Easily dispersible pigments
EDS PIGMENTS
In the paint manufacturing process, one of the most important steps is the dispersion of pigments. Clariant has developed a new range of organic pigments: the »Easily dispersible pigments« – called ED pigments – to simplify this process.

As the name suggests, ED pigments can be easily incorporated into paint systems with a dissolver, and without an additional milling step. This is an innovative approach to paint manufacture which offers efficiency as well as savings in raw materials and energy.

To achieve »Easily dispersible« characteristics of organic pigments, Clariant has developed an economic production process which includes surface treatment of the pigments with highly efficient and widely compatible dispersing additives.
Simplify your process
EASILY DISPERSIBLE PIGMENTS

THE DISPERSION PROCESS
The most important and complex step in the coloration of paints is the homogenous distribution of pigment particles in the binder system. Organic pigment particles in powder form exist as agglomerates. During the grinding process, the particle size is reduced to achieve the optimum color properties in the paint system. Ideally, this means reducing agglomerates to primary particles, which is a highly specialized, time consuming and expensive process that requires costly technical equipment. In addition, the pigment dispersion has to be stabilized with expensive dispersing agents to prevent flocculation.

THE INNOVATIVE PIGMENT APPROACH
The dispersing additive in the ED pigment is incorporated during manufacture. The additive is adsorbed on the pigment surface and facilitates separation and wetting of pigment particles during the dispersion process. An optimum amount of additive is present on each ED pigment surface to achieve the necessary dispersion properties, thus reducing or even eliminating the need for additional dispersant in the mill base formulation.

COST EFFECTIVE PAINT MANUFACTURING
In general, ED pigments can be dispersed in about 30 minutes with a dissolver and offer obvious advantages over respective regular pigments. Under similar conditions, the regular pigments do not achieve satisfactory color and tinting strength due to insufficient shear forces. Since the ED pigment surface is already coated with the dispersing additive, the shear forces in the dissolver are sufficient to develop good fineness of grind and suitable color properties for industrial and decorative paints.

PAINT PRODUCTION PROCESS FOR INDUSTRIAL COATINGS

CONVENTIONAL PIGMENT
4 STEPS

1 PRE-DISPERSION (HS Dissolver) + Resins + Solvents + Additives
2 GRINDING (Bead Mill)
3 MILL BASE (Pigment Paste)
4 LET DOWN + Resins + Solvents + Additives

EASILY DISPERSIBLE PIGMENT
3 STEPS

1 DISPERSION (HS Dissolver) Resins → Solvents → no additive
2 MILL BASE (Pigment Paste)
3 LET DOWN Resins → Solvents → Additives →

PAINT PRODUCTION PROCESS FOR INDUSTRIAL COATINGS

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1 DISPERSION (HS Dissolver) Resins → Solvents → no additive
2 MILL BASE (Pigment Paste)
3 LET DOWN Resins → Solvents → Additives →

PAINT
Dissolver dispersible pigments for solvent-based industrial coating systems

EDS PIGMENTS

WHAT EXACTLY IS EDS?
(Easily dispersible solvent)
EDS pigments are surface modified organic pigments specifically designed for solvent-based industrial coatings. The ED effect is achieved with a combination of a tailor-made additive and considerable technical know-how in the pigment manufacture process.

DISPERSBILITY
EDS pigments can be easily incorporated into paint systems with a dissolver. An additional milling process is not necessary. If a bead mill is used, the milling time is significantly reduced in comparison to the conventional pigments.

COMPATIBILITY
The pigments have been successfully tested against similar reference pigments in numerous coating systems such as alkyd (air drying and baking enamels), polyurethane, polyester (saturated and unsaturated polyester), acrylic (UV curing, e.g. epoxy acrylate resins) and epoxy systems.

CO-DISPERSION
Several EDS pigments can be combined in a mill base formulation or co-dispersed with inorganic pigments to achieve a specific shade. The simplified process reduces the manufacturing costs, improves productivity, and offers lower cost options for high performance coatings.

TAILOR-MADE ADDITIVE
EDS additives are widely compatible and do not show adverse effects on paint properties, such as pot life and film hardness in 2-component PU systems, drying time of air drying systems, and overall weather fastness.

SUSTAINABILITY
By simplifying the dispersing step, EDS pigments improve the eco footprint of paint manufacture. The processing time is shorter, leading to increased production capacity while simultaneously saving on electrical energy and generating less waste water.

