

# Plastic<sup>®</sup>

20



# NOVIS

SPECIALISTS  
IN INDUSTRIAL COLORATION

- 4 Novisfast P
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#### Legend

- + = suitable
- +/- = partial suitability
- = unsuitable

#### Responsibility

All our indications, even if based upon our best knowledges and experiences, are only meant for indicative purposes. Therefore they are not connected to any responsibility or guarantee on the part of Novis S.r.l., not even for issues related to possible patent's violations.

Our proposal to masterbatch, compound and film in PS, ABS, PMMA, PC, PA, PET and HDPE, LDPE, PP, PVC producers is formed by our **Plast** range - solvent dyes - and **Novisfast P** range - high performance pigments - selected for thermoplastic materials.

To select all these performing products we gave priority to the technical performance typical of this application: temperature, transparency, warping and all our studies done in our laboratory in order to select alternatives to the market leader products.

# Novisfast P

## ORGANIC PIGMENTS FOR PLASTICS

**Novisfast P** organic pigments for plastics application have been carefully selected for their excellent properties of dispersibility, colour strength development, light fastness and heat resistance.

**Novisfast P** product portfolio includes classical organic pigment, but also organic pigments with excellent light fastness and/or heat resistance. These pigments are outlined as '**HPP**' (High Performance Pigments).

**Novisfast P** product range includes pigments recommended for colouration of plastics. However, the list is not all inclusive, other grades could be available to better fit your requirements.

| HIGH PERFORMANCE PIGMENTS | NOVISFAST P                               | COMMENTS                                                                | LIGHT FASTNESS (FULL SHADE) | SUITABILITY AND HEAT RESISTANCE (°C) IN POLYMERS |     |     |     |     |     |     |     |
|---------------------------|-------------------------------------------|-------------------------------------------------------------------------|-----------------------------|--------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
|                           |                                           |                                                                         |                             | PE                                               | PP  | PVC | PS  | ABS | PC  | PA6 | PET |
|                           | <b>Yellow GR</b><br>Pigment Yellow 13     | High colour strength<br>Not suitable for T>200°C                        | 6-7                         | 200                                              | -   | +   | -   | -   | -   | -   | -   |
|                           | <b>Yellow 2GN</b><br>Pigment Yellow 14    | High colour strength<br>Not suitable for T>200°C                        | 5                           | 200                                              | -   | +   | -   | -   | -   | -   | -   |
|                           | <b>Yellow GG</b><br>Pigment Yellow 17     | High colour strength<br>Not suitable for T>200°C                        | 7                           | 200                                              | -   | +   | -   | -   | -   | -   | -   |
|                           | <b>Yellow SL</b><br>Pigment Yellow 62     | Economical<br>Good light fastness                                       | 7                           | 260                                              | +   | +   | 240 | 240 | -   | -   | -   |
|                           | <b>Yellow 10 GH</b><br>Pigment Yellow 81  | Bright green shade<br>Not suitable for T>200°C                          | 7                           | 200                                              | -   | +   | -   | -   | -   | -   | -   |
|                           | <b>Yellow HR</b><br>Pigment Yellow 83     | Greenish<br>Not suitable for T>200°C                                    | 7                           | 200                                              | -   | +   | -   | -   | -   | -   | -   |
|                           | <b>Yellow HR 01</b><br>Pigment Yellow 83  | Reddish<br>Not suitable for T>200°C                                     | 7                           | 200                                              | -   | +   | -   | -   | -   | -   | -   |
|                           | <b>Yellow HR 02</b><br>Pigment Yellow 83  | Reddish<br>Not suitable for T>200°C<br>Suitable for EVA                 | 7                           | 200                                              | -   | +   | -   | -   | -   | -   | -   |
| <b>HPP</b>                | <b>Yellow 3GN</b><br>Pigment Yellow 93    | High color strenght,<br>Excellent light fastness                        | 8                           | 280                                              | 280 | +   | +   | +/- | -   | -   | -   |
| <b>HPP</b>                | <b>Yellow GPR 01</b><br>Pigment Yellow 95 | High color strength,<br>Excellent light fastness                        | 8                           | 280                                              | 280 | +   | +   | +/- | -   | -   | -   |
| <b>HPP</b>                | <b>Yellow 2GLT</b><br>Pigment Yellow 109  | Excellent fastness                                                      | 7-8                         | 300                                              | +   | +   | +/- | +/- | +/- | +/- | +/- |
| <b>HPP</b>                | <b>Yellow 2TN</b><br>Pigment Yellow 110   | Green shade<br>Transparent - Excellent weather fastness                 | 8                           | 300                                              | 300 | +   | 280 | 270 | -   | -   | -   |
| <b>HPP</b>                | <b>Yellow 3TN</b><br>Pigment Yellow 110   | Red shade - Opaque<br>Excellent weather fastness                        | 8                           | 300                                              | 300 | +   | 280 | 270 | -   | -   | -   |
| <b>HPP</b>                | <b>Yellow 8GN</b><br>Pigment Yellow 128   | Green shade - Transparent<br>- Excellent weather fastness - Low warping | 8                           | 260                                              | +   | +   | +/- | +/- | -   | -   | -   |
| <b>HPP</b>                | <b>Yellow LBECB</b><br>Pigment Yellow 138 | Excellent light fastness<br>Alkali sensitive                            | 8                           | 270                                              | +   | +   | +   | +/- | +   | -   | -   |

