



COLLOIDS

THE MAKERS OF MASTERBATCH

**FOR ELECTRONICS AND
ELECTRICAL APPLICATIONS**

MASTERBATCH FOR ELECTRONICS AND ELECTRICAL APPLICATIONS

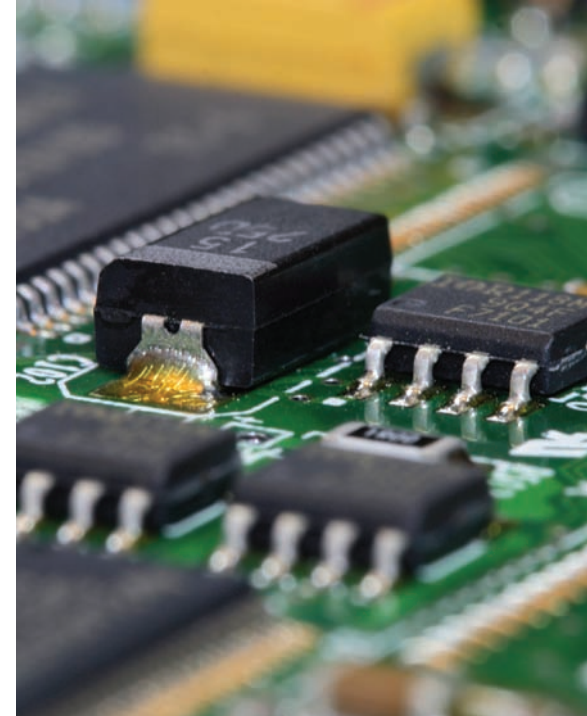
Working in conjunction with OEMs, polymer suppliers and processors Colloids has the ability to offer highly specialised product solutions for electronic/electrical applications. From the conceptual phase of a project through to full commercialisation we work closely with our customers, often designing customised formulations based on specific requirements.

Our well equipped analytical and colour laboratories allow us to assess product performance against industry standards, for example flame retardancy and electrical conductivity.

Our range includes the following, available as either standard or fully customised grades:

- **PACE**® engineering polymer specific masterbatches
- **E-TEC**® conductive, dissipative and antistatic compounds
- Colour and Additive masterbatches

All our products comply with the Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS) directives.



Contents

This document contains information about a selection of products which are regarded as the most popular Masterbatches for Electronics and Electrical Applications.

Simply click on the title of the Masterbatch you would like more information on.

Other grades are available on request and technical data sheets are available for all our products. For more information please contact the Colloids Sales Team on +44 (0) 151 546 9222.

PLEASE NOTE: The product information contained within this pdf is based on our general experience and does not constitute a specification. Since many factors affect the use of our products, no warranty is given or implied with respect to this information or patent infringement. We do not accept liability for any loss or damage arising from the use of this information. All sales are subject to our standard terms and conditions of sale.

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Table Reference Information

***Colour indication only:**

If an accurate match is required customer should always trial material in their own polymer base – samples available on request. Evaluation on colour to RAL and Pantone® reference is based on Masterbatch let down in LDPE at 2%.

****Heat Stability:** Maximum recommended processing temperature.

***** Light fastness of pigments:** Scale 1-8 assessed using "Blue Wool Scale", 8 denotes highest performance i.e. best resistance to fading.

****** Weather fastness of pigments:** 1-5 assessed using "International Gray Scale" 5 denotes highest performance i.e. lowest fading outdoors. Ratings 3 and below are not recommended for long-term outdoor use. Light and weather fastness relate to pigment performance only and rely on the appropriate polymer stabilisation system to be present. All declarations relating to heat stability, light fastness and weather fastness are based on a Masterbatch addition rate of 5% in LDPE .

*******Food contact:** 'Tick' means that the Masterbatch is generally accepted for food packaging application in most countries. For specific details please contact the Colloids sales office

*******EC 94/62:** 'Tick' means that the Masterbatch conforms to the new EC Packaging Directive which controls heavy metal content.