COST SAVING POTENTIAL

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<table>
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<tr>
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<table>
<thead>
<tr>
<th>SUSTAINABILITY</th>
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<tr>
<td>Carbon Footprint</td>
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<td>Electricity</td>
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CLARIANT ED PIGMENTS | EDS
During the dispersion step, color strength increases while particle size decreases. When using EDS pigments and only a dissolver, optimal color strength and fineness of the dispersion are achieved after 30 minutes.

»ED pigments offer particular benefits when planning capacity expansions and exchanging existing production equipment. Expensive bead mills are no longer required and can be replaced by more favorably priced dissolvers.«
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Edition: March 2013

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ED PIGMENTS – EFFICIENT PRODUCTS FOR ALL YOUR NEEDS

For Industrial Paints: EDS
Solvent-based

For Decorative Paints: EDW
Water-based
Easily dispersible (called ED) version of Hostaperm Blue B2G for solvent-borne coating systems. These pigments are surface modified with a highly efficient and widely compatible dispersing additive; hence they can also be dispersed with a dissolver, provided that their mill bases have been suitably formulated. The dispersion of ED pigments does not require additional dispersant as they already contain the optimal amount of additive for the modification of their surfaces. The coloristic properties of Hostaperm Blue B2G-EDS VP 3491 can differ from those of the conventional pigment as a result of their improved ease-of-dispersion.

**FASTNESS TO LIGHT**

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**PHYSICAL PROPERTIES**

- Density: 1.59 g/cm³
- Specific surface: –
- Oil absorption: 63 ml/100 g
- Average size of primary particles: –
- Heat stability: 200°C
- Fastness to blooming: ○
- Fastness to acids: 5
- Fastness to alkalis: 5

**RECOMMENDED FIELDS OF APPLICATION**

- Oxidative drying alkyd paints +
- Physically drying paints +
- Baking enamels +
- Acid cured paints (+)
- Amine cured epoxy paints (+)
- Isocyanate cured paints +
- Water based paints

**FASTNESS TO OVERPAINTING**

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<td>160°C</td>
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**FASTNESS TO SOLVENTS**

- Water: 5
- Butanol: 4–5
- Butyl glycol: 4–5
- Butyl acetate: 5
- Methyl ethyl ketone: 4–5
- White spirit: 5
- Xylene: 5
- Dibutyl phthalate: 5

**Chemical Group:** Pure β-modification of copper phthalocyanine

**Colour Index:** Pigment Blue 15:3

**Colour Index No.:** 74160
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Easily dispersible (called ED) version of Hostaperm Green GNX for solvent-borne coating systems. These pigments are surface modified with a highly efficient and widely compatible dispersing additive; hence they can also be dispersed with a dissolver, provided that their mill bases have been suitably formulated. The dispersion of ED pigments does not require additional dispersant as they already contain the optimal amount of additive for the modification of their surfaces. The coloristic properties of Hostaperm Green GNX-EDS VP 3908 can differ from those of the conventional pigment as a result of their improved ease-of-dispersion.

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**PHYSICAL PROPERTIES**

- Density: 2.09 g/cm³
- Specific surface: —
- Oil absorption: 50 ml/100 g
- Average size of primary particles: —

**FASTNESS TO WEATHERING**

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**RECOMMENDED FIELDS OF APPLICATION**

- Oxidative drying alkyd paints: +
- Physically drying paints: +
- Baking enamels: +
- Acid cured paints: (+)
- Amine cured epoxy paints: (+)
- Isocyanate cured paints: +
- Water based paints: +

**FASTNESS TO OVERPAINTING**

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</table>

**FASTNESS TO SOLVENTS**

- Water: 5
- Butanol: 5
- Butyl glycol: 4
- Butyl acetate: 4
- Methyl ethyl ketone: 4–5
- White spirit: 5
- Xylene: 5
- Dibutyl phthalate: 5
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Easily dispersible (called ED) version of Hostaperm Pink E for solvent-borne coating systems. These pigments are surface modified with a highly efficient and widely compatible dispersing additive; hence they can also be dispersed with a dissolver, provided that their mill bases have been suitably formulated. The dispersion of ED pigments does not require additional dispersant as they already contain the optimal amount of additive for the modification of their surfaces. The coloristic properties of Hostaperm Pink E-EDS VP 3476 can differ from those of the conventional pigment as a result of their improved ease-of-dispersion.

