

High Performance Additives for Polyamides

Die entscheidende Verbindung.

Polymer additives production plant at our headquarters in Heilbronn



- Long-term supply security for our customers
- Highest reliability and flexibility
- Optimum product quality



Latest
technology
with a high
degree of
automation

Product innovations targeted to customer demands

Brüggemann continuously develops speciality additives in response to the requirements of the market. More than 50 years' experience in the polymer industry, along with technical expertise and close partnerships with customers, are the basis for the timely development of innovative solutions. This enables customers to enhance the value of their products in order to meet the ever-increasing technical demands of the marketplace.

The product range mainly comprises tailor-made and well-balanced speciality additives. These additives are mixtures of several active components and present solutions for specific applications in customized product forms, such as powder, compacted or polymeric granules.

Brüggemann produces key active ingredients present in these additive packages on its own state of the art production. They are based on Brüggemann know-how which includes chemical synthesis on speciality equipment and a broad range of dedicated drying processes.



High Performance Additives for

BRUGGOLEN® H

Copper Based Heat Stabilizers for Polyamides at High to Very High Temperatures

Copper Iodide Based Stabilizers

BRUGGOLEN®H320/H321*

Blend of CuI/KI/KBr/Stearates

BRUGGOLEN®H324/H325*

Blend of CuI/KI/Stearates

BRUGGOLEN®H328F/H329F*

Blend of CuI/KBr/Stearates

BRUGGOLEN®TP-H1607*

Blend of CuI/Organic Synergists

Long-term protection

- characteristic bluish or greenish color after conditioning
- consistent and homogeneous quality
- excellent dispersibility
- variety of stabilizers to serve all customer requirements
- TP-H1607 allows lower copper and halogen content – higher efficiency than classic Cu stabilizers and suitability for E&E (CTI of 600V)

Best in Class Copper Iodide Based Stabilizer for Aliphatic Polyamides

BRUGGOLEN®TP-H1804**

Significant lifetime increase at elevated temperatures

- tensile strength retention for >5.000h at 190°C (PA66 GF30)
- easy processing during compounding

High Temperature Stabilizer for Aliphatic Polyamides

BRUGGOLEN®TP-H1805**

Long-term protection of Aliphatic Polyamides above 200°C

- initial tensile strength retention for >3.000h at 200°C (PA66 GF30)
- no activation step needed

Copper Stabilizer Masterbatches for Films, Fibers and Monofilaments

BRUGGOLEN®TP-H2018**

for Food Contact

BRUGGOLEN®H349

for Fibers and Monofilaments

Long-term protection of Polyamides, tailored to applications

- dust free, easy dosage
- excellent dispersion
- TP-H2018 for indirect food contact, especially packaging films

Copper Complex Based Stabilizers for Aliphatic Polyamides; Natural Color

BRUGGOLEN®H3386/H3387*

BRUGGOLEN®H3376/H3377*

Long-term protection of natural and light color Polyamides (after conditioning)

- high extraction resistance; no plate-out; non corrosive
- suited for E&E; high comparative tracking index (CTI) up to 600V
- excellent UV-stabilization
- very good dispersion
- H3377* compacted granules suited for fiber and monofilament applications

BRUGGOLEN®H1606*

- improved color stability after heat ageing
- low copper and halogen content – suited for E&E (CTI of 600V)

Polyamides and Polyesters

BRUGGOLEN® H

Heat Stabilizers with Focus on Polyamides

Processing Stabilizer

BRUGGOLEN®H10

Best protection of Polyamides against discoloration during processing

- reduced yellowing during melt processing
- protection against discoloration after ageing by heat and UV-light
- H10 is superior to organic phosphites because of its:
 - excellent resistance against high shear stress and elevated temperatures
 - non-volatility
 - resistance against hydrolysis
- especially suited for glass fiber reinforced polyamides

Copper and Halogen-free Heat Stabilizers to support E&E and E-Mobility

BRUGGOLEN®TP-H2501

Long-term heat stability and electrical neutrality

- very efficient stabilization 1000h at 150°C in PA66
- high comparative tracking index (CTI) and no corrosion

BRUGGOLEN®TP-H2217** for Flame-Retardant Compounds

High temperature stabilizer metal- and halogen-free

- very efficient long-term stabilization 8.000h at 170°C with PA66 GF30
- high comparative tracking index (CTI) and no corrosion – due to electrically neutral nature (no ionic components)
- easy dosage and processing
- TP-H2217 has no influence on flame retardancy: UL94 V-0

BRUGGOLEN®TP-H2062** for non-FR Compounds

Phenolic based Heat Stabilizer Packages

BRUGGOLEN®H164

Long-term protection of Polyamides for technical applications against heat ageing

