WINSOR & NEWTON™

ARTISTS' OIL COLOUR

Oil colours have been used in various forms since the fifteenth century. The popularity of oil colour can be attributed to its extraordinary versatility. It offers excellent results from the traditional painting techniques of blending and glazing, impasto and scumbling.

Winsor & Newton began making colour in 1832 swiftly developing and subsequently maintaining a reputation for unparalleled excellence and consistency worldwide.

The most recent advances in pigment technology have allowed us to build upon our already high standards and further improve the range for artists. The improvements are a result of using new and unique pigments, which offer increased permanence and greater colour strength.

THE PRODUCT RANGE

The Artists' Oil Colour range offers a wide and balanced spectrum of 120 colours in a variety of sizes (indicated on the colour chart). Each colour has been specially selected to offer the greatest choice and flexibility, ensuring all artists can obtain the palette best suited to their work.

Within the range of 120 Artists' Oil Colours there are 21 brand new colours, 31 modified colours and 68 colours that have remained unchanged. Fifteen colours from the former range have been discontinued. For simplification the number of series in the range has been reduced, lowering the price of some of the most expensive colours with no change in quality. Full range details, including information on the closest equivalents for the discontinued colours, are available in the technical section.

ENGLISH

Characteristics of the Artists' Oil Colour Range

Pigment Strength

Artists' Oil Colour uses the highest level of pigmentation consistent with the broadest handling properties. The individual characteristics of each pigment are maintained allowing individual characteristics to be explored by artists. Pigment strength provides covering power and tinting strength, leading to the saying "artists' quality goes further".

Covering Power

Covering Power not only comes from pigment strength, but also from the greater thickness of colour, which results from the stiff consistency associated with Artists' Oil Colour. Covering power is particularly linked to the most opaque colours like Titanium White and the Cadmiums.

Pigment Purity

Like all raw materials, pigments are available in various grades. We use only the purest of pigments ensuring the cleanest, brightest colours, which produce the best colour mixtures.

Widest Spectrum

We are famous for providing the widest spectrum of colours within our ranges. The colours are selected according to mass tone [colour from tube], undertone [bias of colour when in a thin film], strength and relative opacity. This provides the largest number of colour positions and an infinite number of colour mixtures. A total of 100 different pigments are used to produce 120 colours.

Use of single pigments

Our quality standards include the use of single pigments wherever possible to create individual colours. Combined with strength of colour, single pigments provide a wide colour range in themselves and offer cleaner, brighter mixtures with an infinite range of hues. This is particularly important for greens, violets and oranges. Single pigment 'secondaries' considerably broaden the artists' available spectrum. There are 80 single pigment colours in the range.

Variable Opacity

Artists' Oil Colour is formulated to reflect the characteristics of each of the various pigments, ensuring that synthetic organics such as Phthalocyanines and Quinacridones [ie. "*Winsor*" or "Permanent colours"] deliver maximum transparency, whilst Cadmiums and Earth colours offer excellent opacity.

Short Buttery Consistency

The buttery consistency of Artists' Oil Colour, together with the smell of linseed oil, are the two characteristics most admired by oil painters. These qualities are unbeaten by other media. The stiff consistency of *Winsor & Newton* colours can retain brush or palette knife marks or it can be thinned to the very finest of glazes.

Drying Rates

The long drying time of Artists' Oil Colour is also a key feature of oil painting. The colour remains soft and wet for a few days and therefore allows corrections to be made from day to day.

All colours will become touch dry in thin films in 2-12 days. The different reaction of each pigment when mixed with oil results in the different drying rates. Each colour is individually formulated to optimise its drying rate, which helps artists to avoid the problems of slow drying underlayers. However, the following list is a guide to the likely variations:

Fast Drying [around two days]:

Permanent Mauve [manganese], Cobalt Blues, Prussian Blue, Raw Sienna, Umbers, Flake, Foundation and Cremnitz Whites [lead].

Published Pigment Information

Winsor & Newton were the first company to publish the contents of their colours in 1892, believing in providing artists with as much information as possible.

Today the pigments used in Artists' Oil Colour are printed on the labels, in our literature and on our website, www.winsornewton.com.