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Symbol Reference Guide

✓ = Suitable, * = Partial suitability, ✗ = Not suitable

Bespoke products

For non standard applications Colloids can offer a rapid colour matching and formulation development service creating masterbatches specific to our customers needs.

Bespoke colours, including blacks and whites, can be engineered to encompass a whole range of effects and finishes for some of today's most demanding markets.

We can also develop and produce coloured and natural products incorporating differing functional properties such as antistatic, UV stability, mould release, antibacterial etc.

Formulations can also be designed to give defined physical performance characteristics using the latest pigment and polymer technologies. This includes special black, white and conductive products.

Our technical team continues to work closely with our customers to develop specific formulations.

This may involve improving product performance or offering solutions for new markets and applications.

Additive products

| GRADE | POLYMER BASE | DESCRIPTION | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | | | RECOMMENDED USE | | | | | COMMENTS |
|-------------|--------------|-----------------|---|----|----|-----|----|-----|-----------------|-----------------------------|--------------------|---------------|-------------|--|
| | | | PE | PP | PS | ABS | PA | PET | EXTRUSION FILM | EXTRUSION – PROFILE / SHEET | INJECTION MOULDING | BLOW MOULDING | COMPOUNDING | |
| CL 4175 PE | PE | PURGING AGENT | NA | NA | NA | NA | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | Efficient purging agent |
| FR 0667 LL | PE | FLAME RETARDANT | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | * | ✓ | ✓ | ✓ | ✓ | Allows compliance with UL 94 V2 (1.6mm) in CoPP. PBDPO free |
| FR 1453 PE | PE | FLAME RETARDANT | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | Allows compliance with DIN 4102 B1 when used in XLPE foam and French M1. PBDPO free |
| ST 0860 PE | PE | ANTISTATIC | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | Amine free antistatic agent |
| ST 1028 PS | PS | ANTISTATIC | ✗ | ✗ | ✓ | ✓ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | Highly concentrated for styrenic polymers |
| UV 2375 PE | PE | UV STABILISER | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | Contains polymeric HALS and antioxidant. For long term outdoor use |
| UV 3598 PE | PE | UV STABILISER | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | Higher strength polymeric HALS . For long term outdoor use |
| UV 8534 HP | PP | UV STABILISER | ✗ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | High performance HALS for long term outdoor stability including textile applications |
| PE 48/10/96 | PE | DESICCANT | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | Highly loaded for moisture control |

Black products

Speciality Film Masterbatches

| GRADE | POLYMER BASE | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | | | | CARBON BLACK CONTENT | CARBON BLACK TYPE | FOOD CONTACT APPROVED ***** | INCLUDES ANTIBLOCK ? | RECOMMENDED USE | | | |
|-----------|--------------|--|-----|----|---------|------------|-----|-----|----------------------|-------------------------------|-----------------------------|----------------------|-----------------|-----------------|-------------------------|-------------|
| | | PE | EVA | PP | PS, ABS | PA (Nylon) | PET | PVC | | | | | FILM EXTRUSION | OTHER EXTRUSION | INJECTION/BLOW MOULDING | COMPOUNDING |
| PE 48/92F | PE | ✓ | * | ✓ | * | * | * | * | 40% | Small particle furnace | ✓ | X | ✓ | ✓ | ✓ | ✓ |
| PE 48/101 | PE | ✓ | * | ✓ | * | * | * | * | 40% | High strength general purpose | ✓ | X | ✓ | ✓ | ✓ | ✓ |

