

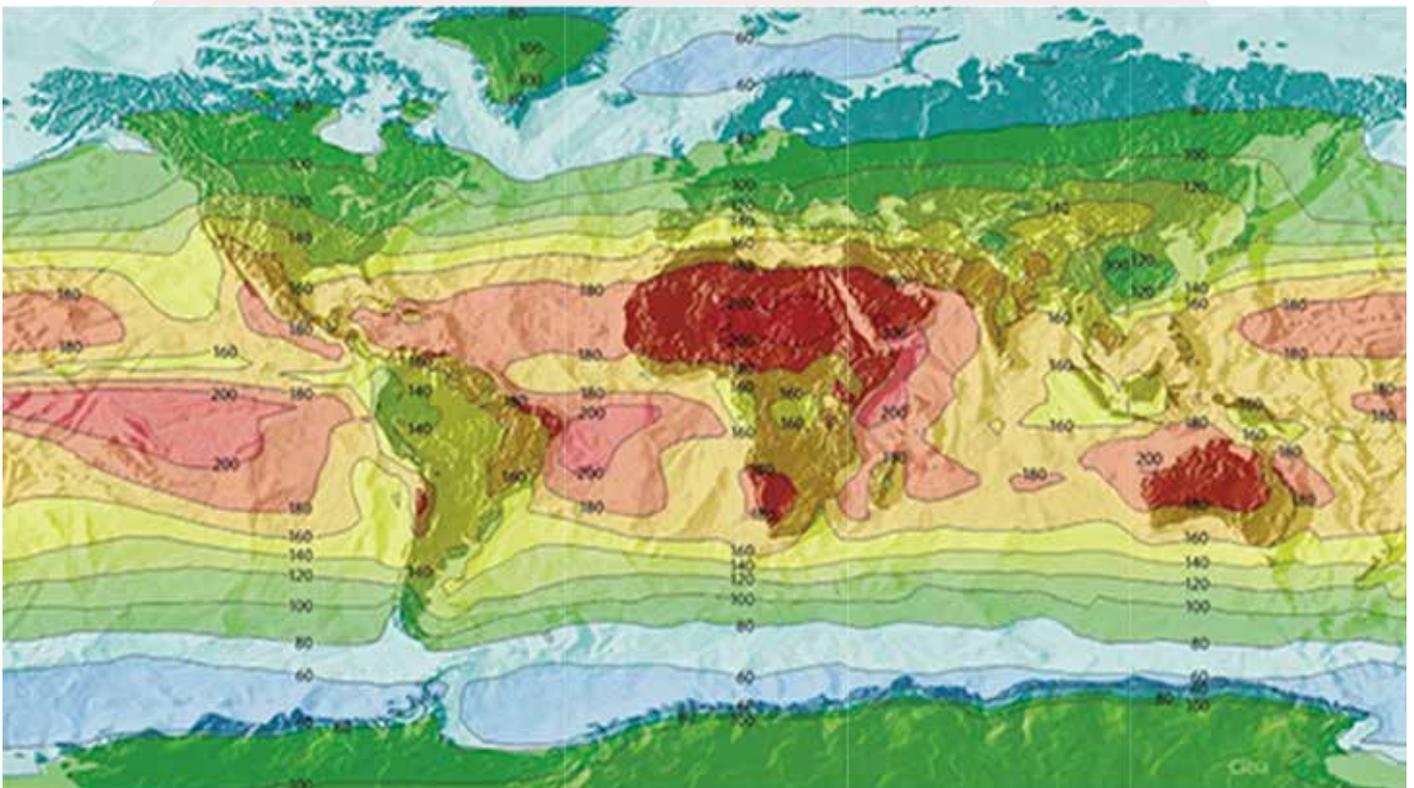


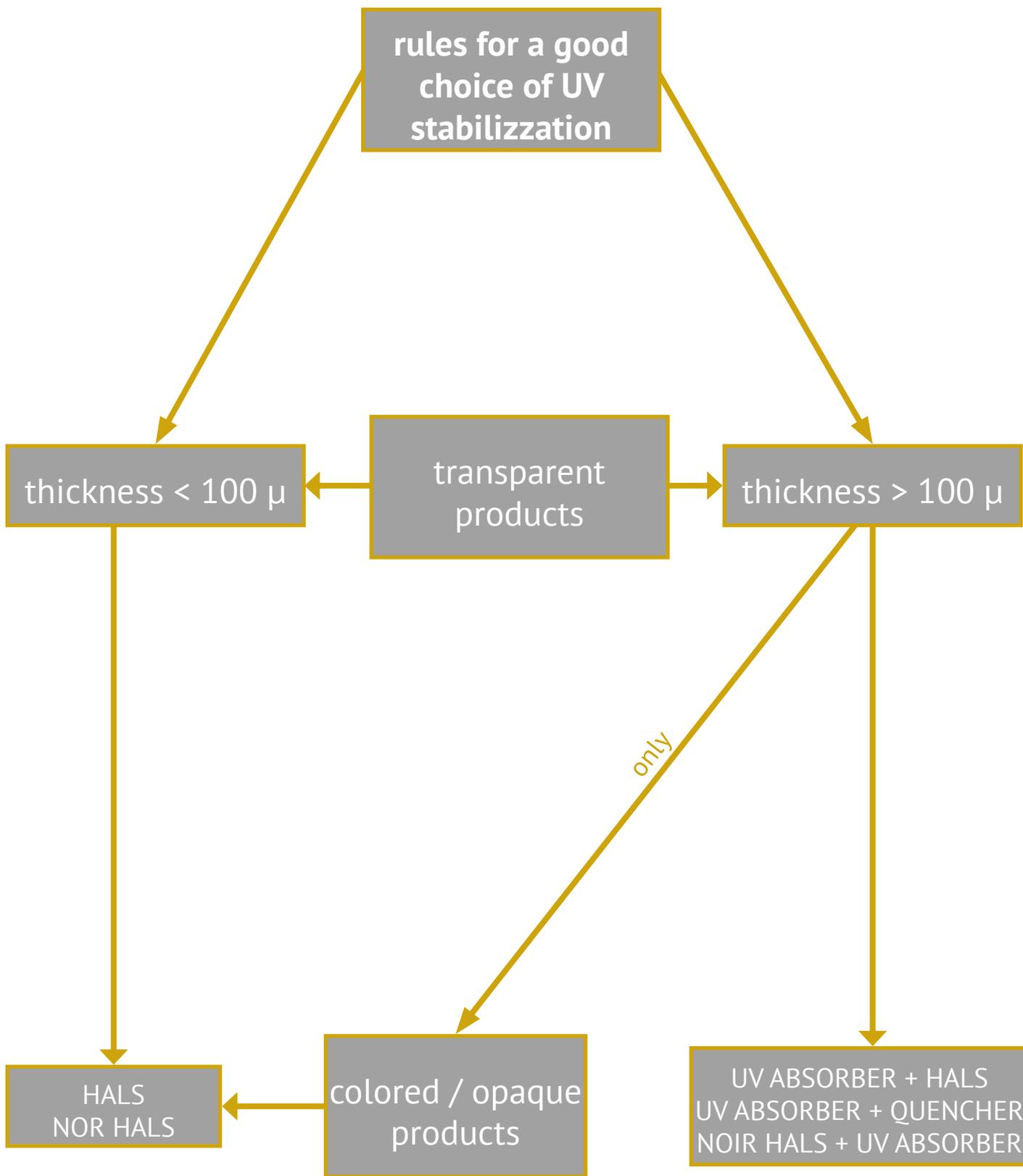
44
YEAR
ANNIVERSARY

ADDITIVES

GLOBAL- RADIATION

kilo-Langley / year





MASTERBATCH ADDITIVI

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UV Stabilizers

STANDARD FORMULATIONS						
CODE	DESCRIPTION	1 YEAR Film 120µ	2 YEARS Film 150µ	3 YEARS Film 200µ	RESISTANCE TO PESTICIDES	
					ppm S	ppm Cl
PE 00001 UV	Traditional formula on HALS base, recommended as stabilizer of film with thin thickness, as for example mulching film.	2,0%			300	30
PE 00011 UV	Masterbatch on a HALS base and UV absorber, recommended for the production of film for greenhouses. The additive does not interfere with the optical characteristics of the film	2,0%	5,0%	8,0%	300	30
PE 00021 UV	Masterbatch on a NiQ base and UV absorber, recommended for film which must undergo several sulfur-based pesticide treatments. The additive gives the film a greenish-yellow color	2,5%	5,5%		5000	30
PE 00031 UV	Masterbatch on a NiQ base combined with a synergistic blend of methylated HALS and special UV absorber. The film remains transparent despite the presence of NiQ and this formulation is recommended also for long life applications	1,5%	3,5%	6,0%	2000	50
PE 00041 UV	Synergistic combination between methylated HALS and special UV absorber for film production with excellent optical characteristics (transparency) and good resistance to pesticides	2,0%	4,5%	7,0%	1500	50
PE 00051 UV	Synergistic combination between methylated HALS and special UV absorber for film production with excellent optical characteristics (transparency) and good resistance to pesticides. This formulation is specific for film of high transparency on EVA base	2,0%	4,5%	7,0%	1500	50