Clear Label Information

Medium drying [around five days]:

Winsor™ Blues and Greens [phthalocyanines], Burnt Sienna, Cobalt Violet and Greens, Ultramarine Blues, Mars colours [synthetic iron oxides], Sap Green, Permanent Alizarin Crimson, Ochres, Cadmiums, Titanium White, Zinc White, Lamp Black, Ivory Black, Pyrrols, Bismuth Yellow, Perylenes.

Slow drying [more than five days]:

Winsor Yellows (arylides) and Orange, Quinacridones, Alizarin Crimson.

Winsor & Newton Liquin™ is the perfect medium to speed the drying time of oil colour. It will speed drying by approximately 50%.

Formulation

Every Artists' Oil Colour is individually formulated to enhance each pigment's natural characteristics and ensure the stability of individual colours.

Combined with over 170 years of manufacturing and quality control expertise, the formulation of Artists' Oil Colour ensures the best raw materials are made into the World's Finest Colours.

Permanence

Since 1832 we have been developing permanent alternatives for the less durable traditional colours, without compromising the handling properties of the oil colours. As a result, the permanence of the colour range as a whole has been improved beyond the dreams of past painters.

Of the 120 colours in the range, 119 are now classed as 'permanent for artists' use' [AA or A ratings from *Winsor & Newton*] which aids in the longevity of paintings. Although Alizarin Crimson is only given a "B" rating (moderately durable), it has been part of Artists' Oil Colour for over 130 years and is still considered a key colour by many contemporary artists. For a more detailed explanation of permanence and the individual rating of each colour see the Technical Section or visit our website at **www.winsornewton.com**.

Consistent Quality

Winsor & Newton are trusted by more artists than any other brand worldwide. This is a result of the quality and permanence of Artists' Oil Colour and from the reliability of our production supply.

Whether its hue, opacity or drying time the artist seeks, they can be sure to get the same product time and time again.

Mixing Colours

The three primary colours in the Artists' Oil Colour range are Transparent Yellow, *Winsor* Blue [Red Shade] and Permanent Rose. These colours are the best selection when only three colours are used. We recommend *Winsor* Lemon, *Winsor* Yellow, French Ultramarine, *Winsor* Blue [Green Shade], Permanent Rose and Cadmium Red when using a six colour mixing system.

Whites in the range

Since white is the most commonly used colour, appropriate selection is vital. Artists' Oil Colour offers the widest choice of oil colour whites.

Safflower Oil Whites

Titanium White; The most popular modern white. It is the whitest, and the most opaque. Where its strength is overpowering, alternative whites can be used.

Flake White No. 1; The traditional lead white that is excellent as a result of its flexibility, durability and speed of drying. The inclusion of zinc pigment improves its consistency. It is warmer than Titanium White and firmer in consistency.

Zinc White; The least opaque traditional white making it ideal for tints and glazing. It has a blue undertone.

Cremnitz White; also made from lead. The absence of zinc gives a long extended mark and a stringy consistency. The perfect alternative for artists who prefer a pure lead colour, similar to that used by the "Old Masters". It is fast drying.

Iridescent White; A mica based pigment which makes a pearlescent white. It is effective when mixed with transparent colours, and used over dark underpainting.

Transparent White; A new unique titanium based colour. Greatly weaker and more transparent than Zinc White. Ideal for tonal mixtures and glazes and for those wishing to avoid opacity and covering. A medium drier, it will produce the very strongest tints.

Flake White Hue; A titanium based formulation which avoids the hazardous lead based Flake White No. 1. It has a lower tinting strength than Titanium White to match Flake White and a similar drying rate to the original.

Note: Safflower whites are not recommended for extensive underpainting or priming. The slow drying nature of the oil may cause subsequent layers to crack. Linseed oil whites are recommended.

Linseed Oil Whites:

Underpainting White (fast drying); A titanium pigment ground in linseed oil which is recommended for underpainting or extensive layering with white. It dries quickly to a flat, matt, toothy finish.

Foundation White; A lead pigment ground in linseed oil which is recommended for priming or extensive layering with a lead white.

Both linseed oil whites can be used throughout the painting if desired.

