high performance products

Research that takes us to the top

Throughout our company history, research and development have always been a key area of our expertise. Kafrit employs a staff of more than 470 people that work on innovative products and make use of our vast pool of knowledge that we developed in 50 years of experience in the plastics industry. Our experts optimize and develop additive concentrates, flame retardants, color concentrates, and compounds for various applications.

Kafrit enjoys a close partnership with renowned research institutions at the Shenkar University in Israel and at different universities in Germany. Moreover, we maintain a strong co-operation with well-known suppliers including machine manufacturers that do recommend our products for use in combination with their machines.

1 Antiblocking

Throughout our company history, research and development have always been a key area of our expertise. Kafrit employs a staff of more than 470 people that work on innovative products and make use of our vast pool of knowledge that we developed in 50 years of experience in the plastics industry. Our experts optimize and develop additive concentrates, flame retardants, color concentrates, and compounds for various applications.

| Code | Description | Dosing % | Special Feature | Haze | COF | Printability | High Barrier Metallizable Film | Haze |
|---|--|-----------|--|------|-----|--------------|--------------------------------|------|
| AB 06001 PP | 10% synthetic silica (5 µm) in homopolymer. | 0.5 – 1.5 | cost saving | 0 | 0 | + | - | - |
| AB 06019 PP | 5% synthetic silica (5 µm) in homopolymer. | 1.0 – 3.0 | easy dosing | 0 | 0 | + | - | - |
| AB 06019 PPR | 5% synthetic silica (5 µm) in terpolymer. | 1.0 – 3.0 | easy dosing | 0 | 0 | + | - | - |
| AB 06089 PPR | 6% synthetic silicate (3 µm) in copolymer. | 1.0 – 3.0 | metallizable film | + | + | ++ | 0 | + |
| AB 06095 PP | 5% synthetic silicate (3 µm) in homopolymer. | 1.0 – 3.0 | low haze plain film | ++ | 0 | ++ | 0 | + |
| AB 06059 PPR | 5% PMMA (2 µm) in copolymer. | 2.0 – 6.0 | for thin skin layer | + | + | ++ | +++ | +++ |
| AB 06060 PPR | 5% PMMA (4 µm) in copolymer. | 2.0 – 6.0 | easy dosing | ++ | ++ | + | + | ++ |
| AB 06090 PPR | 7.5% PMMA (4 µm) in copolymer. | 2.0 – 4.0 | cost saving | + | ++ | + | + | ++ |
| AB 06084 PPR | 7.5% PMMA (6 µm) in copolymer. | 2.0 – 4.0 | for thick skin layer and high roughness, e.g. matt layer | ++ | ++ | 0 | 0 | 0 |
| AB 06062 PPR | 5% x-linked siloxane (2 µm) in copolymer. | 2.0 – 5.0 | for thin skin layer | ++ | ++ | ++ | +++ | +++ |
| AB 06064 PPR | 5% x-linked siloxane (4 µm) in copolymer. | 2.0 – 5.0 | excellent COF modulation | +++ | +++ | + | ++ | ++ |
| AB 06066 PPR | 7.5% x-linked siloxane (6 µm) in copolymer. | 2.0 – 5.0 | for thick skin layer | +++ | +++ | + | ++ | ++ |
| Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a. | | | | | | | | |

2 Slip

Slip masterbatches are used to modulate the coefficient of friction (COF) of BOPP films. Besides the COF modulation other factors as optical properties and printability have to be respected. In order to achieve the desired targets for each specific application, we can offer a full range of masterbatches containing migrating or non-migrating slip additives.

| Code | Description | Dosing % | Special Feature | COF | Hot Slip | Low Blooming | Printability |
|---|--|------------|-----------------------------|-----|----------|--------------|--------------|
| SL 05035 PP | 6% erucamide in homopolymer. | 1.0 – 3.0 | general purpose | ++ | - | - | + |
| SL 05068 PP | 10% erucamide in homopolymer. | 0.5 – 1.5 | cost saving | ++ | - | - | + |
| SL 05005 PP | 5% high molecular weight amide in homopolymer. | 1.0 – 3.0 | low blooming | + | + | + | ++ |
| SL 05080 PPR | 10% silicone oil in copolymer. | 5.0 – 10.0 | easy dosing, long term slip | +++ | +++ | n.a | - |
| SL 05095 PPR | 20% silicone oil in copolymer. | 2.5 – 5.0 | cost saving, long term slip | +++ | +++ | n.a | - |
| Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a. | | | | | | | |
| REMARKS | Depending on the final application a wide range of dosing levels is indicated. Please contact us for more information. | | | | | | |



3 Slip-Antiblocking

Slip-Antiblocking masterbatches combine established ratios of slip agents and antiblocking particles in one masterbatch. This eliminates the necessity to add slip and antiblocking masterbatches separately during an extrusion process. It is an easy and comfortable way to reduce costs and efforts in many standard BOPP film applications.