SPECIAL FORMULATIONS						
PE 00061 UV	Formulation with high resistance to pesticides based on NOR technology. The film will take a slight amber color.	1,5%	3,5%	6,0%	2000	150
PE 00071 UV	Formulation with high resistance to pesticides based on NOR technology. The film will stay perfectly transparent and colorless	1,5%	3,5%	6,0%	2000	150
TOP FORMULATIONS						
PE 00081 UV	Masterbatch on NOR base with limited presence of UV absorber for film with high resistance to pesticides. The additive gives the film a slight amber color	1,5%	3,5%	6,0%	3000	200
PE 00091 UV	Masterbatch on NOR base with limited presence of UV absorber for film with high resistance to pesticides. The additive does not interfere on the optical characteristics of the film (colorless and high transparency to visible UV)	1,5%	3,5%	6,0%	3000	200

Sitra SpA has developed this table on its own application experience taking as reference criteria for resistance of CEPLA regulation and dosages refer to exposures in geographical areas with 140/160 kly/year.

Raffia, monofilaments and fibers (HDPE AND PP)

CODE	DESCRIPTION
PE 00101 UV	Masterbatch on HALS base with good resistance to pesticides. Specific for monofilament extrusion and HDPE raffia into agriculture sector
PP 00001 UV	Masterbatch specific for film production/polypropylene raffia. Price/performance ratio very competitive
PP 00011 UV	Masterbatch on HALS base with good resistance to pesticides, recommended for raffia polypropylene production for the agriculture sector
PP 00021 UV	Masterbatch on polymer HALS, recommended for film production and polypropylene fiber. Non- toxic formula. Food approval formulation
