TIOXIDE® R-XL

peak performance at high pvc

more opacity

greater tinting strength

better colour

HUNTSMAN

Enriching lives through innovation

more opacity
greater tinting strength
better colour

TIOXIDE® R-XL

TIOXIDE® R-XL pigment is a rutile pigment with a heavy surface coating of inorganic oxides. This treatment provides outstanding opacity and tint reducing properties in highly pigmented emulsion paints.

TIOXIDE® R-XL pigment is readily dispersed in water and gives excellent storage stability in aqueous paints. It is also recommended for use in printing inks, paper and board applications.

TIOXIDE® R-XL pigment has been an established feature of the Huntsman Pigments grade range for many years. As part of our continuous development process, TIOXIDE® R-XL pigment has benefited from improved opacity, colour and tinting strength.

The heavy coating of TIOXIDE® R-XL pigment was developed to give optimum opacity in highly pigmented matt emulsion paints and inks.

This coating promotes optimum spacing of the pigment scattering centres and gives advantages over a general purpose grade such as TIOXIDE® TR92 pigment. See Figure 1.

Figure 2 shows opacity results for TIOXIDE® R-XL pigment and competitive pigments in a matt emulsion paint formulated above the critical pigment volume concentration (cpvc).

FIGURE 1

Schematic representation of pigment coatings

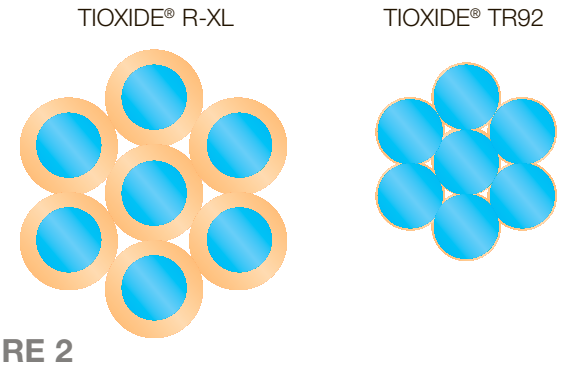
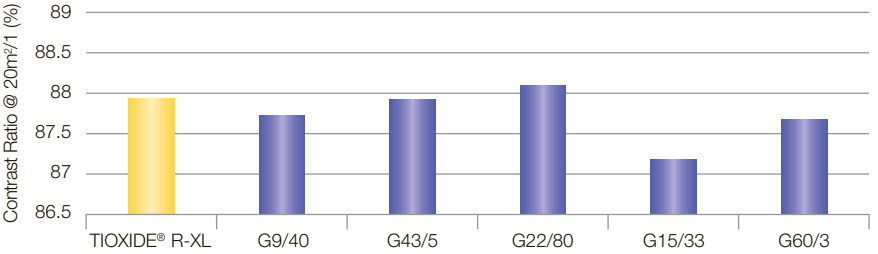


FIGURE 2

Opacity results in an above cpvc formulation



PROPERTIES

This table includes the typical properties of this grade. It is not a specification, although specifications are available.

TiO_2 Content	80% Minimum
Inorganic coating	Alumina, Silica
Organic treatment	none
Crystal size	0.284µm
Specific gravity	3.55 g/cm³
Loss at 105°C[1]	2.2%
Bulk density (tamped)[2]	0.5 g/cm³
Water demand[3]	58 cm³/100g pigment
Durability	Durable
ISO 591 classification	R3
ATSM D476 designation	III

[1]Measured within 48 hours of production
[2]Based on ISO 787/11
[3]In the presence of 0.4% sodium salt of complex polyphosphate calculated on the mass of pigment

Accompanying the good opacity of TIOXIDE® R-XL pigment, the grade also has excellent tinting strength compared to other competitive grades. See Figure 3. A comparison of colour shows TIOXIDE® R-XL pigment to be similar to many competitive grades. See Figure 4.

The improved opacity, tinting strength and colour have been achieved without compromising other properties. Measurements of paint properties such as scrub resistance, mudcracking and durability show the performance of TIOXIDE® R-XL pigment to be similar to that of its competitors.

In addition to these improvements, TIOXIDE® R-XL pigment continues to offer excellent mattness in systems where no sheen is desirable. Viscosity stability testing with TIOXIDE® R-XL pigment shows the grade to be very stable in matt emulsion paints.

The improvements in TIOXIDE® R-XL pigment can also be seen in inks, where better opacity and colour can be achieved at high TiO_2 loadings. Figure 5 shows opacity results achieved with TIOXIDE® R-XL pigment and competitive grades in a reverse laminate ink.

Together with the opacity improvement of TIOXIDE® R-XL pigment, the colour has also been improved. Figure 6 compares the colour performance of TIOXIDE® R-XL pigment with that of a series of competitive grades.