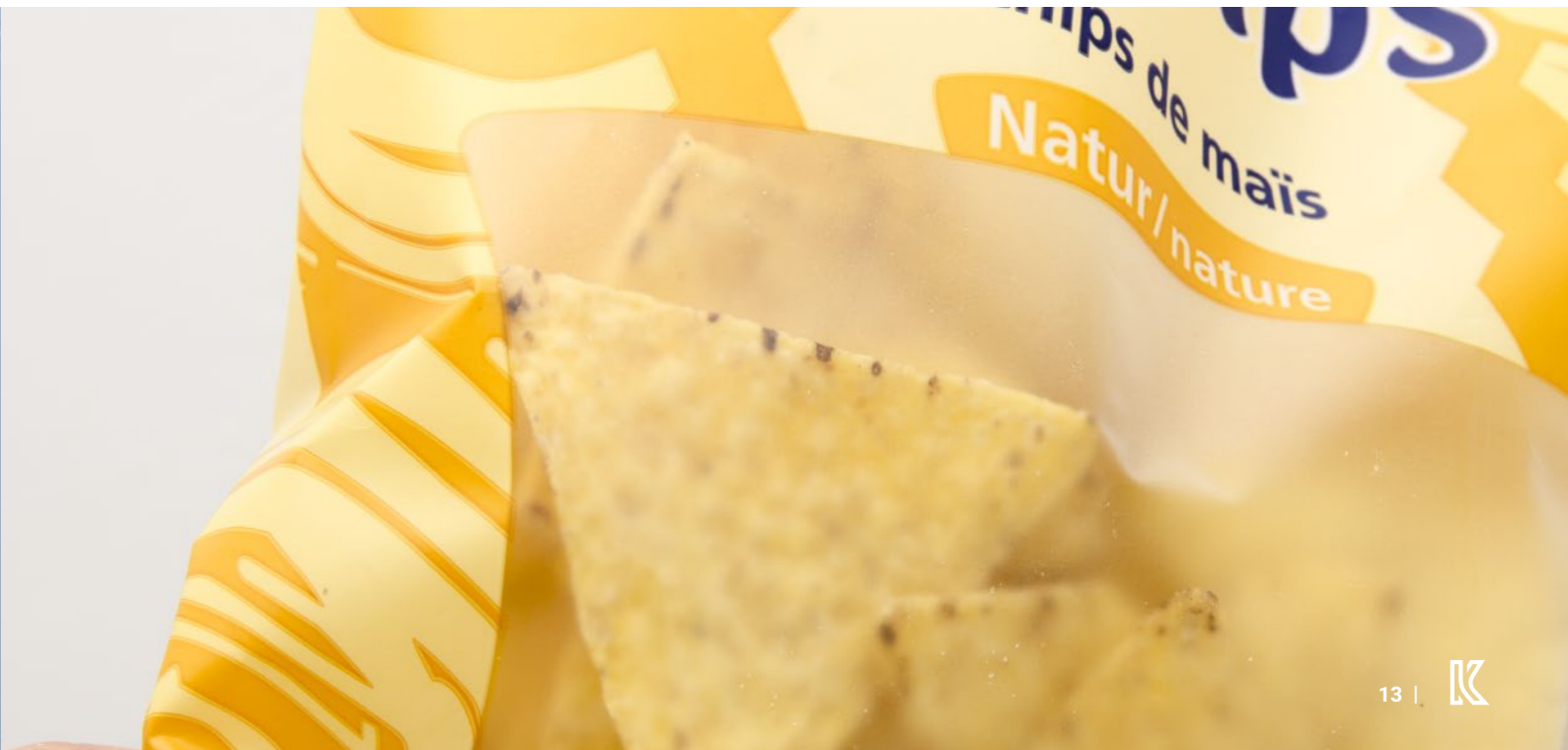
| Code | Description | Dosing % | Special Feature | COF | Hot Slip | Printability | Metallizable | Low Blooming |
|--|--|------------|--|-----|----------|--------------|--------------|--------------|
| SAB 06532 PPR | Synthetic silica and silicone oil in terpolymer. | 7.0 – 12.0 | tobacco film | +++ | ++ | - | - | n.a. |
| SAB 06522 PPR | Synthetic silica and silicone oil in terpolymer. | 3.0 – 8.0 | low haze tobacco film | +++ | ++ | - | - | n.a. |
| SAB 06554 PPR | Organic antiblocking agent and non-migrating slip agent in terpolymer. | 3.0 – 10.0 | high speed packaging film | ++ | ++ | +(o.s.) | +(o.s.) | n.a. |
| SAB 06553 PPR | Organic antiblocking agent & non-migrating slip agent in terpolymer. | 3.0 – 10.0 | high speed packaging film, improved processibility | ++ | ++ | +(o.s.) | +(o.s.) | n.a. |
| Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a. opposite side o.s. | | | | | | | | |
| REMARKS | Customized formulations are available on request. | | | | | | | |

