

PERFORMANCE COLORANTS FOR »TRAFFIC PAINTS« / »AREA MARKING« APPLICATIONS



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»Road surface marking is any kind of device or material that is used on a road surface in order to convey official information.« (Wikipedia).



Markings can be described by three general application categories:

LINE MARKINGS

While traditional lane markings, safety markings or direction indicators are typically yellow or white, more and more additional colors are used nowadays to mark privileged areas, such as bicycle lanes, walkways, or designated parking spaces for the handicapped.

DECORATIVE AND SAFETY MARKINGS

Examples:

- Brightly colored open spaces in cities (e. g. playgrounds)
- Bike lanes

When used as "decorative" or "safety" markings on pavement, these are often applied over the entire surface space, so additional features need to be considered, such as high chroma, skid resistance, hiding power and weather fastness.

FUNCTIONAL MARKINGS

As cities become "smarter", so does the traffic with need for additional signs and markings. Therefore, Traffic Paints must be recognizable by the different automobile sensor and detection systems required for safe and efficient flow. Information, such as location and speed limits, could be painted onto the road, making the intra-city navigation much more accurate than – if not independent from – the GPS-based navigation system.

APPLICATION TECHNOLOGIES

can be divided into following performance categories:

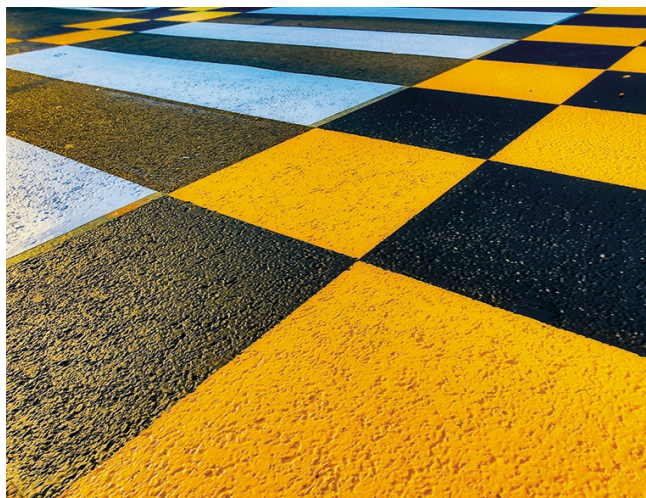
- **Paint** (solvent- and water-borne)
 - Lowest durability (e. g., areas with low traffic)
 - Lane Markings
 - Decorative and Safety Markings
- **Hot-Melt** (Thermoplastic)
 - Long lasting for Lane Markings in warm climate areas
 - Decorative and Safety Markings (heavy traffic areas)
- **Cold Plastic** ("MMA": Methyl-Methacrylate Polymers)
 - Highest durability ("most robust technology")
 - Decorative and Safety Markings
- **Epoxy Coatings**
 - Interior flooring applications ("economic technology")
 - Water-, solvent and 100% systems
 - Area and Safety Markings

COLORANT SELECTION

In the past, lead-based pigments were used to provide longer-lasting color. Today, these are no longer accepted by legislators and specifiers, as the release of toxic micro dust by constant abrasion presents serious health hazards to the general public. Nowadays, organic and (non-lead) inorganic powder pigments are the most widely used colorants for any application type.

However, major challenges still exist when dispersing pigments as well as pigment dusting during processing. Non-dusting processing of thermoplastic road markings is possible with Ecosperse Yellow HRT; the first choice for this application. A simple and convenient way to add color to any water-based road marking paint is via liquid Colanyl 100 pigment dispersions.





PRODUCT PORTFOLIO OVERVIEW

The following pigments and dispersions, are available for a wide variety of application technologies:

PIGMENTS

PRODUCT	COLOUR INDEX	HANDLING FORM	APPLICATION TECHNOLOGIES				
			Paints (w/b)	Paints (s/b)	Hot melt	Cold plastic (MMA)	Epoxy (w/b + s/b)
HOSTAPERM® ¹ OXIDE YELLOW BV 02	P.Y. 184	Powder	■	■	■	■	■
HOSTAPERM YELLOW H3G 02 ¹	P.Y. 154	Powder	■	■	■	■	■
HANSA® BRILLIANT YELLOW 2GX 70-S	P.Y. 74	Powder	■	■	–	–	■
PV FAST YELLOW HGR	P.Y. 191	Powder	–	–	■	–	–
ECOSPERSE YELLOW HRT ²	P.Y. 83	Granules	–	–	■	–	■
NOVOPERM YELLOW HR 72 ²	P.Y. 83	Powder	■	■	■	■	■
GRAPHTOL YELLOW H2R	P.Y. 139	Powder	–	■	■	–	–
DALAMAR YELLOW YT-805-D	P.Y. 65	Powder	■	–	–	–	–
NOVOPERM ORANGE HL 71	P.O. 36	Powder	■	■	■	■	■
HOSTAPERM RED D3G 73	P.R. 254	Powder	■	■	■	■	■
HOSTAPERM PINK E	P.R. 122	Powder	■	■	■	■	■
HOSTAPERM BLUE B2G 03	P.B. 15:3	Powder	■	■	■	■	■
HOSTAPERM GREEN GNX 01	P.G. 7	Powder	■	■	■	■	■