PP 00031 UV	Masterbatch specific for extrusion of polypropylene fiber. The additive allows to avoid die plate deposits and clogging "NO DIE BUILD UP"

In this paragraph Sitra SpA has introduced the main formulations of masterbatch UV stabilizers requested on the market and remain available to customers for any specific request, also for formulations different from polyolefins as:

- GPPS
- HIPS
- PET
- ABS
- SAN
- PC
- PA
- etc.

IR absorber

CODE	DESCRIPTION
PE 00111 IR	Masterbatch recommended for the production of thermal films for agriculture. The additive slightly interferes of the optical qualities of the film, but it has a great barrier power to long IR (reduction of night heat loss)

IR absorber / light diffusor

CODE	DESCRIPTION
PE 00121 IRDF	Masterbatch recommended for the production of agricultural films with light diffusion performance and reduction of the rate of heat loss during night hours inside the greenhouse

Antifog

CODE	DESCRIPTION
PE 00131 AF	Masterbatch anti-drip specific for agricultural films. It studies for applications in hot geographical areas (> 120 kLy/year)
PE 00141 AF	Masterbatch anti-drip specific for agricultural films. It studies for applications in cold geographical areas (< 120 kLy/year)

Anti-mist

CODE	DESCRIPTION
PE 00151 AM	Masterbatch which combined with the anti-fog concentrates prevents the formation of fog inside greenhouse

Refresh

CODE	DESCRIPTION
PE 00161 RNF	Masterbatch able to absorb NIR (short infrared), the main cause of the high temperature in the greenhouse during the daytime hours. The film will take a slight opaline shade