### Fastness to Light

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</tbody>
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### Fastness to Blooming

- Heat stability: 200°C

### Fastness to Alkalis

- Fastness: 5

### Physical Properties

- Density: 1.34 g/cm³
- Specific surface: —
- Oil absorption: 63 ml/100 g
- Average size of primary particles: —
- Fastness to blooming: ⬜
- Heat stability: 200°C
- Fastness to acids: 5
- Fastness to alkalis: 5

### Recommended Fields of Application

- Oxidative drying alkyd paints: +
- Physically drying paints: +
- Baking enamels: +
- Acid cured paints: (+)
- Amine cured epoxy paints: (+)
- Isocyanate cured paints: +
- Water based paints: +

### Hostaperm® Pink E-EDS VP 3476

Chemical Group: Quinacridone pigment
Colour Index: Pigment Red 122
Colour Index No.: 73915

**Easily dispersible (called ED) version of Hostaperm Pink E for solvent-borne coating systems. These pigments are surface modified with a highly efficient and widely compatible dispersing additive; hence they can also be dispersed with a dissolver, provided that their mill bases have been suitably formulated. The dispersion of ED pigments does not require additional dispersant as they already contain the optimal amount of additive for the modification of their surfaces. The coloristic properties of Hostaperm Pink E-EDS VP 3476 can differ from those of the conventional pigment as a result of their improved ease-of-dispersion.**
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**RELECTANCE CURVE**

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- ST 1/2
- ST 1/3
- VT

- Darkening: Not measurable
- (*) No blooming so far observed under normal conditions; eminently suitable for stoving enamels
- (+) suitable
- (++) limited suitability

CLARIANT INTERNATIONAL LTD
Rothausstrasse 61
4132 Muttenz
Switzerland

BUSINESS UNIT PIGMENTS
MARKETING AND SALES COATINGS
Fax +41 (0) 61 469 75 40
WWW.PIGMENTS.CLARIANT.COM
WWW.CLARIANT.COM
Easily dispersible (called ED) version of Hostaperm Red D3G 70 for solvent-borne coating systems. These pigments are surface modified with a highly efficient and widely compatible dispersing additive; hence they can also be dispersed with a dissolver, provided that their mill bases have been suitably formulated. The dispersion of ED pigments does not require additional dispersant as they already contain the optimal amount of additive for the modification of their surfaces. The coloristic properties of Hostaperm Red D3G 70-EDS VP 3680 can differ from those of the conventional pigment as a result of their improved ease-of-dispersion.
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Easily dispersible (called ED) version of Hostaperm Violet RL spec. for solvent-borne coating systems. These pigments are surface modified with a highly efficient and widely compatible dispersing additive; hence they can also be dispersed with a dissolver, provided that their mill bases have been suitably formulated. The dispersion of ED pigments does not require additional dispersant as they already contain the optimal amount of additive for the modification of their surfaces. The coloristic properties of Hostaperm Violet RL-EDS VP 3064 can differ from those of the conventional pigment as a result of their improved ease-of-dispersion.

**FASTNESS TO LIGHT**

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**FASTNESS TO WEATHERING**

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**PHYSICAL PROPERTIES**

- Density: 1.36 g/cm³
- Specific surface: —
- Oil absorption: 57 ml/100 g
- Average size of primary particles: —
- Fastness to blooming: ☐
- Heat stability: 200°C
- Fastness to acids: 5
- Fastness to alkalis: 5

**RECOMMENDED FIELDS OF APPLICATION**

- Oxidative drying alkyd paints: +
- Physically drying paints: +
- Baking enamels: +
- Acid cured paints: (+)
- Amine cured epoxy paints: (+)
- Isocyanate cured paints: +
- Water based paints: —
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<tr>
<td>700</td>
<td>90</td>
</tr>
</tbody>
</table>

- d  Becomes darker
-  Not measurable
-  High risk of blooming; not suitable for stoving enamels
-  Risk of blooming at low and medium concentrations; suitable for stoving enamels at relatively high concentrations after preliminary testing
-  No blooming so far observed under normal conditions; eminently suitable for stoving enamels
  - Suitable
  - (+) Limited suitability

---

- ½s ST
- ½ ST
- VT

---

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For the product shown in the chart:
- **d** Becomes darker
- **–** Not measurable
- **●** High risk of blooming; not suitable for stoving enamels
- **○** Risk of blooming at low and medium concentrations; suitable for stoving enamels at relatively high concentrations after preliminary testing
- **◬** No blooming so far observed under normal conditions; eminently suitable for stoving enamels
- **+** Suitable
- **(+)** Limited suitability