Speciality Universal Masterbatches

| GRADE | POLYMER BASE | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | | | | CARBON BLACK CONTENT | CARBON BLACK TYPE | FOOD CONTACT APPROVED ***** | INCLUDES ANTIBLOCK ? | RECOMMENDED USE | | | |
|------------------|--------------|--|-----|----|---------|------------|-----|-----|----------------------|---|-----------------------------|----------------------|-----------------|-----------------|-------------------------|-------------|
| | | PE | EVA | PP | PS, ABS | PA (Nylon) | PET | PVC | | | | | FILM EXTRUSION | OTHER EXTRUSION | INJECTION/BLOW MOULDING | COMPOUNDING |
| UN 53/20 | Universal | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 50% | High jet furnace | ✓ | X | ✓ | ✓ | ✓ | ✓ |
| UN 53/16 | Universal | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 45% | High strength general purpose | X | X | ✓ | ✓ | ✓ | ✓ |
| M UN BLACK 12753 | Universal | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 50% | Special food contact compliant, high strength | ✓ | X | ✓ | ✓ | ✓ | ✓ |
| UN 53/17 | Universal | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 35% | High strength general purpose | X | ✓ | ✓ | ✓ | ✓ | ✓ |
| M UN BLACK 12754 | Universal | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 35% | Special food contact compliant, high strength | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Speciality Polymer Specific and other Masterbatches

| GRADE | POLYMER BASE | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | | | | CARBON BLACK CONTENT | CARBON BLACK TYPE | FOOD CONTACT APPROVED ***** | INCLUDES ANTIBLOCK? | RECOMMENDED USE | | | |
|-------------------|--------------|--|-----|----|-----------------|------------|-----|-----|----------------------|---|-----------------------------|---------------------|-----------------|-----------------|-------------------------|-------------|
| | | PE | EVA | PP | PS, ABS, PC/ABS | PA (Nylon) | PET | PVC | | | | | FILM EXTRUSION | OTHER EXTRUSION | INJECTION/BLOW MOULDING | COMPOUNDING |
| PP 50/10 | PP | X | X | ✓ | X | X | X | X | 40% | Small particle furnace | ✓ | X | X | ✓ | ✓ | ✓ |
| PS 47/32 | PS | X | X | X | ✓ | X | X | X | 40% | High strength general purpose | X | X | X | ✓ | ✓ | ✓ |
| M PS BLACK 12752E | PS | X | X | X | ✓ | X | X | X | 40% | Special food contact compliant, high strength | ✓ | X | X | ✓ | ✓ | ✓ |
| M SAN BLACK 10767 | SAN | X | X | X | ✓ | X | X | X | 30% | High jet furnace | ✓ | X | X | ✓ | ✓ | ✓ |
| PACE® PT 4778 | PET | X | X | X | X | X | ✓ | X | 30% | Small particle furnace | ✓ | X | X | ✓ | ✓ | ✓ |

Colour products

Yellow Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|--------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|--|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| YELLOW | PE 48/2/2057F | 3945C | 1016 | ✓ | ✓ | * | * | 240°C | 6/7 | ✓ | ✓ | Greenest shade through to reddest shade standard heavy metal free yellows |
| | PE 48/2/2450F | 107C | None | ✓ | ✓ | * | * | 240°C | 6/7 | ✓ | ✓ | |
| | PE 48/2/2905F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 240°C | 7 | ✓ | ✓ | |
| | PE 48/2/2904F | 114C | 1018 | ✓ | ✓ | ✓ | ✓ | 240°C | 7 | ✓ | ✓ | |
| | PE 48/2/2028F | 1225C | 1003 | ✓ | ✓ | * | * | 230°C | 6 | ✓ | ✓ | |

Orange Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|--------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|--|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| ORANGE | PE 48/3/1902F | 137C | 1028 | ✓ | ✓ | ✓ | ✓ | 240°C | 7 | ✓ | ✓ | Yellowest shade through to reddest shade heavy metal free oranges |
| | PE 48/3/1900F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 230°C | 5 | ✓ | ✓ | |
| | PE 48/3/1046F | 1645C | None | ✓ | ✓ | ✓ | ✓ | 240°C | 5 | ✓ | ✓ | |