Antivirus

CODE	DESCRIPTION
PE 00171 AV	Masterbatch that modifies the UV-A and UV-B spectrum inside the greenhouse and limits the spread of insects that transmit diseases to plants. The additive does not interfere with the work of bumblebees for pollination

Antidust

CODE	DESCRIPTION
PE 00181 AP	Masterbatch that reduces the deposit of dust on the surface of the film, main cause of the reduction of the light inside the greenhouse

Antirodents

CODE	DESCRIPTION
PE 00191 AR	Masterbatch free from aggressive chemical compounds, dangerous for human health, capable of repelling/protecting the plastic manufactures from the aggression of mice and other wild animals by olfactory repulsion

Antistatic

CODE	DESCRIPTION
PE 00201 AS	Masterbatch suggested for the production of high transparency polyethylene films for the food and industrial packaging sector
PE 00211 AS	Masterbatch suggested for extrusion of polyolefin films with CAST technology (high temperatures)
PP 00041 AS	Specific masterbatch for the production of high transparency polypropylene films. Also suitable for BOPP technology
PSC 00001 AS	Masterbatch designed for all applications of styrene polymers and in particular crystal polystyrene, as the additive does not interfere with the optical characteristics of the final product

Slip

CODE	DESCRIPTION
PE 00221 SC	Slip masterbatch base on erucamide specific for polyethylene film extrusion, both BLOW and CAST technology
PE 00231 SC	Synergic combination between slip agents recommended for injection moulding and extrusion of thermoforming sheets, which helps to remove the product from the mold
PE 00241 SC	Masterbatch slip not migrant , recommended for polyolefinic film extrusion. The slip effect remains unchanged over time, regardless of environmental conditions (humidity, temperature, etc)
PE 00251 SC	Masterbatch slip on erucamide base, specific for polypropylene film extrusion with high transparency, BOPP included
GPPS 00001 SC	Masterbatch slip, specific for styrenic polymers

Anti-blocking

CODE	DESCRIPTION
PE 00251 AB	Masterbatch on natural silica base. Recommended for all applications of polyethylene filming
PE 00261 AB	Masterbatch on synthetic silica base. Recommended for all applications of polyethylene film production with high transparency
PP 00061 AB	Masterbatch slip specific for polypropylene high transparency film, included BOPP

Slip and anti-blocking

CODE	DESCRIPTION
PE 00271 SA	Combibatch with slip and anti-blocking agent recommended for polyethylene film production
PE 00281 SA	Combibatch recommended for polyethylene film production with high transparency
PP 00071 SA	Combibatch recommended for polypropylene film production with high transparency
UN 00001 SA	Combibatch recommended EVA film production intended for agriculture sector (greenhouses)
PET 00001 SA	Combibatch recommended for film extrusion and PET sheets on high temperature

Rippening retardants / odor deactivator

CODE	DESCRIPTION
PE 00291 RM	Masterbatch capable of absorbing gases inside food-developed packaging. In particular it is recommended in the production of polyolefin films for the packaging of vegetables as it removes the ethylene gas, the main cause of the acceleration of rot
PE 00301 RM	Specialty recommended for the production of polyolefin films for the food, vegetable and non-vegetable packaging sector. The blend of additives contained in the masterbatch in addition to absorbing the gases emitted, controls the growth of bacteria and moldos, extending the useful life of contenent

Food anti-fog

CODE	DESCRIPTION
PE 00311 FA	Masterbatch food anti-fog recommended for the production of polyethylene film for food packaging in both hot and cold environments
PE 00321 FA	Specific concentrate for the extrusion of polypropylene film. Thermostable formulation also suitable for BOPP technology

UV barrier

CODE	DESCRIPTION
PE 00331 UVB	Masterbatch able to reduce of passage of UV radiation inside the packaging and protect the foods UVB from the thermo-oxidative aggression of light (color change, variations in organoleptic characteristics, etc.)

