

Technical Information

PM 5 Paint Marker Ink

● General Information

Our paint marker inks can be used in a wide range of applications both indoors and outside. Perfect for arts and crafts applications such as posters, greeting cards and signs, they are also ideal for industrial environments e.g. factories, construction sites, the logging industry and in schools, at home or in the garden.

PM5 will mark virtually any surface resulting in a high-impact, durable, rub-resistant permanent mark. It dries to form a glossy, opaque and intense mark offering considerable advantage over regular permanent inks. The end result is similar in effect to using brush and paint but delivered in a convenient, easy-to-use marker system.*

- Weather-resistant
- Alcohol-based
- Lightfast
- Water-resistant
- Opaque marking
- Xylene, benzene and toluene free

**Paint marker inks are designed for use in valve-action markers with high porosity nibs for optimum flow.*

● Available Colours

| Standard | |
|----------|----------|
| ● Black | ● Green |
| ○ White | ● Violet |
| ● Blue | ● Pink |
| ● Red | ● Gold |
| ● Yellow | ● Silver |

● Typical Physical Properties

| Ink | Drying Time (23°C 50% RH) (secs) | Viscosity (20°C) (cP) | Density (20°C) (g.cm ⁻³) | Surface Tension (mNm/m) | pH |
|---------------|--|--------------------------|---|----------------------------|------|
| ● PM 5 Black | 20 | 14.96 | 0.96 | 26 | 7.13 |
| ○ PM 5 White | 40 | 26.91 | 1.11 | 26 | 6.98 |
| ● Blue | 20 | 26.00 | 1.10 | 26 | 6.73 |
| ● Red | 20 | 26.01 | 1.10 | 26 | 7.09 |
| ● Yellow | 30 | 13.80 | 1.10 | 26 | 7.32 |
| ● Green | 20 | 29.79 | 1.10 | 26 | 7.11 |
| ● Violet | 20 | 27.23 | 1.10 | 26 | 6.99 |
| ● Pink | 20 | 29.79 | 1.10 | 26 | 7.64 |
| ● PM 5 Gold | 35 | 12.18 | 1.10 | 26 | 7.74 |
| ● PM 5 Silver | 25 | 19.10 | 0.98 | 26 | 6.32 |

cP = centipoise

g.cm⁻³ = grams per cubic centimetre

mNm/m = milli Newton metre per metre

● Light Fastness and Colour Intensity

| Ink | Colour Intensity | Light Fastness (8 hours exposure to mercury vapour light source) |
|---------------|------------------|---|
| ● PM 5 Black | 5 | 4 |
| ○ PM 5 White | 5 | 4 |
| ● Blue | 5 | 4 |
| ● Red | 5 | 4 |
| ● Yellow | 5 | 4 |
| ● Green | 5 | 4 |
| ● Violet | 5 | 4 |
| ● Pink | 5 | 4 |
| ● PM 5 Gold | 5 | 4 |
| ● PM 5 Silver | 5 | 4 |

5 = Excellent

4 = Very good

3 = Good

2 = Poor

1 = Very Poor

0 = Failure

Test Method Summary – The colour intensity is assessed visually. The light fastness is assessed visually after exposure to a mercury vapour light source for 8 hours

● Rub Resistance

| Ink | Glass | Ceramic | Aluminium | Brass | Steel | Brick | Stone | Wood | Rubber | Polythene |
|---------------|-------|---------|-----------|-------|-------|-------|-------|------|--------|-----------|
| ● PM 5 Black | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ○ PM 5 White | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Blue | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Red | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Yellow | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Green | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Violet | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Pink | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● PM 5 Gold | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● PM 5 Silver | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |

5 = Excellent

4 = Very good

3 = Good

2 = Poor

1 = Very Poor

0 = Failure

Test Method Summary – a comparative test where the test surface is repeatedly rubbed with a dry fingertip

● **Tape Resistance**

| Ink | Glass | Ceramic | Aluminium | Brass | Steel | Brick | Stone | Wood | Rubber | Polythene |
|---------------|-------|---------|-----------|-------|-------|-------|-------|------|--------|-----------|
| ● PM 5 Black | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ○ PM 5 White | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Blue | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Red | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Yellow | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Green | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Violet | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Pink | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● PM 5 Gold | 5 | 5 | 0 | 3 | 3 | 5 | 5 | 5 | 5 | 5 |
| ● PM 5 Silver | 5 | 5 | 0 | 0 | 3 | 5 | 5 | 5 | 5 | 5 |

5 = Excellent

4 = Very good

3 = Good

2 = Poor

1 = Very Poor

0 = Failure

Test Method Summary – the tape is applied to the test surface and light pressure is applied with the finger to remove air bubbles. After a period of 10 minutes the tape is removed at an angle of 90°

● **Scratch Resistance**

| Ink | Glass | Ceramic | Aluminium | Brass | Steel | Brick | Stone | Wood | Rubber | Polythene |
|---------------|-------|---------|-----------|-------|-------|-------|-------|------|--------|-----------|
| ● PM 5 Black | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ○ PM 5 White | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Blue | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Red | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Yellow | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Green | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Violet | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● Pink | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● PM 5 Gold | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ● PM 5 Silver | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |

Test Method Summary – a comparative test where the test surface is repeatedly scratched with a finger nail after one hour drying time

● **Approvals**

| US | European |
|--|---|
| ASTM D-4236 | EN71-9:2005 |
| 16 CFR 1500.3 (max reservoir capacity is 12ml) | EN71-3:1994 |
| TSCA | TRA |
| Proposition 65 | Annex XVII EU Regulation 1907/2006 (Phthalates) |
| CPSIA Total Lead in Substrates | |
| CPSIA Total Phthalates Content | |

NB: our inks are suitable for use in marker pens intended for children of 3 years and above, however it is the pen manufacturer's responsibility to establish the overall safety and fitness for purpose of the product incorporating Multichem inks.

● Marker Storage Advice

For optimum performance, markers should ideally be stored in the horizontal orientation and should be capped securely. In order to avoid a pressure build up, after assembly the valve should be activated by depressing the nib.

Component Selection Advice

| Component | Details |
|----------------|---------------------------|
| Nib | Polyester (high porosity) |
| Barrel | Aluminium |
| Head/Tail Caps | Polypropylene (PP) |

**Paint marker inks are designed for use in valve-action markers. The marker should always be shaken thoroughly prior to use to ensure an even consistency of ink. It is recommended to place a stainless steel or glass ball inside the barrel to help agitate the ink when the marker is shaken.*

We strongly recommend you test your components for compatibility with our inks.

Storage and Handling Advice

Please note that paint marker inks readily settle out during storage. This is completely normal. The containers of ink should be shaken thoroughly prior to use, and continuous stirring is recommended whilst filling the marker components.

Ethanol solvent is suitable for cleaning equipment which has come into contact with paint marker ink.