4 CONSLIP

CONSLIP is a new philosophy for permanent slip which is intended to replace existing migrating slip agents. Films formulated with CONSLIP provide stable very low COF independent of aging, hot slip properties and is compatible with printing and metallization.

| Code | Description | Dosing % | Special Feature | COF | Hot Slip | Printability | Metallizable |
|--|--|------------|---------------------------|-----|----------|--------------|--------------|
| CONSLIP 201 PPR | Permanent slip in terpolymer, antiblock free, low concentrated. | 3.0 – 10.0 | easy dosing | ++ | +++ | +(o.s.) | +(o.s.) |
| CONSLIP 202 PPR | Permanent slip in terpolymer, antiblock free, high concentrated. | 1.5 – 5.0 | cost saving | ++ | +++ | +(o.s.) | +(o.s.) |
| CONSLIP 420 PPR | Permanent slip synergistic blend, formulated with antiblock. | 3.0 – 6.0 | thin skin layer | ++ | +++ | +(o.s.) | +(o.s.) |
| CONSLIP 440 PPR | Permanent slip synergistic blend, formulated with antiblock. | 3.0 – 6.0 | standard skin layer | ++ | +++ | +(o.s.) | +(o.s.) |
| CONSLIP 590 PPR | Compound for low sealing and low COF | 100.0 | high speed packaging film | +++ | + | +(o.s.) | - |
| Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a. opposite side o.s. | | | | | | | |

“We like working with CONSTAB because they are reliable with high competence and very good technical support.”



5 Antistatic

Antistatic masterbatches are used to avoid static charging of BOPP films. Each application, for instance labels, packaging films, industrial films, requires different antistatic performance. In order to achieve the desired targets for each specific application, we can offer a full range of antistatic masterbatches.

| Code | Description | Dosing % | Special Feature | COF | Printability | Food Contact | Low Blooming |
|----------------------|---|-----------|---|-----|--------------|--------------|--------------|
| AT 04082 PP * | Balanced formulation for immediate and long term performance. | 1.0 – 4.0 | general purpose | 0 | + | EU and FDA | 0 |
| AT 04130 PP * | Recommended for print-/ lamination films with excellent optical properties. | 1.0 – 4.0 | stable surface tension | ++ | +++ | FDA | ++ |
| AT 04061 PP | Recommended for tobacco film. | 1.0 – 4.0 | low blooming | 0 | ++ | EU and FDA | ++ |
| AT 04190 PP | Recommended for labels and release films. | 1.0 – 4.0 | low blooming, low contamination for cold seal | 0 | +++ | EU and FDA | ++ |
| AT 04139 PP | Amine-free antistatic agent | 1.0 – 6.0 | improved Environment-Health-Safety profile | ++ | + | EU and FDA | ++ |

Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a.

REMARKS * Double concentrated Masterbatch available from Suzhou Constab Engineering Plastics Co. LTD.