Bacteriostatic

CODE	DESCRIPTION
PE 00341 BS	Masterbatch recommended for all transformations of polyethylene for control the growth of bacteria on the surfaces of the final products
PE 00351 BS	Masterbatch recommended for all transformations of all polyolefin for control the growth of bacteria and mudle on the surface of final products
PP 00081 BS	Masterbatch thermostable recommended for all transformations of polypropylene for control the growth of bacteria on the surface of final products
PS 00002 BS	Masterbatch thermostable for all transformations of styrenic polymers (GPPS, HIPS, ABS, SAN) for control the growth of bacteria on the surface of final products
PET 00002 BS	Masterbatch thermostable for all transformations of PET for control the growth of bacteria on the surface of final products

Process aid and anti-collapse

CODE	DESCRIPTION
PE 00361 AC	Fluorine-based masterbatch specific for the extrusion of LLDPE film. It prevents melt breakage, avoiding the classic defect of surface waves. Furthermore, it increases hourly productivity and keeps the supply chain clean
PE 00371 AC	Masterbatch specific for the extrusion of polypropylene film. It prevents melt breakage, avoiding the classical defect of surface waves. Furthermore, it increases productivity and keeps the supply chain clean
PE 00381 AC	Masterbatch that prevents foam collapse in the extrusion of polyethylene sheets and pipes, expanded with physical gas (XPE)
PSC 00003 AC	Masterbatch that prevents foam collapse in the extrusion of polystyrene sheets for the thermal insulation sector with physical gas expansion technology (XPS)

Corrosion inhibitors

CODE	DESCRIPTION
PE 00391 IC	Masterbatch recommended for extrusion of polyolefin films for packaging of metal products that should be protected from possible oxidation (rust) when left in stock for long periods. The additive guarantees a multi-metal protection (zinc, aluminium, copper and tin)

Drying / degassing

CODE	DESCRIPTION
LLPE 17030 ES	Masterbatch recommended for the transformation of regenerated polymers or moisture-containing. The additive prevents the formation of steam during extrusion and avoids the phenomenon of the classic surface bubbles in the films

Cleaningagents

CODE	DESCRIPTION
PE 00401 AP	Concentrate recommended for cleaning of the blow film extruders (change color, change polymer, etc.) for BLOW plants of polyolefin polymers

Expansor

CODE	DESCRIPTION
PE 00411 ES	Formulation based on exothermic blowing agent recommended for all transformations of PE
PE 00421 ES	Endothermic blowing agent recommended for all transformations of polyethylene (LDPE, LLDPE, HDPE). Easy to control the particle size of the cells during the extrusion with an excellent chromatic result (colorless-opal)
PP 00091 ES	Specific endothermic blowing agent for polypropylene and particularly recommended for the production of decorative tapes

Nucleants

CODE	DESCRIPTION
PE 00431 NU	Nucleating agent recommended in the extrusion of polyolefin products expanded with physical agents (XPE)
PP 00101 NU	Nucleating agent recommended in the extrusion of polypropylene products expanded with physical agents (XPP)
GPPS 00001 NU	Nucleating agent recommended in the extrusion of GPPS with physical agents (XPS)
PP 00111 NU	Masterbatch recommended for the transformations of polypropylene in the extrusion of sheets and injection molding for improve the optical features (transparence) and mechanical (flexion modulus) characteristics

Flame retardants

CODE	DESCRIPTION
UN 00002 RF	Masterbatch on universal support for use in various thermoplastic polymers. Thermally stable formulation and it compliant at RoHS

	UL 94 [3,2 mm]
20,0% MB + 80,0% ABS	V-0
19,0% MB + 81,0% HIPS	V-0
16,0% MB + 84,0% HIPS	V-2
13,0% MB + 87,0% LDPE	V-2
49,0% MB + 51,0% LDPE	V-0
10,0% MB + 90,0% HDPE	V-2
35,0% MB + 65,0% PP	V-0
15,0% MB + 85,0% PP	V-2
28,0% MB + 72,0% PP 40% talco	V-0
40,0% MB + 60,0% PP 20% talco	V-0
30,0% MB + 70% PA 6,6 15% fibra di vetro	V-0
29,0% MB + 71,0% PA 6 30% fibra di vetro	V-0
32,5% MB + 67,5% PA 6 15% fibra di vetro	V-0