| HIGH<br>PERFORMANCE<br>PIGMENTS | NOVISFAST P                                | COMMENTS                                                       | LIGHT<br>FASTNESS<br>(FULL SHADE) | SUITABILITY AND HEAT RESISTANCE (°C)<br>IN POLYMERS |     |     |     |     |     |     |     |
|---------------------------------|--------------------------------------------|----------------------------------------------------------------|-----------------------------------|-----------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
|                                 |                                            |                                                                |                                   | PE                                                  | PP  | PVC | PS  | ABS | PC  | PA6 | PET |
| HPP                             | <b>Yellow 2R</b><br>Pigment Yellow 139     | Good light fastness<br>Alkali sensitive                        | 7                                 | 240                                                 | 260 | +   | -   | -   | -   | -   | -   |
| HPP                             | <b>Yellow AGR</b><br>Pigment Yellow 147    | Engineering polymers<br>soluble<br>Suitable for fibres         | 8                                 | -                                                   | -   | -   | +/- | +/- | 300 | -   | 300 |
| HPP                             | <b>Yellow 5GN</b><br>Pigment Yellow 150    | Outstanding fastness<br>Suitable for PA                        | 8                                 | 300                                                 | 300 | +   | 300 | +/- | 300 | 280 | 300 |
| HPP                             | <b>Yellow 5GN 01</b><br>Pigment Yellow 150 | Outstanding fastness<br>Good dispersibility<br>Suitable for PA | 8                                 | 300                                                 | 300 | +   | 300 | +/- | 300 | 280 | 300 |
| HPP                             | <b>Yellow 4GH 01</b><br>Pigment Yellow 151 | High light fastness<br>Good heat resistance                    | 7                                 | 260                                                 | +/- | +   | -   | -   | -   | -   | -   |
| HPP                             | <b>Yellow 3GP</b><br>Pigment Yellow 155    | Good fastness<br>properties                                    | 7-8                               | 260                                                 | 250 | +   | 260 | -   | -   | -   | -   |
|                                 | <b>Yellow GP 01</b><br>Pigment Yellow 168  | Economical<br>Low warping                                      | 7-8                               | 260                                                 | +   | +   | 240 | 240 | -   | -   | -   |
| HPP                             | <b>Yellow GH 02</b><br>Pigment Yellow 180  | Excellent fastness                                             | 6-7                               | 290                                                 | 290 | +   | 300 | 290 | 300 | -   | -   |
| HPP                             | <b>Yellow 3RH</b><br>Pigment Yellow 181    | Good weather fastness                                          | 8                                 | 300                                                 | 300 | +   | 300 | 280 | -   | -   | -   |
| HPP                             | <b>Yellow FK</b><br>Pigment Yellow 183     | Greenish<br>Good fastness                                      | 8                                 | 280                                                 | +   | +   | +   | +   | +/- | -   | +/- |
| HPP                             | <b>Yellow FK 01</b><br>Pigment Yellow 183  | Economical<br>Reddish<br>Good fastness                         | 8                                 | 300                                                 | +   | +   | +   | +   | +/- | -   | +/- |
| HPP                             | <b>Yellow PRH</b><br>Pigment Yellow 191:1  | Good fastness                                                  | 7                                 | 300                                                 | +   | +   | 300 | 300 | 280 | 280 | +/- |
|                                 | <b>Orange G</b><br>Pigment Orange 13       | Bright orange<br>Not suitable for<br>T>200°C                   | 5                                 | +/-                                                 | +/- | +   | -   | -   | -   | -   | -   |
|                                 | <b>Orange RL</b><br>Pigment Orange 34      | Bright orange<br>Not suitable for<br>T>200°C                   | 6-7                               | +/-                                                 | +/- | +   | -   | -   | -   | -   | -   |
| HPP                             | <b>Orange GL 02</b><br>Pigment Orange 43   | Excellent weather<br>fastness                                  | 8                                 | 280                                                 | 260 | +   | 300 | 290 | 290 | -   | -   |
| HPP                             | <b>Orange GPN</b><br>Pigment Orange 64     | Excellent fastness                                             | 7-8                               | 300                                                 | 300 | +   | 300 | 270 | 300 | -   | -   |
| HPP                             | <b>Orange RHF</b><br>Pigment Orange 73     | High light fastness                                            | 7                                 | 300                                                 | 300 | +   | -   | -   | -   | -   | -   |
|                                 | <b>Red BBC</b><br>Pigment Red 48:2         | Economical bluish red<br>Universal grade                       | 6-7                               | 240                                                 | 240 | +   | 240 | -   | -   | -   | -   |
|                                 | <b>Red BBP</b><br>Pigment Red 48:2         | Economical bluish red<br>Plastic grade                         | 6-7                               | 240                                                 | 240 | +   | 240 | -   | -   | -   | -   |