6 Slip-Antistatic

Slip-Antistatic masterbatches combine established ratios of slip and antistatic agents in one masterbatch. This overcomes the necessity to add slip and antistatic masterbatches separately during film extrusion. It is an easy and comfortable way to reduce costs and efforts in many standard BOPP film applications.

| Code | Description | Dosing % | Special Feature | COF | Hot Slip | Printability | Low Blooming |
|-----------------------|---|-----------|-----------------------------|-----|----------|--------------|--------------|
| SAT 04504 PP | Combined slip- and antistatic agents for medium COF. | 2.0 – 5.0 | hot climate, cost efficient | + | 0 | ++ | ++ |
| SAT 04505 PP | Combined slip- and antistatic agents for low COF (contains optical brightener). | 1.0 – 3.0 | cold climate | ++ | - | + | 0 |
| SAT 04509 PP * | Combined slip- and antistatic agents for very low COF. | 1.0 – 3.0 | cold climate | +++ | - | + | 0 |
| SAT 04550 PP * | Combined slip- and antistatic agents for low COF. | 2.0 – 5.0 | hot climate | ++ | + | ++ | ++ |

Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a.

REMARKS * Double concentrated Masterbatch available from Suzhou Constab Engineering Plastics Co. LTD. Customized formulations are available on request.

7 White

Highly dispersed White masterbatches specially designed to obtain high opacity, gloss and whiteness.

| Code | Description | Dosing % | Special Feature |
|--------------------|--------------------------------------|------------|---|
| CC 18160 PP | 60% titanium dioxide in homopolymer. | 5.0 – 25.0 | excellent dispersion, cold white shade |
| CC 18162 PP | 60% titanium dioxide in homopolymer. | 5.0 – 25.0 | excellent dispersion, warm white shade |
| CC 18170 PP | 70% titanium dioxide in homopolymer. | 3.0 – 20.0 | excellent dispersion, cold white shade, cost saving |



8 Cavitating/White-Cavitating

Cavitating masterbatches are used to produce voided films with reduced density and high opacity, which represents a great opportunity to enhance the appeal of your packaging. Each application, for instance labels and packaging films requires different specific weight, optical and mechanical properties. In order to achieve the desired targets for each specific application, we can offer a wide range of cavitating masterbatches and white-cavitating combibatches.

8.1 Cavitating/White-Cavitating

| Code | Description | Target Density | Dosing % | Special feature | Gloss | Opacity | Metallizable |
|---|---------------------------------------|----------------|------------|----------------------|-------|---------|--------------|
| FL 08206 PP | 70% calcium carbonate in homopolymer. | 0.55 – 0.65 | 9.0 – 18.0 | coarse particle size | + | + | ++ |
| FL 08211 PP | 70% calcium carbonate in homopolymer. | 0.70 – 0.80 | 9.0 – 18.0 | fine particle size | ++ | ++ | ++ |
| Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a. | | | | | | | |

8.2 White-/Cavitating

| Code | Description | Target Density | Dosing % | Special feature | Gloss | Opacity | Metallizable |
|---|--|----------------|-------------|----------------------|-------|---------|--------------|
| FL 18209 PP | For low density films, ice cream wrapping, suitable for cold seal packaging. | 0.55 – 0.65 | 12.0 – 20.0 | coarse particle size | + | ++ | + |
| FL 18103 PP | For medium density films, multipack wrapping, confectionary. | 0.70 – 0.80 | 12.0 – 20.0 | fine particle size | ++ | +++ | + |
| FL 18140 PP | Special blend of fillers and pigments for in mould labels. | < 0.60 | 12.0 – 20.0 | deep cavitation | + | ++ | + |
| FL 18214 PP | For low density films, wrap around label. | 0.60 – 0.65 | 12.0 – 20.0 | synergistic blend | ++ | ++ | + |
| Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a. | | | | | | | |
| REMARKS Custom combinations of pigments and cavitating agents are available on request. | | | | | | | |

9 CONCAVITY®

CONCAVITY® helps to reduce the risk of delamination in white-cavitated films. The usage of CONCAVITY® provides improved optical and mechanical properties compared to conventional cavitating agents. Also films with a lower density can be achieved.

| Code | Description | Target Density | Dosing % | Special feature | Gloss | Opacity | Metallizable |
|---|--|----------------|------------|---|-------|---------|--------------|
| CONCAVITY 600 PP | 60% Organic cavitating agent; broad density range, advanced optical and mechanical properties. | 0.55 – 0.7 | 5.0 – 15.0 | excellent dispersion | +++ | ++ | +++ |
| NEW! CONCAVITY WHITE PLUS | White pigment masterbatch for joint use with CONCAVITY 600 PP; superior opacity at lower dosage compared to conventional white masterbatches, therefore less impact on mechanical properties | – | 5.0 – 15.0 | High opacity. Smooth extrusion operation. | +++ | +++ | +++ |
| Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a. | | | | | | | |