- non-discolouring
- excellent in glass fiber reinforced or mineral filled Polyamides

BRUGGOLEN®H161

Long-term protection of Polyamide fibers and unfilled injection/extrusion grades

- very good color stabilization, e.g. during storage
- non-extractable; no plate-out

BRUGGOLEN®H175

Very efficient color and long-term heat stabilization of Engineering Thermoplastics

- non-extractable, no plate-out
- effective also in Polyesters, Polycarbonates and Styrenics
- excellent color stabilization

Secondary Aromatic Amine based Heat Stabilizer Package

BRUGGOLEN®H26

Protection of Polyamides against hot oils, fats and glycols

- good long-term thermal stabilization
- characteristic brownish translucent discoloration
- not CMR classified, free of DPPD

BRUGGOLEN® P

Processing Agents for Polyamides and Polyesters

Nucleating Agents

BRUGGOLEN®P22

for Polyamides

BRUGGOLEN®P254

for Polyesters

Highly efficient nucleating agents

- reduction of cycle time during injection moulding
- improved dimensional stability – significant reduction of warping in GF-reinforced compounds
- improved mechanical properties (tensile strength, stiffness, etc.)
- increased heat distortion temperature
- non-volatile; non-extractable

BRUGGOLEN®TP-P1401**

for Polyamides

Nucleating agent in granular form

- suited for higher processing temperatures
- easy to dose, disperse and process
- for application both in compounding and injection moulding
- suitable for food contact applications

Flow Enhancers

BRUGGOLEN®P1507**

for Aliphatic Polyamides

BRUGGOLEN®P1810**

for Semi-Aromatic Polyamides

BRUGGOLEN®P2201*

for Flame-Retardant Compounds

BRUGGOLEN®TP-P1924**

for Polyesters

Easy flow and excellent mechanical performance

- superior melt flow
- improved processing of glass fiber filled grades
- retention of mechanical properties
- advantages in injection molding
 - enables lightweight and complex part design
 - cycle time reduction
 - low energy consumption
- easy to dose and disperse
- P2201 has no influence on flame retardancy. UL94 V-0

Processing Agents

BRUGGOLEN®P14

for Polyamides

BRUGGOLEN®P130

for Polyamides and Polyesters

Combination of internal and external lubricants

- very efficient due to low volatility and high thermal stability
- high gloss and good surface protection
- excellent mould release
- broadened processing window

Processing One-Packs for Polyamides (Virgin Grades / Recyclates)

BRUGGOLEN®P30 / P31*

BRUGGOLEN®P32 / P33*

Ready-to-use synergistic packages for injection moulding

- P30 / P31 is specifically suited for recycling of fiber waste or regrind
- improved melt flow
- efficient color protection / processing stabilization

Processing Auxiliary (liquid) for Dry Blending

BRUGGOLEN®P60

Improved quality of blends with polymer pellets and additive powder

- reduced separation during transport
- improved additive dispersion

BRUGGOLEN® M

Modifiers for Polyamides

Chain Extenders for Polyamides

BRUGGOLEN®M1251**
BRUGGOLEN®M1253**

Unique increase of molecular weight via linear chain extension

- no cross-linking
- upgrade of injection moulding grades to extrusion grades
- increase of impact strength
- increase of elongation at break
- typical applications in extrusion, blow-moulding, recycling and injection moulding
- M1253 micro-granules are also suited for monofilament and fiber applications

Chain Cutter for Recycling of High Viscosity Polyamide Scrap or Waste

BRUGGOLEN®M1417**

Controlled and reproducible reduction of molecular weight

- exact adjustment of the relative viscosity to specific target values
- upcycling to injection moulding grades
- generating flow properties and mechanical performance comparable to that of prime material
- allowing cost advantages through usability of scrap or waste material
- enabling recycling of cast nylon waste

BRUGGOLEN® L

Light Stabilizers

Light Stabilizers/Optical Brightener for Engineering Thermoplastics

BRUGGOLEN®L11

Very efficient optical brightener and stabilizer package

- brightening of colours
- improving color stability via better resistance to high processing temperatures
- masking of yellowish discoloration

BRUGGOLEN®L20
BRUGGOLEN®L206

Effective protection against ageing caused by UV-light and heat

- synergistic UV-stabilization packages
- L20 for pigmented, L206 for unpigmented systems

Product Forms (as indicated)



fine to coarse
powder



*low dust
compacted pellets



**dust-free
polymeric granules

Further commercial **BRUGGOLEN® Polymer Additives** and new test products are available on request.

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