---

**Reflectance Curve**

<table>
<thead>
<tr>
<th>λ [nm]</th>
<th>R [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>0</td>
</tr>
<tr>
<td>500</td>
<td>10</td>
</tr>
<tr>
<td>600</td>
<td>20</td>
</tr>
<tr>
<td>700</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>60</td>
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<tr>
<td></td>
<td>70</td>
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<tr>
<td></td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Colors:**
- 1/2 ST
- 1/3 ST
- VT

---

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**FASTNESS TO LIGHT**

<table>
<thead>
<tr>
<th></th>
<th>LL</th>
<th>EL</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT</td>
<td>7–8</td>
<td>7–8</td>
</tr>
<tr>
<td>TT</td>
<td>7–8</td>
<td>7–8</td>
</tr>
<tr>
<td>1/3 ST</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>1/25 ST</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

**FASTNESS TO OVERPAINTING**

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<thead>
<tr>
<th>NC</th>
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<tbody>
<tr>
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<td>160°C</td>
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</tr>
<tr>
<td>5</td>
<td>5</td>
<td>4</td>
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</tbody>
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**FASTNESS TO SOLVENTS**

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Value</th>
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<tr>
<td>Water</td>
<td>5</td>
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<tr>
<td>Butanol</td>
<td>4–5</td>
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<tr>
<td>Butyl glycol</td>
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<tr>
<td>Butyl acetate</td>
<td>4–5</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
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<tr>
<td>White spirit</td>
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</tr>
<tr>
<td>Xylene</td>
<td>4–5</td>
</tr>
<tr>
<td>Dibutyl phthalate</td>
<td>5</td>
</tr>
</tbody>
</table>

**RECOMMENDED FIELDS OF APPLICATION**

- Oxidative drying alkyd paints +
- Physically drying paints +
- Baking enamels +
- Acid cured paints (+)
- Amine cured epoxy paints (+)
- Isocyanate cured paints +
- Water based paints

**FASTNESS TO WEATHERING**

<table>
<thead>
<tr>
<th></th>
<th>12M</th>
<th>24M</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT</td>
<td>4–5</td>
<td>4–5</td>
</tr>
<tr>
<td>TT</td>
<td>4–5</td>
<td>4</td>
</tr>
<tr>
<td>1/3 ST</td>
<td>3–4</td>
<td>3</td>
</tr>
<tr>
<td>1/25 ST</td>
<td>3–4</td>
<td>2–3</td>
</tr>
</tbody>
</table>

**PHYSICAL PROPERTIES**

- Density: 1.45 g/cm³
- Specific surface: —
- Oil absorption: 87 ml/100 g
- Average size of primary particles: —

- Heat stability: 200°C
- Fastness to blooming: ○
- Fastness to acids: 5
- Fastness to alkalis: 5
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Easily dispersible (called ED) version of Novoperm Yellow M2R 70 for solvent-borne coating systems. These pigments are surface modified with a highly efficient and widely compatible dispersing additive; hence they can also be dispersed with a dissolver, provided that their mill bases have been suitably formulated. The dispersion of ED pigments does not require additional dispersant as they already contain the optimal amount of additive for the modification of their surfaces. The coloristic properties of Novoperm Yellow M2R 70-EDS VP 3559 can differ from those of the conventional pigment as a result of their improved ease-of-dispersion.

### Physicochemical Properties

- **Density**: 1.65 g/cm³
- **Specific Surface**: —
- **Oil Absorption**: 51 ml/100 g
- **Average Size of Primary Particles**: —

### Fastness to Solvents

- Water: 5
- Butanol: 5
- Butyl glycol: 5
- Butyl acetate: 5
- Methyl ethyl ketone: 5
- White spirit: 5
- Xylene: 5
- Dibutyl phthalate: 5

### Fastness to Weathering

**12M**

<table>
<thead>
<tr>
<th>VT</th>
<th>LL</th>
<th>EL</th>
<th>VT</th>
<th>LL</th>
<th>EL</th>
</tr>
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<tbody>
<tr>
<td>5d</td>
<td>5d</td>
<td>4–5</td>
<td>4–5d</td>
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<tr>
<td>5</td>
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<td>4–5</td>
<td>4–5</td>
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<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>4–5</td>
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<tr>
<td>4</td>
<td>4</td>
<td>3–4</td>
<td>3–4</td>
<td></td>
<td></td>
</tr>
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</table>

**24M**

<table>
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<tr>
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<th>VT</th>
<th>LL</th>
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<tr>
<td>5d</td>
<td>5d</td>
<td>4–5</td>
<td>4–5d</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>4–5</td>
<td>4–5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>4–5</td>
<td>4–5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>3–4</td>
<td>3–4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Recommended Fields of Application