10 Matt Compound

Matt Compounds are mainly used to achieve special aesthetic effects as matt/silky appearance. We can offer a wide range of matt compounds to obtain different targets for haze, gloss, coefficient of friction and sealability.

| Code | Description | SIT | Dosing % | Special feature | Low Gloss | Haze |
|------------------|---|-------------|----------|-------------------------------------|-----------|------|
| MAT 02440 | Sealable matt compound for packaging applications. | 110 – 115°C | 100 | general purpose | + | + |
| MAT 02490 | Sealable matt compound for packaging applications. | 110 – 115°C | 100 | improved processibility, high haze | ++ | ++ |
| MAT 02495 | Sealable matt compound for packaging applications. | 70 – 75°C | 100 | very low SIT | + | + |
| MAT 02444 | Sealable matt compound for easy stacking. | 105 – 110°C | 100 | anti-slip property | + | + |
| MAT 02450 | Matt compound for graphic arts applications and paper lamination. | > 120°C | 100 | high thermal resistance | ++ | ++ |
| MAT 02420 | Special matt compound for in-mould labels. | - | 100 | high melt flow, good melt reception | n.a. | n.a. |

Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a.

11 Modifier

With CONSTAB Modifier masterbatches manifold benefits can be achieved. Apart from well-established applications such as shrinkable BOPP tobacco films, modifier masterbatches can also be used for other applications like label films, metallizable films and transparent food packaging where enhanced mechanical and optical properties, increased gas barrier, or a better processability is required.

| Code | Description | Dosing % | Special Feature | Low haze | Shrinkage | Stiffness | Barrier | Processing aid |
|--------------------|---|--------------|--------------------------------------|----------|-----------|-----------|---------|----------------|
| MA 00929 PP | 60% hydrogenated C9 resin in homopolymer. | 10.0 – 20.0* | high shrinkable films, tobacco films | +++ | +++ | ++ | + | ++ |
| MA 00930 PP | 60% hydrogenated C5 resin in homopolymer. | 10.0 – 20.0* | barrier films | ++ | ++ | ++ | +++ | ++ |

Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a.

REMARKS *Depending on the final application a wide range of dosing levels is indicated. Please contact us for more information.

12 Antifog

Fogging is a term used to describe the condensation of water vapor on a transparent plastic film in form of droplets. Antifog additives incorporated into the plastic film migrate to the surface and prevent the formation of water droplets. The result is a clear transparent film.

| Code | Description | Dosing % | Special Feature | COF | Printability | Food Contact | Low Haze |
|--------------------|--|-----------|----------------------|-----|--------------|--------------|----------|
| AF 00238 PP | Antifog agent for food packaging applications. | 1.5 – 2.5 | cold fog and hot fog | + | + | FDA | + |
| AF 00240 PP | Antifog agent for food packaging applications. | 3.0 – 5.0 | cold fog | 0 | + | EC | + |

Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a.



13 Processing Aid

Processing Aids are used to reduce the accumulation of die deposit so that the production intervals are much longer before a production stop is necessary to clean the extruder. The products in our portfolio are suitable for different necessities and applications.

| Code | Description | Dosing % | Special feature | Die build-up reduction | Torque reduction | Temperature resistance | Gloss improvement |
|--------------|---|-----------|--|------------------------|------------------|------------------------|-------------------|
| PA 00833 PPR | For improved gloss and reduced die build-up. | 0.5 – 3.0 | recommended for tobacco film | ++ | + | + | ++ |
| PA 00852 PPR | For improved processibility, torque reduction, gauge control. | 1.0 – 5.0 | high temperature resistance indicated for matt films | + | +++ | ++ | + |
| PA 00852 PP | For improved processibility, torque reduction, gauge control. | 1.0 – 5.0 | high temperature resistance | + | +++ | ++ | + |

Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a.

14 CONRELEASE

Cold seal packaging requires opportune releasing film surface in order to prevent blocking of the reels. We can offer an optimal solution, which is silicone oil free. This prevents any contamination and assures the best seal strength and cold seal anchorage.

| Code | Description | Dosing % | Special feature | COF | Haze |
|-------------------|--|-----------|---|-----|------|
| CONRELEASE 520 PP | Releasing agent for production of cold seal release films. | 4.0 – 6.0 | silicone oil free no cold seal contamination | +++ | ++ |

Evaluation: excellent +++ recommended ++ good + basic 0 not recommended – not applicable n.a.