Red Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|--------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|--|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| RED | PE 48/4/5909F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 260°C | 7 | ✓ | ✓ | Yellowest shade through to bluest shade heavy metal free reds |
| | PE 48/4/5557F | 179C | None | ✓ | ✓ | ✓ | ✓ | 240°C | 5/6 | ✓ | ✓ | |
| | PE 48/4/5020F | 186C | None | ✓ | ✓ | ✓ | ✓ | 240°C | 4 | ✓ | ✓ | |
| | PE 48/4/5330F | 1795C | None | ✓ | ✓ | ✓ | ✓ | 250°C | 6 | ✓ | ✓ | |
| | PE 48/4/5505F | 187C | 3031 | ✓ | ✓ | ✓ | ✓ | 240°C | 6 | ✓ | ✓ | |
| | PE 48/4/5500F | 201C | 3002 | ✓ | ✓ | ✓ | ✓ | 240°C | 6 | ✓ | ✓ | |
| | PE 48/4/5670F | 209C | 3004 | ✓ | ✓ | ✓ | ✓ | 240°C | 6 | ✓ | ✓ | |

Pink Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|--------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|---|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| PINK | PE 48/4/5246F | 1905C | None | ✓ | ✓ | ✓ | ✓ | 270°C | 7 | ✓ | ✓ | Bluest shade through to yellowest shade heavy metal free pinks |
| | PE 48/4/5080F | 176C | None | ✓ | ✓ | ✓ | ✓ | 290°C | 7 | ✓ | ✓ | |

Violet Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|--------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|----------|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| VIOLET | PE 48/5/4022F | None | None | ✓ | ✓ | ✓ | ✓ | 240°C | 6 | ✓ | ✓ | |

Blue Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|------------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|---|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| LIGHT BLUE | PE 48/5/4535F | 299C | None | ✓ | ✓ | ✓ | ✓ | 290°C | 8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free light blues |
| | PE 48/5/4012F | 298C | None | ✓ | ✓ | ✓ | ✓ | 280°C | 8 | ✓ | ✓ | |
| | PE 48/5/4300F | 2915C | None | ✓ | ✓ | ✓ | ✓ | 280°C | 8 | ✓ | ✓ | |
| MID BLUE | PE 48/5/4025F | 2945C | None | ✓ | ✓ | ✓ | ✓ | 290°C | 8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free mid blues |
| | PE 48/5/4021F | None | None | ✓ | ✓ | ✓ | ✓ | 290°C | 8 | ✓ | ✓ | |
| DARK BLUE | PE 48/5/4020F | 2755C | None | ✓ | ✓ | ✓ | ✓ | 290°C | 8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free dark blues |
| | PE 48/5/4500F | None | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| | PE 48/5/4656F | 289C | None | ✓ | ✓ | ✓ | ✓ | 240°C | 7 | ✓ | ✓ | |

Turquoise Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|-----------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|----------|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| TURQUOISE | PE 48/5/4358F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 280°C | 8 | ✓ | ✓ | |

Green Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|-------------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|--|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| LIGHT GREEN | PE 48/6/3000F | 3245C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| MID GREEN | PE 48/6/3011F | 7482C | None | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | Bluest shade through to yellowest shade heavy metal free mid greens |
| | PE 48/6/3450F | 7482C | None | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | |
| | PE 48/6/3116F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 260°C | 7 | ✓ | ✓ | |
| | PE 48/6/3012F | 355C | None | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | |
| | PE 48/6/3800F | 362C | None | ✓ | ✓ | * | * | 230°C | 6 | ✓ | ✓ | |

| | | | | | | | | | | | | |
|------------|---------------|------|------|---|---|---|---|-------|---|---|---|---|
| DARK GREEN | PE 48/6/3015F | 316C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | Bluest shade through to yellowest shade heavy metal free dark greens |
| | PE 48/6/3641F | N/A | N/A | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | |
| | PE 48/6/3510F | 356C | None | ✓ | ✓ | * | * | 230°C | 6 | ✓ | ✓ | |
| | PE 48/6/3600F | 357C | None | ✓ | ✓ | * | * | 220°C | 8 | ✓ | ✓ | |
| | PE 48/6/3888F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |

Silver/Gold Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|--------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|----------|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| SILVER | PE 48/7/7030F | 877C | 9023 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| GOLD | PE 48/7/7171F | 872C | None | ✓ | ✓ | X | X | 200°C | 7 | ✓ | ✓ | |

Beige/Ivory Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|--------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|---|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| BEIGE | PE 48/2/2097F | None | 1001 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free beiges |
| | PE 48/2/1266F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 250°C | 7/8 | ✓ | ✓ | |
| IVORY | PE 48/2/9600F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 300°C | 7/8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free ivories |
| | PE 48/2/9035F | 7401C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |

Grey Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|--------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|---|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| GREY | PE 48/7/8368F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | Darkest shade through to lightest shade heavy metal free greys |
| | PE 48/7/8035F | C. GRAY 7C | 7046 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| | PE 48/7/8899F | 429C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| | PE 48/7/8760F | 428C | 7040 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |

Terracotta/Brown Masterbatch

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|------------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|--|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| TERRACOTTA | PE 48/8/1340F | 174C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| MID BROWN | PE 48/8/1281F | 161C | 8011 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| DARK BROWN | PE 48/8/1550F | None | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | Darkest shade through to lightest shade heavy metal free browns |
| | PE 48/8/1028F | 476C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |

All Colours

| COLOUR | GRADE | CLOSEST PANTONE® REFERENCE * | CLOSEST RAL REFERENCE * | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | HEAT STABILITY ** | LIGHT FASTNESS *** | FOOD CONTACT APPROVED ***** | PACKAGING DIRECTIVE EC 94/62 ***** | COMMENTS |
|-------------|---------------|------------------------------|-------------------------|---|------|------|----|-------------------|--------------------|-----------------------------|------------------------------------|--|
| | | | | LLDPE | LDPE | HDPE | PP | | | | | |
| YELLOW | PE 48/2/2057F | 3945C | 1016 | ✓ | ✓ | * | * | 240°C | 6/7 | ✓ | ✓ | Greenest shade through to reddest shade standard heavy metal free yellows |
| | PE 48/2/2450F | 107C | None | ✓ | ✓ | * | * | 240°C | 6/7 | ✓ | ✓ | |
| | PE 48/2/2905F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 240°C | 7 | ✓ | ✓ | |
| | PE 48/2/2904F | 114C | 1018 | ✓ | ✓ | ✓ | ✓ | 240°C | 7 | ✓ | ✓ | |
| | PE 48/2/2028F | 1225C | 1003 | ✓ | ✓ | * | * | 230°C | 6 | ✓ | ✓ | |
| ORANGE | PE 48/3/1902F | 137C | 1028 | ✓ | ✓ | ✓ | ✓ | 240°C | 7 | ✓ | ✓ | Yellowest shade through to reddest shade heavy metal free oranges |
| | PE 48/3/1900F | N/A | N/A | ✓ | ✓ | * | * | 230°C | 5 | ✓ | ✓ | |
| | PE 48/3/1046F | 1645C | None | ✓ | ✓ | ✓ | ✓ | 240°C | 5 | ✓ | ✓ | |
| RED | PE 48/4/5909F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 260°C | 7 | ✓ | ✓ | Yellowest shade through to bluest shade heavy metal free reds |
| | PE 48/4/5557F | 179C | None | ✓ | ✓ | ✓ | ✓ | 240°C | 5/6 | ✓ | ✓ | |
| | PE 48/4/5020F | 186C | None | ✓ | ✓ | ✓ | ✓ | 240°C | 4 | ✓ | ✓ | |
| | PE 48/4/5330F | 1795C | None | ✓ | ✓ | ✓ | ✓ | 250°C | 6 | ✓ | ✓ | |
| | PE 48/4/5505F | 187C | 3031 | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | |
| | PE 48/4/5500F | 201C | 3002 | ✓ | ✓ | ✓ | ✓ | 240°C | 6 | ✓ | ✓ | |
| | PE 48/4/5670F | 209C | 3004 | ✓ | ✓ | ✓ | ✓ | 240°C | 6 | ✓ | ✓ | |
| PINK | PE 48/4/5246F | 1905C | None | ✓ | ✓ | ✓ | ✓ | 270°C | 7 | ✓ | ✓ | Bluest shade through to yellowest shade heavy metal free pinks |
| | PE 48/4/5080F | 176C | None | ✓ | ✓ | ✓ | ✓ | 290°C | 7 | ✓ | ✓ | |
| VIOLET | PE 48/5/4022F | None | None | ✓ | ✓ | ✓ | ✓ | 240°C | 6 | ✓ | ✓ | |
| LIGHT BLUE | PE 48/5/4535F | 299C | None | ✓ | ✓ | ✓ | ✓ | 290°C | 8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free light blues |
| | PE 48/5/4012F | 298C | None | ✓ | ✓ | ✓ | ✓ | 280°C | 8 | ✓ | ✓ | |
| | PE 48/5/4300F | 2915C | None | ✓ | ✓ | ✓ | ✓ | 280°C | 8 | ✓ | ✓ | |
| MID BLUE | PE 48/5/4025F | 2945C | None | ✓ | ✓ | ✓ | ✓ | 290°C | 8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free mid blues |
| | PE 48/5/4021F | None | None | ✓ | ✓ | ✓ | ✓ | 290°C | 8 | ✓ | ✓ | |
| DARK BLUE | PE 48/5/4020F | 2755C | None | ✓ | ✓ | ✓ | ✓ | 290°C | 8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free dark blues |
| | PE 48/5/4500F | None | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| | PE 48/5/4656F | 289C | None | ✓ | ✓ | ✓ | ✓ | 240°C | 7 | ✓ | ✓ | |
| TURQUOISE | PE 48/5/4358F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 280°C | 8 | ✓ | ✓ | |
| LIGHT GREEN | PE 48/6/3000F | 3245C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| MID GREEN | PE 48/6/3011F | 7482C | None | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | Bluest shade through to yellowest shade heavy metal free mid greens |
| | PE 48/6/3450F | 7482C | None | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | |
| | PE 48/6/3116F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 260°C | 7 | ✓ | ✓ | |
| | PE 48/6/3012F | 355C | None | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | |
| | PE 48/6/3800F | 362C | None | ✓ | ✓ | * | * | 230°C | 6 | ✓ | ✓ | |

| | | | | | | | | | | | | |
|------------|---------------|------------|------|---|---|---|---|-------|-----|---|---|---|
| DARK GREEN | PE 48/6/3015F | 316C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | Bluest shade through to yellowest shade heavy metal free dark greens |
| | PE 48/6/3641F | N/A | N/A | ✓ | ✓ | * | * | 240°C | 6 | ✓ | ✓ | |
| | PE 48/6/3510F | 356C | None | ✓ | ✓ | * | * | 230°C | 6 | ✓ | ✓ | |
| | PE 48/6/3600F | 357C | None | ✓ | ✓ | * | * | 220°C | 8 | ✓ | ✓ | |
| | PE 48/6/3888F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| SILVER | PE 48/7/7030F | 877C | 9023 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| GOLD | PE 48/7/7171F | 872C | None | ✓ | ✓ | X | X | 200°C | 7 | ✓ | ✓ | |
| BEIGE | PE 48/2/2097F | None | 1001 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free beiges |
| | PE 48/2/1266F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 250°C | 7/8 | ✓ | ✓ | |
| IVORY | PE 48/2/9600F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 300°C | 7/8 | ✓ | ✓ | Greenest shade through to reddest shade heavy metal free ivories |
| | PE 48/2/9035F | 7401C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| GREY | PE 48/7/8368F | N/A | N/A | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | Darkest shade through to lightest shade heavy metal free greys |
| | PE 48/7/8035F | C. GRAY 7C | 7046 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| | PE 48/7/8899F | 429C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| | PE 48/7/8760F | 428C | 7040 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| TERRACOTTA | PE 48/8/1340F | 174C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| MID BROWN | PE 48/8/1281F | 161C | 8011 | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |
| DARK BROWN | PE 48/8/1550F | None | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | Darkest shade through to lightest shade heavy metal free browns |
| | PE 48/8/1028F | 476C | None | ✓ | ✓ | ✓ | ✓ | 300°C | 8 | ✓ | ✓ | |