Please refer to the technical section of our website for more comprehensive details on our whites and the other main colour groups.

Oil Colour Accessories

Surfaces and Primers

Stretched, primed canvas is the traditional support for oil colour. Canvas boards are also popular. Our *Winsor* Canvas, *Winsor* Linen or *Winsor* Board (not available in the USA) are recommended for the artist wanting to exploit a variety of techniques and ensure long term stability. Paper can also be used, provided it is sized and primed correctly. Heavyweight *Winsor & Newton* Water Colour Paper primed thinly with Acrylic Gesso Primer is ideal.

Solvents

Solvents are used to dilute colours and to clean brushes and equipment. English Distilled Turpentine makes a viscous mixture which evaporates slowly. It is the most hazardous and strongest smelling solvent, and can deteriorate on storage. Artists' White [or mineral] Spirit (not available in the USA) makes a watery mixture which evaporates quickly and is less hazardous. It does not deteriorate on storage. *Sansodor*™ makes a viscous mixture, which evaporates slowly, and is the least hazardous. It does not deteriorate on storage, has a minimal odour and can be travelled with safely.

Oils and Mediums

Oils and mediums alter the handling characteristics of the colour and help to maintain the flexibility of the finished painting (fat over lean) Oils are the traditional, slower drying choice whilst alkyd based mediums, such as *Liquin*, are favoured due to their speeding the drying time of the painting.

Varnishes

Varnishes are used to protect finished paintings. For fine art usage, picture varnishes should be removable so that the painting can be cleaned in the future. Our varnishes are labelled "gloss" or "matt" and vary according to the different resins used.

Brushes

To thickly apply colour or impasto, bristle brushes are most common. *Winsor & Newton* have three ranges, Artists' Hog [Rathbone in USA], *Winton*™ and *Azanta*™. The stiff nature of the bristle and its natural split tips, (called 'flags'), result in brushes which wear well and carry considerable quantities of colour. To blend and glaze, a soft hairbrush is recommended such as *Cirrus*™ sables or *Sceptre Gold II*™ which are a blend of natural and synthetic fibres.

Palettes

Mahogany palettes are the traditional palette for oil colour. However, because canvases are primarily white, white melamine palettes are often preferred by modern painters together with expendable paper palettes which can be disposed of at the end of each painting session.

For more information on all of our ranges including oils, mediums, varnishes and accessories please see our catalogue or website at **www.winsornewton.com**

New, Modified and Discontinued Colours

New colours

Col. Code	New Colours	Reason for new colour	Benefit
025	Bismuth Yellow	New colour to improve the spectrum across the range.	Semi-opaque permanent yellow which also gives bright colour mixing.
056	Brown Madder	Replaces the former Brown Madder Alizarin.	No change.
059	Brown Ochre	New colour to improve the spectrum across the range.	An orange-brown natural earth, close to our previous Brown Ochre. Makes more natural mixtures.
183	Cobalt Chromite Green	Replaces the unavailable Cobalt Green Deep.	A stronger, slightly bluer, more opaque colour.
191	Cobalt Turquoise Light	New colour to improve the spectrum across the range.	Bright turquoise, good sky and decorative colour.
242	Flake White Hue	New colour to improve the spectrum across the range.	A warm white alternative to genuine lead whites.
294	Green Gold	New colour to improve the spectrum across the range.	Bright yellow shade green - a strong useful mixing colour.
320	Indian Yellow Deep	New colour to improve the spectrum across the range.	Highly transparent, single pigment providing wider mixing capability Good replacement for traditional lakes.
425	Naples Yellow Deep	New colour to improve the spectrum across the range.	Single pigment providing wider mixing capability. An excellent tonal mixing colour.
479	Permanent Carmine	Lightfast/permanent replacement for Carmine.	Significant improvement in permanence. A lightfast colour for floral painters. Lower in cost.
505	Perylene Black	New colour to improve the spectrum across the range.	A unique green undertone, excellent for mixing and glazing.
543	Purple Madder	Replaces the former Purple Madder Alizarin.	No change.
545	Quinacridone Magenta	New colour to improve the spectrum across the range.	Strong, bright permanent magenta excellent for floral painters.
548	Quinacridone Red	New colour to improve the spectrum across the range.	Strong, bright, transparent, permanent red excellent for floral painters. Makes clean mixtures.
558	Raw Umber (green shade)	New colour to improve the spectrum across the range.	A green shade natural umber.
557	Raw Umber Light	New colour to improve the spectrum across the range.	A pale, natural umber which makes more natural strength mixtures.
648	Transparent Brown Oxide	New colour to improve the spectrum across the range.	Single pigment good for glazing with excellent red undertone.
657	Transparent Maroon	New colour to improve the spectrum across the range.	Dense, highly transparent, strong, single pigment maroon for wider colour mixing capability. Excellent for darks and shadows. Unique.
647	Transparent Red Ochre	New colour to improve the spectrum across the range.	The most transparent orange-red ochre on earth. Good for glazing, and natural strength mixtures. Unique.
655	Transparent White	New colour to improve the spectrum across the range.	A glazing and mixing white, which reduces the strength of colours without chalky effect.
745	Yellow Ochre Light	New colour to improve the spectrum across the range.	A pale natural earth, which makes more natural strength mixtures.