| HIGH PERFORMANCE PIGMENTS | NOVISFAST P                            | COMMENTS                                              | LIGHT FASTNESS (FULL SHADE) | SUITABILITY AND HEAT RESISTANCE (°C) IN POLYMERS |     |     |     |     |     |     |     |
|---------------------------|----------------------------------------|-------------------------------------------------------|-----------------------------|--------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
|                           |                                        |                                                       |                             | PE                                               | PP  | PVC | PS  | ABS | PC  | PA6 | PET |
|                           | <b>Red BBCF</b><br>Pigment Red 48:2    | High colour strength<br>Good dispersibility           | 6-7                         | 240                                              | 240 | +   | 240 | -   | -   | -   | -   |
|                           | <b>Red BBS</b><br>Pigment Red 48:3     | Economical red<br>Excellent dispersibility            | 6                           | 240                                              | 240 | +   | 250 | +/- | -   | -   | -   |
|                           | <b>Red Lake C</b><br>Pigment Red 53:1  | Economical yellow shade red<br>High heat stability    | 3                           | 270                                              | 270 | +   | 280 | 260 | +   | -   | -   |
|                           | <b>Red Lake CP</b><br>Pigment Red 53:1 | High heat stability<br>Good colour strength           | 3                           | 270                                              | 270 | +   | 280 | 260 | +   | -   | -   |
|                           | <b>Rubine 4B</b><br>Pigment Red 57:1   | Economical bluish red<br>Excellent dispersibility     | 3                           | 270                                              | 270 | +   | 280 | 260 | +   | -   | -   |
| <b>HPP</b>                | <b>Red FBR</b><br>Pigment Red 122      | Excellent weather fastness                            | 8                           | 300                                              | 300 | +   | 300 | 300 | 300 | +/- | +/- |
| <b>HPP</b>                | <b>Red FBR-S</b><br>Pigment Red 122    | Excellent weather fastness                            | 8                           | 300                                              | 300 | +   | 300 | 300 | 300 | +/- | +/- |
| <b>HPP</b>                | <b>Red 3BF</b><br>Pigment Red 144      | Excellent light fastness<br>Good dispersibility       | 7-8                         | 300                                              | 300 | +   | 300 | 300 | 300 | -   | +/- |
| <b>HPP</b>                | <b>Red BG</b><br>Pigment Red 149       | Excellent fastness<br>Suitable for PA                 | 8                           | 280                                              | 280 | +   | 300 | 280 | 290 | +   | +   |
| <b>HPP</b>                | <b>Red LB 02</b><br>Pigment Red 166    | High light fastness<br>Good heat resistance           | 7-8                         | 300                                              | 300 | +   | 280 | 260 | -   | -   | -   |
|                           | <b>Red F5RK</b><br>Pigment Red 170     | Bright bluish red<br>Transparent                      | 8                           | 250                                              | 250 | +   | -   | -   | -   | -   | -   |
|                           | <b>Red F3RKC</b><br>Pigment Red 170    | Bright mid-shade red<br>High light fastness<br>Opaque | 8                           | 270                                              | 260 | +   | -   | -   | -   | -   | -   |
| <b>HPP</b>                | <b>Red F3C</b><br>Pigment Red 176      | Good light fastness<br>Transparent                    | 7                           | 270                                              | 270 | +   | 300 | -   | 300 | -   | -   |
| <b>HPP</b>                | <b>Red A3B</b><br>Pigment Red 177      | Good fastness<br>Low warping                          | 7-8                         | 260                                              | 260 | +   | 260 | 240 | 320 | 250 | 290 |
| <b>HPP</b>                | <b>Red PB</b><br>Pigment Red 179       | High weather fastness                                 | 8                           | 300                                              | 300 | +   | +/- | +/+ | +/- | +/- | +   |
| <b>HPP</b>                | <b>Red 4FH</b><br>Pigment Red 185      | Low PVC migration                                     | 6                           | 250                                              | 250 | +   | 270 | -   | -   | -   | -   |
| <b>HPP</b>                | <b>Red MRF</b><br>Pigment Red 202      | High heat resistance<br>Good weather fastness         | 8                           | 300                                              | 300 | +   | 300 | 280 | -   | 280 | 290 |
| <b>HPP</b>                | <b>Red MRF 02</b><br>Pigment Red 202   | High heat resistance<br>Good weather fastness         | 8                           | 300                                              | 300 | +   | 300 | 280 | -   | 280 | 290 |
| <b>HPP</b>                | <b>Red EHF</b><br>Pigment Red 254      | Excellent fastness                                    | 8                           | 300                                              | 300 | +   | 300 | 260 | -   | -   | 240 |