White products

| GRADE | POLYMER BASE | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | | | | | PIGMENT LOADING, equivalent to TiO ₂ content | INCLUDES ANTIBLOCK? | RECOMMENDED USE | | | | | COMMENTS |
|---------------------------|--------------|---|----|----|-----|----|-----|-----|--|------------------------|-------------------|-----------------------------------|-----------------------|------------------|-------------|---|
| | | PE | PP | PS | ABS | PA | PET | PVC | | | EXTRUSION FILM | EXTRUSION - PROFILE / SHEET | INJECTION MOULDING | BLOW MOULDING | COMPOUNDING | |
| PACE® N 54/1/01 | PA-6 | X | X | X | X | ✓ | X | X | 50% | X | X | ✓ | ✓ | X | ✓ | Polymer specific masterbatch for PA-6 and PA-6,6 applications |
| PE 48/1/12F | PE | ✓ | ✓ | * | X | * | ✓ | * | 60% | X | ✓ | ✓ | ✓ | ✓ | ✓ | High quality - ideal for thin gauge film |
| PE 48/1/15F | PE | ✓ | ✓ | * | X | * | ✓ | * | 50% | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | For medium gauge film with good antiblock properties |
| PE 48/1/47F | PE | ✓ | ✓ | * | X | * | ✓ | * | 75% | X | ✓ | ✓ | ✓ | ✓ | ✓ | High quality and high pigment concentration |
| PE 48/1/49F | PE | ✓ | ✓ | * | X | * | ✓ | * | 70% | X | ✓ | ✓ | ✓ | ✓ | ✓ | High quality and high pigment concentration |
| M PE WHITE 13749 | PE | ✓ | ✓ | * | X | * | ✓ | * | 70% | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | High quality and high pigment concentration including antiblock |
| M PS WHITE 12835 | PS | X | X | ✓ | * | X | X | X | 50% | X | X | ✓ | ✓ | X | ✓ | High quality white for a variety of applications including EPS |
| UN 53/1/03 | Universal | ✓ | ✓ | ✓ | * | * | ✓ | * | 75% | X | ✓ | ✓ | ✓ | ✓ | ✓ | High strength for diverse applications |