- Oxidative drying alkyd paints: +
- Physically drying paints: +
- Baking enamels: +
- Acid cured paints: (+)
- Amine cured epoxy paints: (+)
- Isocyanate cured paints: +
- Water based paints: +

---

**Notes**

- **Chemical Group**: Isoindoline
- **Colour Index**: Pigment Yellow 139
- **Colour Index No.**: 56298
- **Recommended Field of Application**: Oxidative drying alkyd paints +
- **Heat Stability**: 200°C
- **Fastness to Blooming**: ○
- **Fastness to Acids**: 5
- **Fastness to Alkalis**: 5
- **Water**: 5
- **Butanol**: 5
- **Butyl glycol**: 5
- **Butyl acetate**: 5
- **Methyl ethyl ketone**: 5
- **White spirit**: 5
- **Xylene**: 5
- **Dibutyl phthalate**: 5
- **1/3 ST**: 1:4.4 TiO₂
- **1/25 ST**: 1:60 TiO₂
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**Reflectance Curve**

- **d** Becomes darker
  - Not measurable
  - High risk of blooming; not suitable for stoving enamels
  - Risk of blooming at low and medium concentrations; suitable for stoving enamels at relatively high concentrations after preliminary testing
  - No blooming so far observed under normal conditions; eminently suitable for stoving enamels
  + Suitable
  (+) Limited suitability

---

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Marketing and Sales Coatings
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Fax +41(0) 61 469 75 40

www.pigments.clariant.com
www.clariant.com
Easily dispersible pigments
EDW PIGMENTS

what is precious to you?
In the paint manufacturing process, one of the most important steps is the dispersion of pigments. Clariant has developed a new range of organic pigments: the »Easily dispersible pigments« – called ED pigments – to simplify this process.

As the name suggests, ED pigments can be easily incorporated into paint systems with a dissolver, and without an additional milling step. This is an innovative approach to paint manufacture which offers efficiency as well as savings in raw materials and energy.

To achieve »Easily dispersible« characteristics of organic pigments, Clariant has developed an economic production process which includes surface treatment of the pigments with highly efficient and widely compatible dispersing additives.

**ED PIGMENT VALUE PROPOSITION**

**LOWER COST IN USE« COLORATION**
- No milling step necessary
- Dissolver dispersible
- Reduced dispersing time
- Optimal amount of additive on the pigment surface
- Combination of EDW pigments in one mill base is possible
- Co-dispersion of EDW pigments with inorganic pigments

**HIGHER ECO-EFFICIENCY**
- Higher pigment loading in the mill base
- Optimization of plant capacity – Faster color change
- Lower energy consumption
- Less cleaning effort
Simplify your process
EASILY DISPERSIBLE PIGMENTS

THE DISPERSION PROCESS
The most important and complex step in the coloration of paints is the homogenous distribution of pigment particles in the binder system. Organic pigment particles in powder form exist as agglomerates. During the grinding process, the particle size is reduced to achieve the optimum color properties in the paint system. Ideally, this means reducing agglomerates to primary particles, which is a highly specialized, time consuming and expensive process that requires costly technical equipment. In addition, the pigment dispersion has to be stabilized with expensive dispersing agents to prevent flocculation.

THE INNOVATIVE PIGMENT APPROACH
The dispersing additive in the ED pigment is incorporated during manufacture. The additive is adsorbed on the pigment surface and facilitates separation and wetting of pigment particles during the dispersion process. An optimum amount of additive is present on each ED pigment surface to achieve the necessary dispersion properties, thus reducing or even eliminating the need for additional dispersant in the mill base formulation.

COST EFFECTIVE PAINT MANUFACTURING
In general, ED pigments can be dispersed in about 30 minutes with a dissolver and offer obvious advantages over respective regular pigments. Under similar conditions, the regular pigments do not achieve satisfactory color and tinting strength due to insufficient shear forces. Since the ED pigment surface is already coated with the dispersing additive, the shear forces in the dissolver are sufficient to develop good fineness of grind and suitable color properties for industrial and decorative paints.

PAINT PRODUCTION PROCESS FOR DECORATIVE COATINGS

CONVENTIONAL PIGMENTS
- Pre-dispersion in dissolver
- Processing in bead mill
- Pigment preparation
- + pigments
- + additives
- + biocides
- + water

EDW PIGMENTS
- Dispersion in dissolver
- No processing in bead mill
- Pigment preparation
- + emulsion paint containing binder, titanium dioxide, additives
Easily dispersible pigments for water-based pigment dispersions in decorative paints

EDW PIGMENTS

WHAT EXACTLY IS EDW?
(Easily dispersible water)
EDW pigments are organic pigments used to manufacture aqueous dispersions to tint decorative paints. Their modified surfaces improve their dispersibility in the tinter which allows us to simplify the dispersion process. This results in cost efficient manufacture.