■ Suitable – Not recommended

¹ Hostaperm Yellow H3G can be offered alternatively

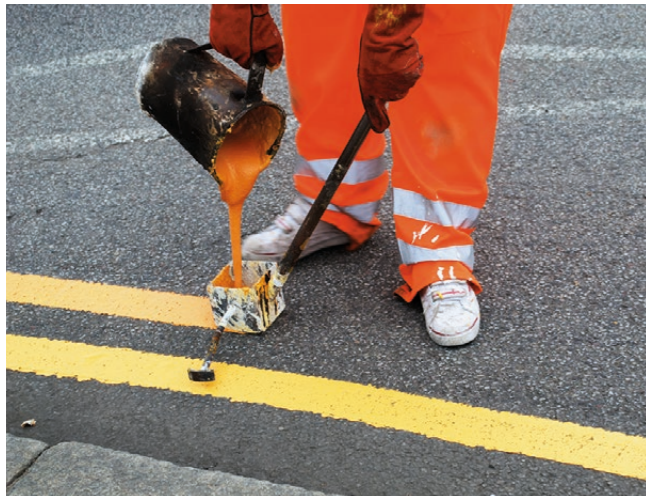
² Notes on diarylide pigments: It has been known for some considerable time that diarylide pigments can release 3,3-DCB when they are processed in polymers at temperatures above 200 °C. These products must not be used at processing temperatures above 200 °C because of possible thermal decomposition (see safety data sheets) even if no shade change occurs at elevated processing temperatures.

PIGMENT DISPERSIONS

PRODUCT	COLOUR INDEX	HANDLING FORM	APPLICATION TECHNOLOGIES				
			Paints (w/b)	Paints (s/b)	Hot melt	Cold plastic (MMA)	Epoxy (w/b + s/b)
COLANYL® OXIDE YELLOW BV 100	P.Y. 184	Liquid paste	■	–	–	–	■
COLANYL YELLOW 2GXD 130	P.Y. 74	Liquid paste	■	–	–	–	■
COLANYL OXIDE YELLOW R 132	P.Y. 42	Liquid paste	■	–	–	–	■
COLANYL YELLOW HRD 132	P.Y. 83	Liquid paste	■	–	–	–	■
COLANYL OXIDE RED B 132	P.R. 101	Liquid paste	■	–	–	–	■
COLANYL RED D3GD 532	P.R. 254	Liquid paste	■	–	–	–	■
COLANYL PINK E 130	P.R. 122	Liquid paste	■	–	–	–	■
COLANYL BLUE B2G 131	P.B. 15:3	Liquid paste	■	–	–	–	■
COLANYL GREEN GG 131	P.G. 7	Liquid paste	■	–	–	–	■
COLANYL BLACK N 131	P.Bk. 7	Liquid paste	■	–	–	–	■
COLANYL WHITE R 130	P.W. 6	Liquid paste	■	–	–	–	■











■ Suitable – Not recommended

For solvent based paints, our aldehyde carrier resin based Hostatint A 100 range can be offered as alternative for specific (high quality) customer requirements.



NEXT GENERATION TRAFFIC PAINTS





Developed for high-performance industrial coatings, the following pigments are recommended for next generation traffic paints, using long-term durability Cold-Plastic MMA systems.

PRODUCT	COLOUR INDEX
 HOSTAPERM OXIDE YELLOW BV 02	P.Y. 184
 HOSTAPERM YELLOW H4G	P.Y. 151
 HOSTAPERM YELLOW H3G 02	P.Y. 154
 NOVOPERM YELLOW HR 70*/HR 72	P.Y. 83
 GRAPHTOL YELLOW H2R	P.Y. 139
 NOVOPERM ORANGE HL 71	P.O. 36
 HOSTAPERM RED D3G 73	P.R. 254
 HOSTAPERM PINK E	P.R. 122
 HOSTAPERM BLUE B2G 03	P.B. 15:3
 HOSTAPERM GREEN GNX 01	P.G. 7

SHADE RECOMMENDATIONS

Federal Standards and RAL shades can be matched with these products and could be economically produced by a co-grinding process. Some examples of popular road marking colors are shown below:

FORMULATIONS

	RAL 1003	Hostaperm Yellow H3G 02 Novoperm Yellow HR 72 Iron oxide yellow Titanium dioxide	43% 16% 11% 30%
	RAL 3001	Novoperm Orange HL 71 Hostaperm Red D3G 73 Iron oxide red Titanium dioxide	4% 66% 20% 10%
	US TRAFFIC PAINT COLOR STANDARD BLUE	Hostaperm Blue B2G 03 Hostaperm Green GNX 01 Iron oxide red Iron oxide black Titanium dioxide	13% 1% 10% 2% 74%
	US TRAFFIC PAINT COLOR STANDARD GREEN	Hostaperm Oxide Yellow BV 02 Hostaperm Yellow H3G 02 Hostaperm Green GNX 01 Iron oxide black Titanium dioxide	69% 9% 1% 1% 20%

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