Modified colours

Col. Code	Modified Colours	Reasons for Modification	Change in Hue
042	Bright Red	Improved lightfastness/permanence.	Slightly yellower.
086	Cadmium Lemon	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
089	Cadmium Orange	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
094	Cadmium Red	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
097	Cadmium Red Deep	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
106	Cadmium Scarlet	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
111	Cadmium Yellow Deep	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
118	Cadmium Yellow Pale	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
214	Copper	Colour adjusted to improve spectrum across the range.	Brighter.
285	Gold Ochre	Colour adjusted to improve spectrum across the range.	Slightly cleaner and brighter.
333	Jaune Brillant (not USA)	Improved lightfastness/permanence.	No change.
386	Mars Black	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
426	Naples Yellow Light	Improved lightfastness/permanence.	No change.
447	Olive Green	New formulation due to discontinued pigment.	No change.
459	Oxide of Chromium	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
481	Permanent Green	Improved lightfastness/permanence.	No change.
482	Permanent Green Deep	Improved lightfastness/permanence.	No change.
483	Permanent Green Light	Improved lightfastness/permanence.	No change.
502	Permanent Rose	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
526	Phthalo Turquoise	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
540	Prussian Green	New formulation due to discontinued pigment.	No change.
544	Purple Lake	New formulation due to discontinued pigment.	No change.
554	Raw Umber	Colour adjusted to improve spectrum across the range. New single pigment.	Very slightly redder.
599	Sap Green	New formulation due to discontinued pigment. Improved lightfastness/permanence.	No change.
603	Scarlet Lake	Colour adjusted to improve spectrum across the range.	Slightly yellower.
722	*Winsor* Lemon	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
724	*Winsor* Orange	Improved lightfastness/permanence.	New single pigment. Redder undertone.
726	*Winsor* Red	Colour adjusted to improve spectrum across the range. Improved lightfastness/permanence.	Slightly bluer.
733	*Winsor* Violet	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
730	*Winsor* Yellow	Increased colour strength offering a greater tinting ability and improved covering power.	No change.
731	*Winsor* Yellow Deep	Increased colour strength offering a greater tinting ability and improved covering power.	Very slightly greener.

Discontinued colours

Col. Code	Colour Name	Reason for Discontinuation	Nearest Equivalent in Range
016	Aureolin	Replaced by more lightfast, transparent stronger pigment.	Indian Yellow Deep
063	Brown Madder Alizarin	Alizarin pigment no longer used.	Brown Madder
080	Cadmium Green	Can be mixed by the artist .	Cadmium Lemon + Viridian
127	Carmine	Replaced by lightfast pigment.	Permanent Carmine
185	Cobalt Green Deep	Pigment now unavailable.	Cobalt Chromite Green
193	Cobalt Violet Dark	Can be mixed by the artist.	Cobalt Violet + Winsor Violet
247	Flake White No. 2	Can be mixed by the artist.	Flake White No. 1.+ Linseed Oil
388	Mars Brown	Can be mixed by the artist.	Gold Ochre + Venetian Red + Mars Black
390	Mars Orange	Close to Terra Rosa.	Terra Rosa
394	Mars Violet	Close to Indian Red.	Indian Red
396	Mars Yellow	Very close to Gold Ochre.	Gold Ochre
503	Permanent Sap Green	Replaced by a cheaper, more lightfast formulation.	Sap Green
546	Purple Madder Alizarin	Alizarin pigment no longer used.	Purple Madder
585	Rose Madder Deep	Can be mixed by the artist.	Rose Madder Genuine + Alizarin Crimson
683	Vermilion Hue	Can be mixed by the artist.	Cadmium Red + Cadmium Red Deep + Titanium White