2. Polypropylene Cast and Calender Films Industrial and Food Packaging Film

2.1 Antiblocking

| Code | Description | Dosing % |
|--------------|---|-----------|
| AB 06019 PP | 5 % synthetic silica with 5 µm particle size. | 1.0 – 4.0 |
| AB 06001 PP | 10 % synthetic silica with 5 µm particle size. | 1.0 – 2.0 |
| AB 06064 PPR | 5 % organic spherical antiblocking agent for high transparency films. | 2.0 – 5.0 |
| AB 06089 PPR | 6 % inorganic spherical antiblocking agent for metallizable films. | 2.0 – 5.0 |

2.2 Slip

| Code | Description | Dosing % |
|------------------|-----------------------|-----------|
| SL 05035 PP | 6 % erucamide | 0.5 – 2.0 |
| CONSLIP® 201 PPR | Permanent slip agent. | 3.0 – 7.0 |

2.3 Slip Antiblock

| Code | Description | Dosing % |
|------------------|--|-----------|
| SAB 06527 PPR | 5 % synthetic silica 5 µm and 5 % erucamide. | 1.0 – 4.0 |
| CONSLIP® 440 PPR | Permanent slip and organic antiblocking agent. | 3.0-10.0 |

2.4 Antistatic

| Code | Description | Dosing % |
|-------------|--|-----------|
| AT 04145 PP | For long-term antistatic effect | 1.0 – 6.0 |
| AT 04143 PP | For short- and long-term antistatic effect. | 1.0 – 6.0 |
| AT 04139 PP | Amine-free for short- and long-term antistatic effect. | 1.0 – 6.0 |

2.5 Slip Antistatic

| Code | Description | Dosing % |
|--------------|--|-----------|
| SAT 04509 PP | For short- and long-term antistatic effect, with 5% erucamide. | 1.0 – 5.0 |

2.6 Processing Aid

| Code | Description | Dosing % |
|--------------------|--|-----------|
| PA 00833 PP | Reduces die build-up and extruder pressure; improves surface quality. | 0.5 – 3.0 |
| PA 00852 PP | Reduces die build-up and extruder pressure especially at very high melt temperatures up to 310 °C. | 1.0 – 5.0 |
| PA 0K060 PP | Reduces die build-up and improves processing in cast PP. | 1.0 – 5.0 |

2.7 Color

| Code | Description | Dosing % |
|--------------------|-----------------------|------------|
| CC 18162 PP | 60 % Titanium dioxide | 2.0 – 25.0 |
| CC 18170 PP | 70 % Titanium dioxide | 1.0 – 20.0 |

2.8 Antifog

| Code | Description | Dosing % |
|---------------------|------------------------------------|------------|
| AF 00262 PPR | For cold- and hot-fog application. | 7.0 – 15.0 |

2.9 Antioxidant

| Code | Description | Dosing % |
|--------------------|---|------------|
| ST 03003 PP | For processing and long-term heat stabilization, machine shut-down, rework. | 0.5 – 10.0 |

2.10 Nucleating agent

| Code | Description | Dosing % |
|--------------------|---|-----------|
| NC 00607 PP | Clarifier for improved optical and mechanical properties. | 1.0 – 2.5 |

2.11 Peel Compound

| Code | Description | Dosing % |
|------------------------|---|----------|
| CONPEEL® 304 PP | For transparent, printed and colored films with sealing layers up to 20 µm; peel force 3 – 6 N/15 mm. | 100 |
| CONPEEL® 308 PP | For printed and colored films with sealing layers up to 20 µm; peel force 4 – 8 N/15 mm. | 100 |
| CONPEEL® 300 PP | For transparent, printed and colored films with sealing layers up to 20 µm; peel force 3 – 6 N/15 mm. | 100 |
| CONPEEL® 370 PP | For transparent, printed and colored films with sealing layers up to 20 µm; peel force 4 – 8 N/15 mm. | 100 |
| CONPEEL® 321 PP | For printed and colored films with sealing layers up to 20 µm; peel force 6 – 14 N/15 mm. | 100 |

2.12 Barrier

| Code | Description | Dosing % |
|--------------------|--|------------|
| BR 02017 PP | Improved barrier against oxygen and water vapour, increased stiffness and gloss, lower melt viscosity. | 5.0 – 20.0 |

2.13 Polymer Modification

| Code | Description | Dosing % |
|----------------------|--|------------|
| CON-BATCH 30X | For thermoforming film. Allows downgauging of up to 30% of total thickness while retaining its mechanical integrity; improves mechanical, optical and barrier properties; improves carbon footprint. | 4.0 – 20.0 |