E-TEC® Conductive compounds

| GRADE | POLYMER TYPE | DESCRIPTION | APPLICATIONS | | | | | TYPICAL SURFACE RESISTIVITY |
|---------------------|-----------------|---|----------------|-----------------|-------------------|--------------------|---------------|-----------------------------|
| | | | EXTRUSION FILM | EXTRUSION SHEET | EXTRUSION PROFILE | INJECTION MOULDING | BLOW MOULDING | |
| E-TEC® ABS 11368 | ABS | Colourless permanently antistatic compound which can be coloured with Colloids standard masterbatches | X | ✓ | ✓ | ✓ | X | 10 ⁹ |
| E-TEC® HD 12491 | HDPE | Black conductive compound based on high molecular weight HDPE for blow moulded containers | X | ✓ | X | X | ✓ | 10 ⁴ |
| E-TEC® PA 4332 | Modified PA-6 | Black modified polyamide compound with excellent toughness and rigidity | X | X | ✓ | ✓ | X | 10 ⁴ |
| E-TEC® PC/ABS 13491 | Modified PC/ABS | Black conductive compound ideal for thermoforming | X | ✓ | ✓ | ✓ | X | 10 ⁵ |
| E-TEC® PE 4329 | Modified LDPE | Black conductive compound designed for film extrusion down to 75 microns | ✓ | ✓ | ✓ | ✓ | X | 10 ³ |
| E-TEC® PP 50/CON/2 | PP | Black conductive compound offering increased rigidity | X | X | ✓ | ✓ | X | 10 ³ |
| E-TEC® PP 10542 | PP | Black conductive compound ideal for sheet extrusion including twin wall corrugated sheet | X | ✓ | X | X | X | 10 ³ |
| E-TEC® PP 11357 | PP | Colourless permanently antistatic compound which can be coloured with Colloids standard masterbatches | X | ✓ | ✓ | ✓ | X | 10 ⁹ |
| E-TEC® PP 13579 | PP | Black conductive compound offering increased conductivity compared to other PP grades in the E-TEC® range | X | X | ✓ | ✓ | X | 10 ² |
| E-TEC® PS 13680 | Modified PS | Black conductive compound ideal for thermoforming | X | ✓ | ✓ | ✓ | X | 10 ³ |
| E-TEC® PS 13731 | Modified PS | Black conductive compound giving good gloss and low shrinkage | X | X | X | ✓ | X | 10 ⁵ |

PACE® Engineering polymer specific grades

| GRADE | POLYMER BASE | POLYMER COMPATIBILITY For other polymers please contact Colloids sales office | | | COLOURANT / ADDITIVE CONTENT | COLOURANT / ADDITIVE TYPE | FOOD CONTACT APPROVED* | RECOMMENDED USE | | | OTHER COMMENTS |
|---------------------|--------------|--|-----|----|------------------------------|---|------------------------|-----------------|-----------|--------------------|---|
| | | PA (Nylon) | PET | PC | | | | COMPOUNDING | EXTRUSION | INJECTION MOULDING | |
| PACE® N 54/1044 | PA-6 | ✓ | X | X | 25% | High jet furnace carbon black | ✓ | ✓ | ✓ | ✓ | Superior quality carbon black masterbatch for colouration and UV stability |
| PACE® N 54/1033 | PA-6 | ✓ | X | X | 40% | Black solvent dye | X | ✓ | ✓ | ✓ | Black solvent dye system for improved moulding behaviour and surface properties |
| PACE® N 54/14 | PA-6 | ✓ | X | X | 30% | High jet furnace carbon black + Black solvent dye | X | ✓ | ✓ | ✓ | Combination of carbon black and black solvent dye system for combined performance |
| M PA ADDITIVE 11200 | PA blend | ✓ | X | X | 25% | Graphite | X | ✓ | ✓ | ✓ | Friction and wear reducing additive |
| EL 4303 | PA-6 | ✓ | X | X | 40% | Molybdenum Disulphide | X | ✓ | ✓ | ✓ | Friction and wear reducing additive |
| PACE® N 54/1/01 | PA-6 | ✓ | X | X | 50% | Titanium dioxide | ✓ | ✓ | ✓ | ✓ | Superior quality rutile titanium dioxide white masterbatch |
| PACE® BLACK 4357 | PC | X | X | ✓ | 30% | High jet furnace carbon black | ✓ | ✓ | ✓ | ✓ | Highly effective black colouration with the benefits of a polycarbonate carrier |
| PACE® PT 4778 | PET | X | ✓ | X | 30% | Small particle furnace carbon black | ✓ | ✓ | ✓ | ✓ | Highly effective black colouration with the benefits of a PET carrier |