Technical Section

The Technical Section contains three areas:

1. Composition and Permanence Table.
2. New, Modified and Discontinued colours.
3. Colour Chart (please see reverse of leaflet).

Composition and Permanence Table

Colour Code – Code

The colour code indicates the code number that is given to each of the colours. This is primarily for ease of reference ,catalogue purposes and to assist you when purchasing your materials.

Colour name

This is the colour name, eg. Permanent Alizarin Crimson.

Series

The series number of a colour indicates the relative price of the colour and is determined primarily by the cost of the pigment. Series 1 is the least expensive, Series 5 the most expensive.

Permanence

The permanence of an oil colour is defined as 'its durability when laid with a brush and palette knife on ordinary prepared canvas, graded appropriately and displayed under a glass frame in a dry room, freely exposed to ordinary daylight and an ordinary town atmosphere'. This definition reflects the manner in which the majority of paintings are displayed. However, for testing purposes we are able to utilise accelerated tests for lightfastness and binder stability in addition to the information issued by our pigment suppliers. Our ratings are therefore a combination of the natural passage of time, accelerated tests and pigment manufacturers' testing and development. They are among the most stringent in the industry.

AA - Extremely permanent

A - Permanent

B - Moderately Durable

(iii) - Bleached by acids, acidic atmospheres

ASTM

The ASTM abbreviation stands for the American Society for Testing & Materials. This organisation has set standards for the performance of art materials including the lightfastness of colour.

To measure lightfastness using this system, colours are reduced to a level of 40% reflectance by the addition of Titanium White. The reflectance is defined as the amount of light reflected from the colour swatch. The swatches are then tested in both sunlight and artificially accelerated conditions. The results allow each colour to be rated on a scale from I-II for oil colour. In this system I is the highest lightfastness available although both ratings I and II are considered permanent for artists' use. Where no ASTM rating is given for our colour, this indicates that the pigment has not yet been tested by the ASTM. It does not indicate a lack of lightfastness. In these cases it is recommended that the *Winsor & Newton* permanence rating, which is the rating system evaluating colour on many aspects including lightfastness, should be used to indicate a colour's ability to resist fading.

Transparency/Opacity - T/O

The transparent colours are marked (□), the semi-transparent colours are marked (◪), the opaque colours are marked as (■) and semi-opaque colours are marked (◩). Transparency however is relative and the ratings are provided as a guide only. Also, any thin film of colour will appear more transparent than a thicker one.

Chemical description

This provides the chemical description of the pigments used in each colour. This is often particularly useful for conservators.

Colour Index

The Colour Index International is the standard compiled and published by both: The Society of Dyers and Colourists, and the American Association of Textile Chemists and Colorists.

The Colour Index classifies pigments by their chemical composition.
This information allows you to research a specific pigment's working characteristics in reference books if you wish or to make product comparisons. The individual pigments are identified in two ways.

a] Colour Index Generic Name - C.I. Name

Each pigment can be universally identified by its Colour Index Generic Name.

As an example: Cobalt Blue is Pigment Blue 28, abbreviated to PB28.

Although the working properties of our colours are fully detailed in our literature, we publish the Colour Index Generic Names of the pigments to allow you to cross reference the working properties in other sources if you wish e.g. lightfastness, opacity, toxicity, etc. The Colour Index Generic Name is particularly necessary to identify some of the modern pigments such as Arylide Yellow which has a number of different types, each offering different levels of lightfastness and opacity.

b] Colour Index Number - C.I. No.