DISPERSIBILITY
The EDW pigments can easily be dispersed with a dissolver using a reduced amount of additives. They can also be dispersed by means of a bead mill in a shorter time. In both cases, EDW pigments offer cost savings thanks to simplified processes.

APPLICATIONS
Recommended fields of application of the EDW range are water-based pigment dispersions used for In-plant / Point-of-Sale tinting of decorative paints like aqueous emulsion paints. EDW pigment based dispersions can also be used for tinting most solvent based alkyd paints.

EXCELLENT COMPATIBILITY
The additives used to modify the surface of EDW pigments are widely compatible with most decorative paints. According to our current knowledge, the EDW additives are compatible with all commonly used dispersing agents without showing any adverse effects.

SUSTAINABILITY
EDW pigments can be used, for example, to produce tinters like Colanyl 500. They are highly suitable for manufacturing ecolabeled low VOC paints according to EU Directive 2004/42/EC (20129) as well as emulsion paints labeled with the German »Blue Angel« (Guideline RAL ZU 102).

Furthermore, by simplifying the dispersing step, EDW pigments improve the eco footprint of paint manufacture. The processing time is shorter, leading to increased production capacity while simultaneously saving on electrical energy and generating less waste water.

ENVIRONMENTAL BENEFITS
• lower energy consumption
• less cleaning effort
• less polluted wastewater
• reduced amount of additive
• ideal for production of low VOC paints
• shorter process time, high color brilliance

COST SAVING POTENTIAL

<table>
<thead>
<tr>
<th>CASH</th>
<th>-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPACITY</td>
<td>-85%</td>
</tr>
<tr>
<td>SUSTAINABILITY</td>
<td>-90%</td>
</tr>
</tbody>
</table>

CLARIANT ED PIGMENTS | EDW
**Water-based Decorative Applications**

- Emulsion paints
- Renderings/plasters
- Alkyd paints

**Water-based Pigment Dispersion**

**Optimum tinting strength** is achieved in a relatively short time compared to the respective conventional pigments.

**Bead Mill Dispersion Hostaperm® Scarlet Go**

<table>
<thead>
<tr>
<th>Color Strength %</th>
<th>75%</th>
<th>80%</th>
<th>83%</th>
<th>90%</th>
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</thead>
<tbody>
<tr>
<td>Time</td>
<td>10 min</td>
<td>20 min</td>
<td>30 min</td>
<td>60 min</td>
</tr>
</tbody>
</table>

**Edw Water-based Pigment Dispersion Hostaperm® Scarlet Go-Edw**

<table>
<thead>
<tr>
<th>Color Strength %</th>
<th>90%</th>
<th>95%</th>
<th>98%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>10 min</td>
<td>20 min</td>
<td>30 min</td>
<td>60 min</td>
</tr>
</tbody>
</table>

Optimum tinting strength is achieved in a relatively short time compared to the respective conventional pigments.
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Edition: March 2013

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WWW.PIGMENTS.CLARIANT.COM

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MARKETING AND SALES COATINGS

65926 Frankfurt am Main
Germany
Phone: +49 69 305 7029
Fax: +49 69 305 80882

ED PIGMENTS – EFFICIENT PRODUCTS FOR ALL YOUR NEEDS

For Industrial Paints: EDS
For Decorative Paints: EDW

Solvent-based
Water-based
Hostaperm Pink E 02-EDW VP 4034 is an easily dispersible pigment designed for water based pigment dispersions which are used in decorative paints. The pigment is surface modified with a highly efficient and widely compatible additive. Optimum tinting strength can be achieved in relatively short time using a dissolver and suitable dispersing agents. The simplified dispersion process that does not include a bead mill results in a cost efficient manufacturing of pigment dispersions.

Furthermore dispersions made with Hostaperm Pink E 02-EDW VP 4034 can be used to tint the new generation of low VOC decorative paints.