2.14 Flame Retardant

| Code | Description | Dosing % |
|----------------------|--|-----------|
| HFFR 00242 PP | Halogen-free flame retardant masterbatch | 3.5 – 8.0 |

2.15 UV

| Code | Description | Dosing % |
|--------------------|--|-----------|
| UV 01022 PP | 20 % HALS stabilizer | 0.5 – 5.0 |
| UV 01370 PP | 20 % HALS stabilizer for extreme demands | 1.0 – 5.0 |

2.16 UV Absorbent

| Code | Description | Dosing % |
|---------------------|--|-----------|
| UVA 01034 PP | Organic UV absorber applicable in transparent films > 80 µm. | 1.0 – 5.0 |

2.17 Antiblock

| Code | Description | Dosing % |
|--------------|--|----------|
| AB 060126 PA | Synthetic silica, high quality dispersion. | 1.0–6.0 |

2.18 Antioxidant

| Code | Description | Dosing % |
|-------------|--------------------------------------|----------|
| ST 00T21 PA | Heat stabilizer for polyamide films. | 1.0–8.0 |

2.19 Antifog

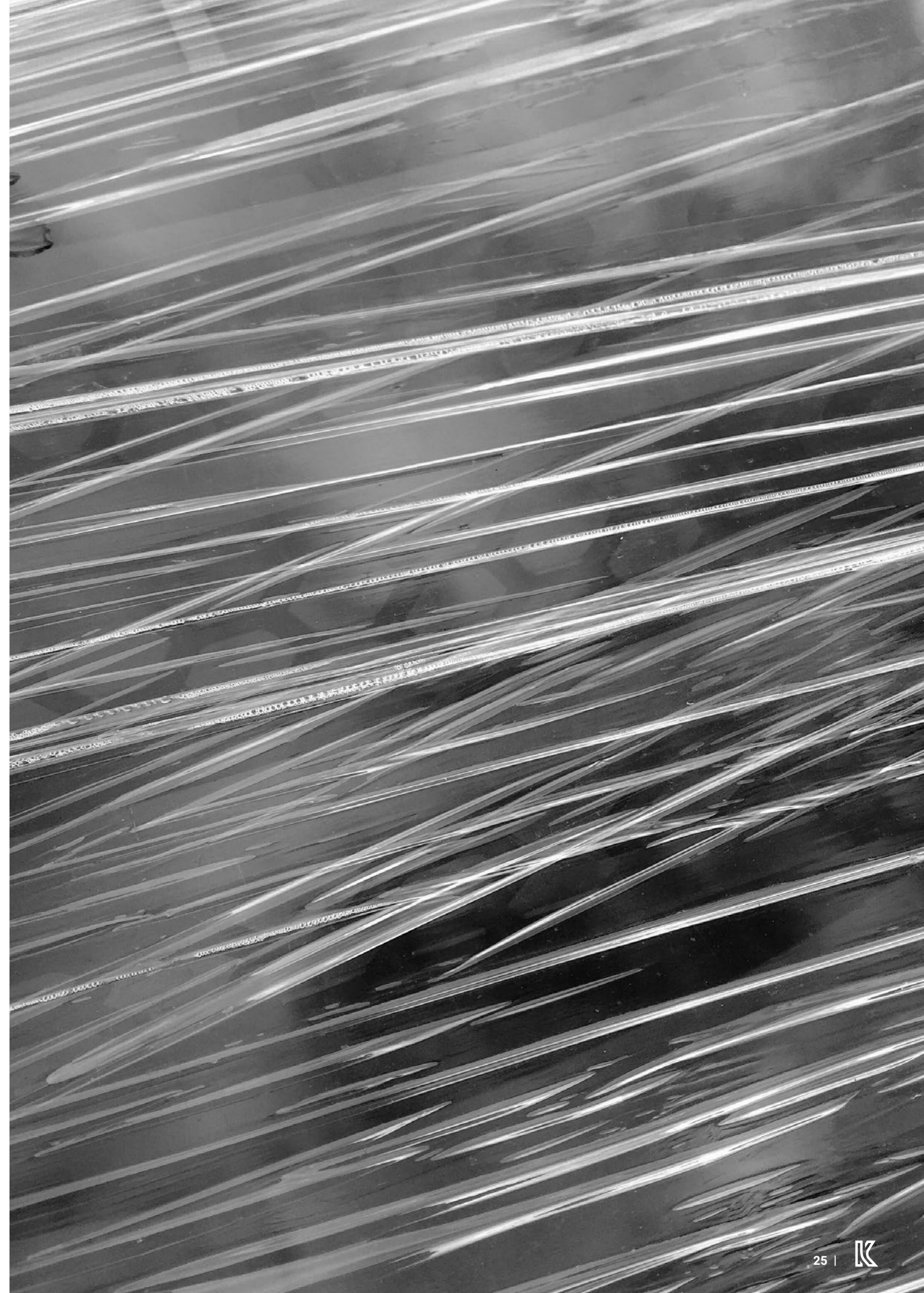
| Code | Description | Dosing % |
|--------------|--|----------|
| AF 00T46A LD | Unique AF suitable for Polyamide films, hot and cold applications. | 8.0–12.0 |