[illegible]

# Plast

## PLAST SOLVENT DYES FOR PLASTICS

**Plast** dyes are soluble dyes exhibiting high heat resistance, good light and weather fastness, high color strength and excellent brilliance. PLAST dyes dissolve in plastics melt at processing temperature and gives bright transparent coloration.

**Plast** dyes are recommended for coloration of engineering compounds such as PS, ABS, PMMA, PC, PPO, PET, PA, cellulose esthers, rigid PVC. They are not suitable for coloration of crystalline polymers (HDPE, LDPE, PP) or thermoplastics containing plasticizers (flexible PVC, flexible cellulose esthers).

**Plast** dyes portfolio includes dyes recommended for colouration of thermoplastics. However, the list is not all inclusive, other grades could be available to better fit your requirements.

| PLAST                                   | COMMENTS                                              | LIGHT FASTNESS | SOLUBILITY AND HEAT RESISTANCE (°C) IN POLYMERS |     |      |     |     |     |
|-----------------------------------------|-------------------------------------------------------|----------------|-------------------------------------------------|-----|------|-----|-----|-----|
|                                         |                                                       |                | PS                                              | ABS | PMMA | PC  | PET | PA6 |
| <b>Yellow 6G</b><br>Solvent Yellow 179  | Excellent light fastness<br>Good heat resistance      | 8              | 300                                             | 260 | 300  | 350 | 290 | -   |
| <b>Yellow FWG</b><br>Solvent Yellow 141 | Good light fastness                                   | 7              | 280                                             | +   | -    | +   | -   | -   |
| <b>Yellow 3G</b><br>Solvent Yellow 93   | Excellent light fastness<br>Good heat resistance      | 7-8            | 300                                             | +/- | 300  | 330 | 280 | -   |
| <b>Yellow G</b><br>Solvent Yellow 114   | High colour strength<br>Excellent light fastness      | 7-8            | 300                                             | 300 | 300  | 330 | 300 | -   |
| <b>Yellow R</b><br>Solvent Yellow 163   | Excellent fastness<br>Suitable for PES fibre          | 7-8            | 300                                             | 300 | 300  | 360 | 300 | -   |
| <b>Orange 3G</b><br>Solvent Orange 60   | Good light fastness<br>Excellent heat resistance      | 8              | 300                                             | 300 | 300  | 340 | 300 | 300 |
| <b>Orange 2R</b><br>Solvent Orange 105  | Moderate fastness                                     | 5-6            | 240                                             | -   | -    | -   | -   | -   |
| <b>Orange R</b><br>Disperse Orange 47   | Good light fastness<br>Good heat resistance           | 7              | 300                                             | 280 | 280  | 320 | 290 | -   |
| <b>Red OP</b><br>Solvent Red 23         | Moderate fastness                                     | 4-5            | 240                                             | -   | -    | -   | -   | -   |
| <b>Red G</b><br>Solvent Red 111         | Good light fastness<br>Good heat resistance           | 7              | 300                                             | 280 | 300  | 350 | 300 | 280 |
| <b>Red EG</b><br>Solvent Red 135        | Excellent light fastness<br>Excellent heat resistance | 8              | 300                                             | 300 | 300  | 340 | 300 | 260 |
| <b>Red E2G</b><br>Solvent Red 179       | Excellent heat resistance<br>Suitable for PA          | 7-8            | 300                                             | 300 | 300  | 340 | 300 | 300 |
| <b>Red BB</b><br>Solvent Red 195        | High colour strength<br>Good light fastness           | 7-8            | 300                                             | 260 | 260  | 300 | 300 | -   |

| PLAST                                            | COMMENTS                                              | LIGHT<br>FASTNESS | SOLUBILITY AND HEAT RESISTANCE (°C)<br>IN POLYMERS |     |      |     |     |     |
|--------------------------------------------------|-------------------------------------------------------|-------------------|----------------------------------------------------|-----|------|-----|-----|-----|