FIGURE 3

Tinting strength in a pale brown paint formulated above cpvc

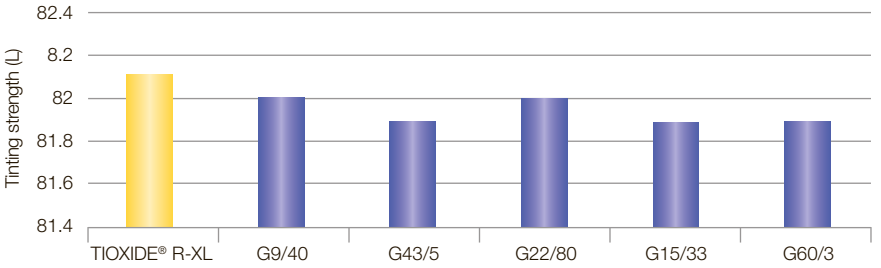


FIGURE 4

Colour results in an above cpvc paint

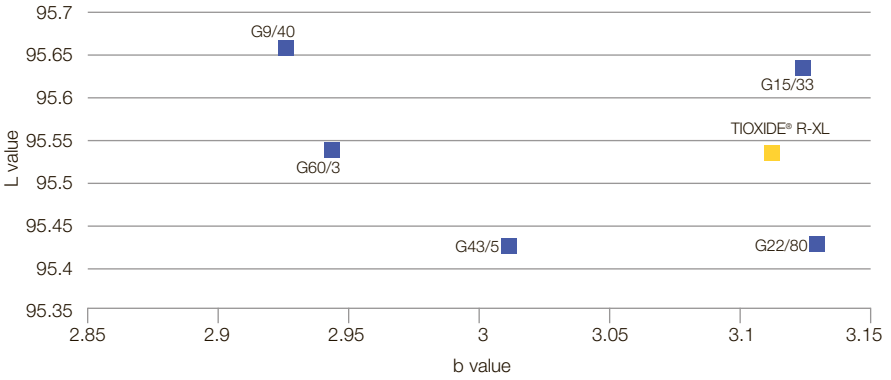


FIGURE 5

Opacity results in a reverse laminate ink (43% TiO_2)

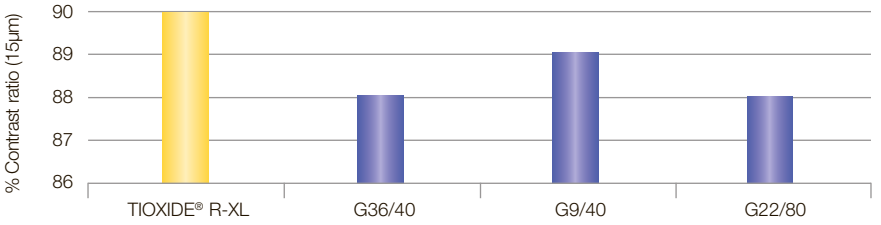
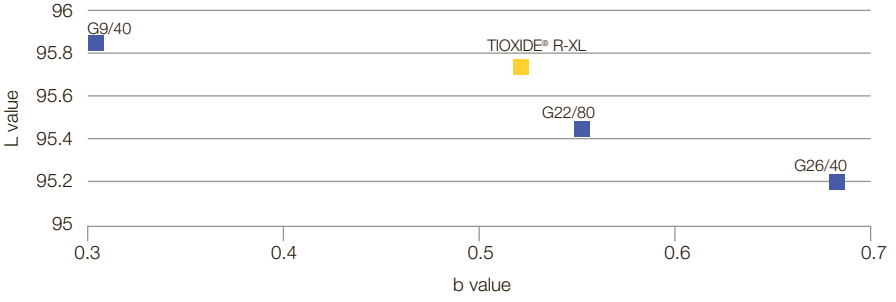


FIGURE 6

Colour results in a reverse laminate ink (43% TiO_2)



Tioxide®

Titanium Dioxide Pigments

This leaflet is a general guide to the properties of TIOXIDE® R-XL pigment and its potential applications. More detailed information on TIOXIDE® R-XL pigment is available from Technical Service personnel within Huntsman Pigments.

Although all information is given in good faith, we do not guarantee the accuracy or completeness of information, or that TIOXIDE® R-XL pigment will be suitable for your particular purposes. Samples are available on request.

You should ensure that any process you use or product you make using Huntsman pigment does not infringe any patent.

Contacts

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It is Huntsman Pigments' policy to update this information regularly. You are therefore advised to check that this leaflet is the most up-to-date version.

February 2007
TIOXIDE® R-XL - GB / A3 Version 1

TIOXIDE® R-XL pigment is ideal for use in high performance, high pvc paints where superior opacity coupled with excellent film properties are required. TIOXIDE® R-XL pigment gives that peak performance.

PRINCIPAL APPLICATIONS	OUTSTANDING PROPERTIES
Matt emulsion paints	Opacity, dispersion, storage stability, tint reduction and colour
Alkyd matt paints, undercoats and primers	Opacity, colour, brightness
Printing inks	Opacity in matt or low sheen inks
Textured emulsion paints	Colour, self cleaning
Textile printing	Opacity in matt inks
Leather finishes	Opacity in pad coats
Coating for paper and board	Easy incorporation, opacity, colour, brightness

Huntsman does not recommend any of its titanium dioxide pigments for use in lead-stabilised, rigid PVC formulations.

SAFETY, HEALTH AND ENVIRONMENT	As for all fine powders, the handling of titanium dioxide pigments can give rise to airborne dust. Good industrial hygiene practice should be observed so as to avoid the generation and subsequent inhalation of dust. For more information refer to our material safety data sheet.
FOOD CONTACT	The subject is too wide to be adequately covered in a technical data sheet and customers should seek confirmation of compliance for each of the particular regulations they are interested in by contacting Huntsman Pigments Group Technical Service or the local sales forces.
STORAGE AND SHELF LIFE	The pigment should not be stored in outside areas exposed to the weather. All direct contact with moisture should be avoided. By storing the pigment correctly, its properties should not deteriorate with time. However to ensure optimum performance, it is recommended that the product is used on a first in, first out basis from receipt of shipment.

For further information, contact:

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