### Fastness to Light

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>TT</th>
<th>7-8</th>
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<tbody>
<tr>
<td>SD 1/25</td>
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<td>7-8</td>
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### Fastness to Weathering

<table>
<thead>
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<th>Emulsion Paint</th>
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<th>4d</th>
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</thead>
<tbody>
<tr>
<td>TT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD 1/25</td>
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<td>4-5</td>
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### Fastness to Alkalis

<table>
<thead>
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<tbody>
<tr>
<td>Water based pigment dispersions²</td>
<td></td>
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</tbody>
</table>

### Physical Properties

<table>
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<th>Property</th>
<th>Value</th>
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<tbody>
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<td>Specific surface</td>
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<tr>
<td>Average size of primary particles</td>
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<tr>
<td>pH value</td>
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<tr>
<td>Conductivity</td>
<td>0.07 mS/cm</td>
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<tr>
<td>Form of supply</td>
<td>Powder</td>
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</table>

² Water based pigment dispersions

³ Low VOC

⁴ For reference purposes only.
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**Reflectance Curve**

<table>
<thead>
<tr>
<th>λ [nm]</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>R [%]</td>
<td>0</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

- 1/25 ST
- 1/3 ST
- VT

---

d Darkening
1 Emulsion paint ST 1/25
2 Depending on the formulation of the dispersion and the paint the product can be used for in-plant / Point-of-Sales tinting of aqueous emulsion paints and solvent based alkyd paints in architectural coating.
3 As defined in EU directive 2004/42/EC, annex II, phase II. VOC standards and regulations vary by location. Product specific VOC information is available to customers upon request. It is the responsibility of the coatings manufacturer to determine standard compliance and appropriate claim for their products.

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Hostaperm Pink E-EDW VP 3907 is an easily dispersible pigment designed for water based pigment dispersions which are used in decorative paints. The pigment is surface modified with a highly efficient and widely compatible additive. Optimum tinting strength can be achieved in relatively short time using a dissolver and suitable dispersing agents. The simplified dispersion process that does not include a bead mill results in a cost efficient manufacturing of pigment dispersions.

Furthermore dispersions made with Hostaperm Pink E-EDW VP 3907 can be used to tint the new generation of low VOC decorative paints.

### Fastness to Light

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>TT</th>
<th>SD 1/25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7-8</td>
<td>7-8</td>
</tr>
</tbody>
</table>

### Fastness to Weathering

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>12 M</th>
<th>TT</th>
<th>SD 1/25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4d</td>
<td>4-5</td>
</tr>
</tbody>
</table>

### Fastness to Alkalies

4-5

### Recommended Fields of Application

Water based pigment dispersions

### Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>1.43 g/cm³</td>
</tr>
<tr>
<td>Specific surface</td>
<td>54 m²/g</td>
</tr>
<tr>
<td>Average size of primary particles</td>
<td>55 nm</td>
</tr>
<tr>
<td>pH value</td>
<td>6.8</td>
</tr>
<tr>
<td>Conductivity</td>
<td>0.10 mS/cm</td>
</tr>
<tr>
<td>Form of supply</td>
<td>Powder</td>
</tr>
</tbody>
</table>

Chemical Group: **Quinacridone**

Colour Index: **Pigment Red 122**

Colour Index No.: **73915**
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Hostaperm Red D3G 70-EDW VP 3931 is an easily dispersible pigment designed for water based pigment dispersions which are used in decorative paints. The pigment is surface modified with a highly efficient and widely compatible additive. Optimum tinting strength can be achieved in relatively short time using a dissolver and suitable dispersing agents. The simplified dispersion process that does not include a bead mill results in a cost efficient manufacturing of pigment dispersions.

Furthermore dispersions made with Hostaperm Red D3G 70-EDW VP 3931 can be used to tint the new generation of low VOC decorative paints.

**FASTNESS TO LIGHT**

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>TT</th>
<th>SD 1/25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

**FASTNESS TO WEATHERING**

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>TT</th>
<th>SD 1/25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-5</td>
<td>4</td>
</tr>
</tbody>
</table>

**FASTNESS TO ALKALIS**

4-5

**RECOMMENDED FIELDS OF APPLICATION**

Water based pigment dispersions² +

**PHYSICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>1.61 g/cm³</td>
</tr>
<tr>
<td>Specific surface</td>
<td>21.6 m²/g</td>
</tr>
<tr>
<td>Average size of primary particles</td>
<td>132 nm</td>
</tr>
<tr>
<td>pH value</td>
<td>6</td>
</tr>
<tr>
<td>Conductivity</td>
<td>0.03 mS/cm</td>
</tr>
<tr>
<td>Form of supply</td>
<td>Powder</td>
</tr>
</tbody>
</table>
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**RELECTANCE CURVE**