Pigments can also be identified by their Colour Index Number. It is considered an additional source of identification to the Colour Index Generic Name. For example: Cobalt Blue is 77346.

Of the two methods of reference, the Colour Index Generic Name is most commonly used.

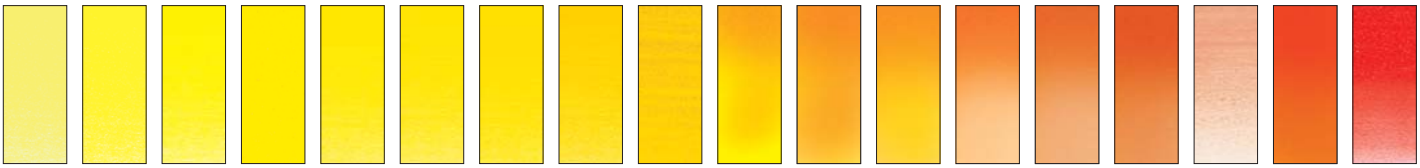
Health & Safety Considerations

Artists' colours are chemical preparations and our products should be used and handled correctly. We label according to current legislation in the marketplace in which they are being sold.

Treated with care, they should not present any serious hazards to health, but prolonged contact with the skin and ingestion (swallowing) of the product should be avoided. This includes such practices as applying colour with fingers and placing brushes in the mouth to point them. Please read the product labels carefully and should any further information be required please see our catalogue, the Health & Safety product information leaflet or visit the Health and Safety section on our website at **www.winsornewton.com**.