CODE	DESCRIPTION
PE 00481 RF	Masterbatch recommended for the production of polyethylene film with CAST technology (high transformation temperatures). The additive, besides being thermostable, prevents the formation of deposits on the supply chain and does not generate plate out on the surface of the final product

14,0% MB + 86,0% LDPE	BRITISH STANDARD	film 100 µ
14,0% MB + 86,0% LDPE	B2 DIN 4102	film 100 µ
15,0% MB + 85,0% LDPE	CLASSE 1 Italiana	film 100 µ
18,5% MB + 81,5% LDPE	B1 DIN 4102	film 100 µ

CODE	DESCRIPTION
PE 00491 RF	Formulation designed for polyethylene films that must be printed and/or sealed at high speed. The additives contained have an excellent fastness to blooming

10% MB + 90% LDPE	B2 DIN 4102	film 100 µ
15% MB + 85% LDPE	B1 DIN 4102	film 100 µ
15% MB + 85% LDPE	Italian CLASS 1	film 100 µ

CODE	DESCRIPTION
PE 00471 RF	Specific formulation for polyethylene film extrusion. The masterbatch can also be used in the production of expanded products with XPE technology. It is not recommended of use the masterbatch at temperature above about 200 °C

15% MB + 85% LDPE	BRITISH STANDARD	film 100 µ
15% MB + 85% LDPE	B2 DIN 4102	film 100 µ
20% MB + 80% LDPE	B1 DIN 4102	film 100 µ
8% MB + 92% LDPE	Italian CLASS 1	film 100 µ
10% MB + 80% XPE	Italian CLASS 1	XPE pipes

CODE	DESCRIPTION
PE 00501 RF	Bromine-free masterbatch recommended for the production of physical gas expanded sheets (XPE). Used at 9% it meets the requirements of the Italian Class 1

CODE	DESCRIPTION
UN 00003 RF	Formulation with a very high concentration of active substances (> 80%) specific for polypropylene

	UL 94 [3,2 mm]	UL 94 [1,6 mm]
17% MB + 83% PP homopolymer	V-0	V-0
4% MB + 96% PP homo/copolymer	V-2	V-2
6% MB + 94% PP 20% talc	V-2	V-2
10% MB + 90% PP 40% talc	V-2	
13% MB + 87% PP 40% talc		V-2

CODE	DESCRIPTION
PE 00451 RF	Version of PE 00121 RF with superior thermal stability. Masterbatch recommended in injection molding

	UL 94 [3,2 mm]	UL 94 [1,6 mm]
20,0% MB + 80,0% PP homopolymer	V-0	V-0
5,0% MB + 95,0% PP homo/copolymer	V-2	V-2
7,0% MB + 93,0% PP 20% talc	V-2	V-2
12,0% MB + 88,0% PP 40% talc	V-2	
15,5% MB + 84,5% PP 40% talc		V-2

CODE	DESCRIPTION
PE 00461 RF	Masterbatch based on brominated organic compound suggested for the extrusion of raffia and PP fibers. In PP fibers it is recommended to use 4% to achieve the Italian Class 1 certification

CODE	DESCRIPTION
UN 00004 RF	Specific formulation for PP multifilaments extrusion. Thanks to the very high concentration of brominated active substances, using it at 3%, the requirements of Italian Class 1 are met

CODE	DESCRIPTION
PP 00121 RF	Polypropylene dispersed halogen-free masterbatch. Formulation recommended for all applications of manufactures polypropylene with low thickness, such as film and fibers. The additive is synergistic with any type of HALS-based UV stabilizers. It is recommended not to exceed 240 °C during the process

Rafia PP - thickness 30 μ	DIN 4102	USA FMV SS-302 (transport sector)	Thickness
10,5% MB + 89,5% PP	B2	1,0% MB + 99,0% PP	200 μ
		2,5% MB + 97,5% PP	600 μ

CODE	DESCRIPTION
UN 00005 RF	Universal masterbatch recommended for all transformation of styrenic polymers also in combination with polycarbonate. Formulation that minimally characteristics of the final manufacture

	UL 94 [3,2 mm]
22% MB + 78% HIPS	V-0
22% MB + 78% ABS	V-0
22% MB + 78% PC/ABS	V-0