<table>
<thead>
<tr>
<th>$\lambda$ [nm]</th>
<th>R [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>0</td>
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<tr>
<td>500</td>
<td>10</td>
</tr>
<tr>
<td>600</td>
<td>20</td>
</tr>
<tr>
<td>700</td>
<td>30</td>
</tr>
</tbody>
</table>

Legend:
- $\frac{1}{25}$ ST
- $\frac{1}{3}$ ST
- VT

1. Emulsion paint ST $\frac{1}{25}$
2. Depending on the formulation of the dispersion and the paint the product can be used for in-plant / Point-of-Sales tinting of aqueous emulsion paints and solvent based alkyd paints in architectural coating.
3. As defined in EU directive 2004/42/EC, annex II, phase II. VOC standards and regulations vary by location. Product specific VOC information is available to customers upon request. It is the responsibility of the coatings manufacturer to determine standard compliance and appropriate claim for their products.

---

d. Darkening
+ Suitable

---

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Hostaperm Scarlet GO-EDW VP 3894 is an easily dispersible pigment designed for water based pigment dispersions which are used in decorative paints. The pigment is surface modified with a highly efficient and widely compatible additive. Optimum tinting strength can be achieved in relatively short time using a dissolver and suitable dispersing agents. The simplified dispersion process that does not include a bead mill results in a cost efficient manufacturing of pigment dispersions.

Furthermore dispersions made with Hostaperm Scarlet GO-EDW VP 3894 can be used to tint the new generation of low VOC decorative paints.

### Fastness to Light

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>TT</th>
<th>SD 1/25</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>SD 1/25</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

### Fastness to Weathering

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>TT</th>
<th>SD 1/25</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

### Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>1.90 g/cm³</td>
</tr>
<tr>
<td>Specific surface</td>
<td>33.3 m²/g</td>
</tr>
<tr>
<td>Average size of primary particles</td>
<td>-</td>
</tr>
<tr>
<td>pH value</td>
<td>4</td>
</tr>
<tr>
<td>Conductivity</td>
<td>0.09 mS/cm</td>
</tr>
<tr>
<td>Form of supply</td>
<td>Powder</td>
</tr>
</tbody>
</table>

### Recommended Fields of Application

- Water based pigment dispersions
- Water based pigment dispersions

---

**Chemical Group:** Dibromanthan-throne  
**Colour Index:** Pigment Red 168  
**Colour Index No.:** 59300
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---

d Darkening
+ Suitable
1 Emulsion paint ST 1/25
2 Depending on the formulation of the dispersion and the paint the product can be used for in-plant / Point-of-Sales tinting of aqueous emulsion paints and solvent based alkyd paints in architectural coating.
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Novoperm Orange HL 70-EDW VP 3965 is an easily dispersible pigment designed for water based pigment dispersions which are used in decorative paints. The pigment is surface modified with a highly efficient and widely compatible additive. Optimum tinting strength can be achieved in relatively short time using a dissolver and suitable dispersing agents. The simplified dispersion process that does not include a bead mill results in a cost efficient manufacturing of pigment dispersions.

Furthermore the dispersion made with Novoperm Orange HL 70-EDW VP 3965 can be used to tint the new generation of low VOC decorative paints.

**FASTNESS TO LIGHT**

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>TT</th>
<th>SD 1/25</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT</td>
<td>8</td>
<td>7-8</td>
</tr>
</tbody>
</table>

**FASTNESS TO WEATHERING**

<table>
<thead>
<tr>
<th>Emulsion Paint</th>
<th>12 M</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT</td>
<td>4-5</td>
</tr>
<tr>
<td>SD 1/25</td>
<td>4</td>
</tr>
</tbody>
</table>

**FASTNESS TO ALKALIS**

4-5 

**PHYSICAL PROPERTIES**

- Density: 1.63 g/cm$^3$
- Specific surface: 16.5 m$^2$/g
- Average size of primary particles: 0.35 µm
- pH value: 6.9
- Conductivity: 0.09 mS/cm
- Form of supply: Powder

**RECOMMENDED FIELDS OF APPLICATION**

- Water based pigment dispersions

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Chemical Group: Monoazo
Colour Index: Pigment Orange 36
Colour Index No.: 11780
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** REFLECTANCE CURVE **

- 1/25 ST
- 1/3 ST
- VT

<table>
<thead>
<tr>
<th>λ [nm]</th>
<th>R [%]</th>
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<tbody>
<tr>
<td>400</td>
<td>0</td>
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<td>700</td>
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