|                                                  |                                                       |                   | PS                                                 | ABS | PMMA | PC  | PET | PA6 |
| <b>Red H</b><br>-                                | High colour strength<br>Good light fastness           | 7-8               | 280                                                | -   | 260  | 290 | -   | -   |
| <b>Red 5B</b><br>Solvent Red 52                  | Good light fastness<br>Suitable for PA                | 7                 | 280                                                | 280 | 300  | 350 | 290 | 300 |
| <b>Violet 3R</b><br>Solvent Violet 36            | Excellent light fastness<br>Good heat resistance      | 7                 | 300                                                | 280 | 300  | 350 | 290 | 280 |
| <b>Violet Red R</b><br>Solvent Violet 59         | High colour strength<br>Good light fastness           | 7-8               | 300                                                | 280 | -    | 320 | 280 | -   |
| <b>Violet B</b><br>Solvent Violet 13             | High colour strength<br>Good light fastness           | 7-8               | 300                                                | 280 | 300  | 350 | 300 | -   |
| <b>Blue OR</b><br>Solvent Blue 35                | Moderate fastness                                     | 6                 | 280                                                | 260 | 300  | 300 | -   | -   |
| <b>Blue AP</b><br>Solvent Blue 36                | Moderate fastness                                     | 6-7               | 260                                                | 260 | -    | -   | -   | -   |
| <b>Blue RR</b><br>Solvent Blue 97                | Excellent light fastness<br>Excellent heat resistance | 8                 | 300                                                | 280 | 300  | 340 | 290 | 300 |
| <b>Blue FR</b><br>Solvent Blue 104               | Good light fastness<br>Excellent heat resistance      | 7-8               | 300                                                | 300 | 300  | 340 | 320 | +/- |
| <b>Blue 3R</b><br>-                              | Excellent light fastness<br>Excellent heat resistance | 8                 | 300                                                | 280 | 300  | 340 | 290 | 280 |
| <b>Blue AFR</b><br>Solvent Blue 122              | Good light fastness<br>Excellent heat resistance      | 7                 | 300                                                | 300 | +    | 300 | 290 | -   |
| <b>Green 5B</b><br>Solvent Green 3               | Good light fastness<br>Good heat stability            | 7                 | 300                                                | 280 | 300  | 350 | 290 | 280 |
| <b>Green G</b><br>Solvent Green 28               | Excellent light fastness<br>Good heat resistance      | 8                 | 300                                                | 280 | 300  | 350 | 290 | -   |
| <b>Fluor. Yellow 10G</b><br>Solvent Yellow 160:1 | Moderate light fastness<br>Good heat resistance       | 6                 | 300                                                | 260 | 300  | 350 | 280 | 240 |
| <b>Fluor. Yellow 8G</b><br>Solvent Green 5       | Good heat resistance                                  | 7                 | 280                                                | +/- | 300  | 310 | +/- | -   |
| <b>Fluor. Yellow 3G</b><br>Solvent Yellow 98     | Good light fastness<br>Excellent heat resistance      | 7                 | 300                                                | 300 | +    | 340 | 300 | 300 |
| <b>Fluor. Orange GG</b><br>Solvent Orange 63     | Good light fastness<br>excellent heat resistance      | 7                 | 300                                                | 300 | +    | 320 | 300 | 280 |
| <b>Fluor. Red 5B</b><br>Vat Red 41               | Moderate light fastness<br>Good heat resistance       | 4                 | 300                                                | 250 | +    | 320 | +/- | -   |
|                                                  |                                                       |                   |                                                    |     |      |     |     |     |