2.20 Recycle


| Code | Description | Dosing % |
|-------------------|---|----------|
| GAC-10003 | Gas and odour absorbing for polyolefins, for example waste bags, recycling etc. | 2.0–8.0 |
| ONC-1000 PBL-1 | Odour neutralizing, is specially engineered to neutralize hydrogen sulfides (H ₂ S) and amine based molecules. | 2.0–8.0 |


2.21 Foaming


| Code | Description | Dosing % |
|-------------|--|----------|
| Ecocell® P | General purpose for PA, PE, PP, PS. | 1.0–2.5 |
| FM 00957 LD | Endothermic foaming agent for a sensity reduction. Thermal insulation. | 1.0–4.0 |





Please request for further information:

 **BOPP**
Optimizing BOPP film production with CONSTAB® Masterbatches and Compounds


 **BOPE**
Sustainable solutions for flexible packaging films with CONSTAB® CON-X® Masterbatches


 **Functionalities: Ecocell® – Lighten up!**
A revolutionary foaming agent to reduce material and resin consumption


 **Functionalities: Kafrit Group Antioxidants**
Reliable protection for your plastic products


 **Functionalities: Conpeel**
Strong protection, easy peeling with CONSTAB CONPEEL® Compounds


 **Polyethylene Packaging, Polypropylene Cast and Calender Films**


 Rolling to success with Kafrit Group Masterbatches and Compounds

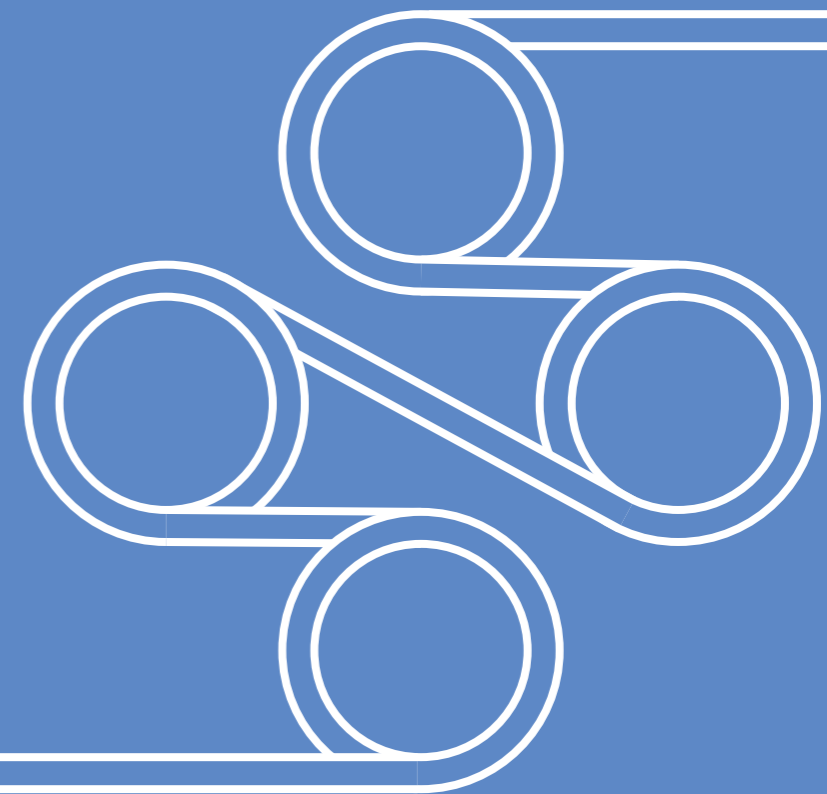
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