**PRODUCT DATA**

# TEMPEST

**FLEXO/GRAVURE** **(Prefix MRT + MTS)**

**DESCRIPTION**
A range of inks developed to meet the demands of outdoor requirements and other high specifications associated with polythene sack printing.

**TYPICAL PROPERTIES**
Excellent wet & dry rub resistance. *
Excellent water resistance.
Non blocking ink/ink and ink/treated film.
Excellent weatherfast and product resistance properties. The complete base range have been subjected to SAE J 1960 test conditions for a 100 hour test period. **(Fact sheet from Test Laboratory attached**).
Excellent adhesion to a variety of film substrates.
High light fastness - minimum blue wool scale 5.

**DEGRADATION**
Evidence exists that inks will degrade if exposed to an environment of high temperatures, humidity and light such as created by transparent secondary packaging. It is essential that these inks are not exposed to such conditions.

**SUBSTRATES**
Suitable for treated low-density polythene and co-extruded polythene films, with a proven track record in this type of application. It is important to liaise with our laboratory where packaging applications include reactive, corrosive or highly abrasive products as most polythene films exhibit poor barrier properties.

**REDUCERS**
Tolerant to a wide range of alcohols/esters such as:

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|---|---|---|
| Normal: | Ethyl Alcohol/N Propyl Acetate: | 4/1 |
| Fast: | Ethyl Alcohol/Ethyl Acetate: | 4/1 |
| Slow: | N. Propanol/N Propyl Acetate: | 4/1 |

Ethoxy Propanol with above mixtures to retard inks.
N.B. care should be taken in the use of retarders as they may lead to odour or set-off in the reel; to enable clean running at slow speeds we have developed Tempest MTS which uses Alcohol/acetate mixtures for reduction for press viscosity.

**COLOUR RANGE**
Available in a wide range of bright colours, including a high performance process set. They exhibit good light-fast properties, and excellent product and weather/resistance properties are attained.

*When using, specially requested, low slip formulations the rub and scratch characteristics may well be reduced depending on the substrate properties.

** Pale colours, containing low percentages of organic pigment are referred to as 'Tempest Tint'. The 'Tempest Tint' inks **cannot** be guaranteed to pass SAE J 1960.NB. We recommend care and consultation with our technical department for the packaging of harsh or reactive products. Colours are matched in daylight/ under daylight tubes unless specified with order

**QUALITY ASSURANCE**

Products with the prefix and product name specified above are Quality Controlled to Mirage Inks Test Specification No 34 as described in the test manual. Details of all tests are available on request from our technical department.

The information given above is supplied as a guide only, with the properties achieved under laboratory conditions. Mirage Inks Limited strongly recommend that you satisfy yourself as to the suitability of the product with trials. Please consult our laboratory to discuss any different requirement.
As particular conditions of use and variations in quality of materials and substrates being used are outside our control, it istherefore not possible to guarantee the performance of our products.

Products supplied under this ink name / prefix, are best used within a six month period from the date of manufacture (as specified on the product label).
In-line with Mirage Inks Ltd ISO 9001 procedures, retained batch samples for any product supplied under this ink name / prefix, are retained & stored at room temperature for a period of six months from the date of manufacture.

Should the product be used outside of this six month period, Mirage Inks Ltd. have no reference sample for comparative & test purposes, so cannot investigate or be held responsible for any print related problems.

Mirage Inks Ltd will not accept liability for any claim arising as a consequence of a laboratory colour matching being offered to our customer in good faith, and then subsequently Mirage's customer failing to obtain approval from their customer prior to printing / production.

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# SAE J 1960 FACT SHEET

## (Supplied by Test Laboratory-not Mirage Inks Ltd)

SAE J 1960 is a test method adopted by the American Automotive industry for the evaluation of the weatherability of components used on the exterior of an automobile. This method was devised to provide a realistic weathering regime, which can be directly related to a typical product environment.

The light source is water-cooled xenon arc which is filtered to give light having a distribution equivalent to that of "peak Miami sunlight". The spectral distribution of the xenon lamp has the closest simulation of natural sunlight of any current light source. The particular test cycle of SAE J 1960 is a repeating cycle of 2 hours light followed by 1 hour darkness. In the 2 hours of light the test conditions are an irradiance of 0.55 W/m2 at 340nm, a black panel temperature of 70 °C and a relative humidity of 50%. After the first 40 minutes of this cycle the samples are sprayed with pure water for a period of 20 minutes on the front surface and then "dried" for the remaining 1 hour of this part of the cycle. In the dark period the temperature is reduced to 38 °C and the relative humidity increased to 100% with the samples being sprayed with water on both surfaces.

The SAE test methods were developed from the real exposures of materials and the test conditions selected to give a high correlation factor. In this respect these test methods are quite different to all other standards (ISO, ASTM, BS) where the test specifications were originally evolved on the basis of machine performance rather than any real materials.

**Although this test method is being widely used through out the automotive industry, we would quite often recommend this specification for other industries with a product that would be exposed to the outside environment.**