# Novisbright

METAL-COMPLEX SOLVENT DYES

**Novisbright** dyes are metal-complex solvent dyes carefully selected for their properties of excellent brightness and solubility.

**Novisbright** dyes exhibit generally a good solubility in the most common organic solvents joined to a good light fastness.

**Novisbright** dyes are suitable for coloring flexographic printing inks, writing inks, wood stains, solvent-based paints, leather finishing products, and other systems based on polar solvents.

| NOVISBRIGHT   | C.I.               | LIGHT FASTNESS<br>(FULL SHADE) | SOLUBILITY (G/L) |                  |                        |     |
|---------------|--------------------|--------------------------------|------------------|------------------|------------------------|-----|
|               |                    |                                | Ethyl<br>Alcohol | Ethyl<br>Acetate | Methyl-Ethyl<br>Ketone | PM  |
| Yellow 5G     | Solvent Yellow 79  | 7-8                            | 190              | 500              | 500                    | 240 |
| Yellow 4G     | Solvent Yellow 146 | 4                              | 700              | < 50             | < 50                   | -   |
| Yellow 3G     | Solvent Yellow 21  | 6-7                            | 280              | 480              | 500                    | 220 |
| Yellow G      | Solvent Yellow 82  | 6-7                            | 260              | 460              | 500                    | 300 |
| Orange G      | Solvent Orange 54  | 6-7                            | 230              | 500              | 500                    | 180 |
| Orange R      | Solvent Orange 62  | 6-7                            | 230              | 150              | 500                    | 190 |
| Red 4G        | Solvent Red 122    | 6-7                            | 220              | 400              | 500                    | 250 |
| Red 2G        | Solvent Red 122    | 6-7                            | 140              | 320              | 500                    | 240 |
| Fire Red 3GLS | Solvent Red 124    | 4-5                            | 10               | 20               | 300                    | 340 |
| Fire Red G    | Solvent Red 89     | 6-7                            | <50              | <50              | 300                    | 350 |
| Fire Red F    | Solvent Red 119    | 3                              | 10               | 10               | 500                    | 300 |
| Red BB        | Solvent Red 8      | 6-7                            | 180              | 300              | 500                    | 330 |
| Pink 5B       | Solvent Red 127    | 2                              | 150              | <10              | <10                    | 50  |
| Pink 7B       | Solvent Red 218    | 4                              | 180              | <10              | 200                    | 30  |
| Blue 2G       | Solvent Blue 70    | 5-6                            | 90               | 15               | 450                    | 210 |
| Blue B        | Solvent Blue 136   | 6-7                            | 500              | < 50             | 250                    | -   |
| Blue 2R       | Solvent Blue 45    | 2                              | <10              | <10              | 200                    | 50  |
| Black GRX     | Solvent Black 27   | 6-7                            | 20               | 40               | 400                    | 300 |
|               |                    |                                |                  |                  |                        |     |





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