Colour Range

WINSOR & NEWTON™
ARTISTS' OIL COLOUR



347 AA S4 ■ I ⋆
Lemon Yellow Hue

722 A S2 ◪ II ⋆
Winsor Lemon

086 A S4 ■ I ⋆ •
Cadmium Lemon

025 A S4 ■
Bismuth Yellow

653 A S4 □
Transparent Yellow

730 A S2 ◪ I ⋆
Winsor Yellow

149 A S1 ◩ I ⋆
Chrome Yellow Hue

118 A S4 ■ I ⋆
Cadmium Yellow Pale

320 A S2 □ I
Indian Yellow Deep

319 A S2 □ I ⋆
Indian Yellow

108 A S4 ■ I ⋆ •
Cadmium Yellow

731 A S2 ◪ I
Winsor Yellow Deep

111 A S4 ■ I
Cadmium Yellow Deep

089 A S4 ■ I ⋆
Cadmium Orange

724 A S2 ◪ ⋆
Winsor Orange

257 A S2 ■ I ⋆
Flesh Tint

106 A S4 ■ I ⋆
Cadmium Scarlet

603 A S2 □
Scarlet Lake

726 A S2 ◪ ⋆
Winsor Red

094 A S4 ■ I ⋆ •
Cadmium Red

042 A S1 □ ⋆
Bright Red

725 A S2 ◪ I
Winsor Red Deep

097 A S4 ■ I ⋆
Cadmium Red Deep

548 A S4 □
Quinacridone Red

502 A S2 □ I ⋆
Permanent Rose

576 A S5 □ II
Rose Doré

587 A S5 □ II
Rose Madder Genuine

004 B S2 □ ⋆
Alizarin Crimson

468 A S4 □ I ⋆ •
Permanent Alizarin Crimson

479 A S2 □
Permanent Carmine

192 AA S5 ◪ I ⋆
Cobalt Violet

491 AA S4 ◪ I
Permanent Mauve

733 A S2 □ I ⋆
Winsor Violet (Dioxazine)

672 A(iii) S2 □ I
Ultramarine Violet

400 A S1 ◪ I ⋆
Mauve Blue Shade

489 A S2 □ I
Permanent Magenta

380 A S2 □ I ⋆
Magenta

545 A S2 □ I
Quinacridone Magenta

544 A S1 □
Purple Lake

543 A S2 □ ⋆
Purple Madder

379 A S1 □ I ⋆ •
Manganese Blue Hue

137 AA S4 ◩ I ⋆
Cerulean Blue

178 AA S4 ◪ I ⋆ •
Cobalt Blue

180 AA S5 ◪ ⋆
Cobalt Blue Deep

707 A S2 □ I ⋆
Winsor Blue (Green Shade)

706 A S2 □ I ⋆ •
Winsor Blue (Red Shade)

667 A (iii) S1 □ I ⋆
Ultramarine (Green Shade)

263 A (iii) S2 □ I ⋆ •
French Ultramarine

321 A S4 □ I
Indanthrene Blue

538 A S1 □ I ⋆
Prussian Blue

322 A S2 □ I ⋆
Indigo

526 A S1 □ I
Phthalo Turquoise

190 AA S5 ■ I
Cobalt Turquoise

191 AA S4 ■ I
Cobalt Turquoise Light

184 AA S5 ◩ I ⋆
Cobalt Green

084 A S4 ■ I ⋆
Cadmium Green Pale

708 A S2 ■ I ⋆
Winsor Emerald

483 A S2 ◪ ⋆
Permanent Green Light

481 A S2 ◪ II
Permanent Green

482 A S2 ◪ I
Permanent Green Deep

637 AA S1 □ I ⋆
Terre Verte

459 AA S4 ■ I
Oxide of Chromium

147 A S1 ■ I ⋆
Chrome Green Deep Hue

183 AA S4 ■ I
Cobalt Chromite Green

692 AA S4 □ I ⋆ •
Viridian

721 A S2 □ I
Winsor Green (Yellow Shade)

720 A S2 □ I ⋆
Winsor Green

540 A S2 □ I
Prussian Green

599 A S2 □ I ⋆ •
Sap Green

447 A S2 □ I ⋆
Olive Green

294 A S2 □ I
Green Gold

333 A S1 ■ I ⋆
Jaune Brillant

426 A S1 ■ I ⋆
Naples Yellow Light

422 A S1 ■ ⋆
Naples Yellow

425 AA S2 ■
Naples Yellow Deep

746 AA S1 ■ I ⋆
Yellow Ochre Pale

745 AA S1 ◪ I
Yellow Ochre Light

285 AA S1 ■ I
Gold Ochre

744 AA S1 ◪ I ⋆ •
Yellow Ochre

552 AA S1 □ I ⋆ •
Raw Sienna

646 AA S2 ◪ I ⋆
Transparent Gold Ochre

074 AA S1 □ I ⋆ •
Burnt Sienna

648 AA S1 □ I
Transparent Brown Oxide

657 A S2 □
Transparent Maroon

059 AA S1 ◪ I
Brown Ochre

647 AA S1 ◪ I
Transparent Red Ochre

635 AA S1 ■ I ⋆
Terra Rosa

362 AA S1 ■ I ⋆
Light Red

678 AA S1 ■ I ⋆
Venetian Red

317 AA S2 ■ I ⋆
Indian Red

395 AA S2 ■ I ⋆
Mars Violet Deep

056 A S1 □ I ⋆
Brown Madder

076 AA S1 □ I ⋆ •
Burnt Umber

676 A S1 □ ⋆
Vandyke Brown

557 AA S1 ◪ I
Raw Umber Light

558 AA S1 ◪ I
Raw Umber (Green Shade)

554 AA S1 ◪ I ⋆ •
Raw Umber

217 AA S2 ◪ I ⋆
Davy's Gray

142 AA S1 ◪ ⋆
Charcoal Grey

465 AA S1 ◪ I ⋆
Payne's Gray

034 AA S1 ◩ I ⋆
Blue Black

386 AA S2 ■ I
Mars Black

331 AA S1 ◩ I ⋆ •
Ivory Black

337 AA S1 ■ I ⋆
Lamp Black

505 A S1 ◪ •
Perylene Black

330 A S1 ◩ ⋆
Iridescent White

201 A S1 ■ I • ‡
Cremnitz White

246 A S1 ■ I •
Flake White No.1

242 AA S1 ■ I • ‡
Flake White Hue

261 A S1 ■ I • ‡
Foundation White

644 AA S1 ■ I ⋆ † •
Titanium White

655 AA S1 ◪ I •
Transparent White

674 AA S1 ■ I ⋆ † •
Underpainting White (Fast Drying)

748 AA S1 ■ ⋆ † •
Zinc White

283 A S2 ◩ ⋆
Gold

573 A S2 ◩ ⋆
Renaissance Gold

214 A S2 ◩ ⋆
Copper

058 A S2 ◩ ⋆
Bronze

511 A S2 ◩ ⋆
Pewter

617 A S2 ◩ ⋆
Silver

Key to Coding

AA	Extremely Permanent
A	Permanent
B	Moderately Durable
S	Series Number
□	Transparent
◪	Semi-Transparent
■	Opaque
◩	Semi-Opaque

ASTM

I Permanent for artists' use

II Permanent for artists' use

Where no ASTM rating is listed, please refer to the Winsor & Newton permanence rating

Sizes available:

21ml Tubes
Colours marked ⋆
Not available in USA

37ml Tubes
All Colours

60ml Tubes
Colours marked †
Not available in USA

120ml Tubes
Colours marked •

150ml Tins
Colours marked ‡
Not available in USA

Artists' Oil Colour – Composition & Permanence Table

CODE	COLOUR NAME	SERIES	PERM.	ASTM	T/O	CHEMICAL DESCRIPTION	COLOUR INDEX C.I. NAME	COLOUR INDEX C.I. NO.
004	Alizarin Crimson	2	B	-	☐	1,2-dihydroxyanthraquinone lake	PR83	58000
025	Bismuth Yellow	4	A	-	■	Bismuth vanadate	PY184	-
034	Blue Black	1	A	I	◪	Complex sodium alumino-silicate containing sulphur Bone black	PB29 PBk9	77007 77267
042	Bright Red	1	A	-	☐	Pyrrol	PR254	56110
056	Brown Madder	1	A	I	☐	Natural iron oxide Anthraquinone	PBr7 PR177	77491 65300
059	Brown Ochre	1	AA	I	▨	Natural iron oxide	PBr7	77491
058	Bronze	2	A	-	◪	Iron oxides/Titanium dioxide coated mica	-	-
074	Burnt Sienna	1	AA	I	☐	Synthetic iron oxide	PR101	77491
076	Burnt Umber	1	AA	I	☐	Calcined natural earth	PBr7	77491
084	Cadmium Green Pale	4	A	I	■	Hydrated chromium oxide Cadmium zinc sulphide	PG18 PY35	77289 77205
086	Cadmium Lemon	4	A	I	■	Cadmium zinc sulphide	PY35	77205
089	Cadmium Orange	4	A	I	■	Cadmium sulphoselenide Cadmium sulphoselenide	PO20 PR108	77202 77202
094	Cadmium Red	4	A	I	■	Cadmium sulphoselenide	PR108	77202
097	Cadmium Red Deep	4	A	I	■	Cadmium sulphoselenide	PR108	77202
106	Cadmium Scarlet	4	A	I	■	Cadmium sulphoselenide	PR108	77202
108	Cadmium Yellow	4	A	I	■	Cadmium zinc sulphide	PY35	77205
111	Cadmium Yellow Deep	4	A	I	■	Cadmium sulphoselenide Cadmium zinc sulphide	PO20 PY35	77202 77205
118	Cadmium Yellow Pale	4	A	I	■	Cadmium zinc sulphide	PY35	77205
137	Cerulean Blue	4	AA	I	◪	Cobalt stannate	PB35	77368
142	Charcoal Grey	1	AA	-	▨	Ground charcoal	PBk8	77268
147	Chrome Green Deep Hue	1	A	I	■	Copper phthalocyanine Chlorinated copper phthalocyanine Synthetic iron oxide	PB15 PG7 PY42	74160 74260 77492
149	Chrome Yellow Hue	1	A	I	◪	Arylide yellow Benzimidazolone orange	PY74 PO62	11741 11775
178	Cobalt Blue	4	AA	I	▨	Cobalt aluminate	PB28	77346
180	Cobalt Blue Deep	5	AA	-	▨	Cobalt zinc silicate	PB74	77366
183	Cobalt Chromite Green	4	AA	I	■	Cobalt chromite	PG26	77344
184	Cobalt Green	5	AA	I	◪	Cobalt chromite Cobalt titanate	PG26 PG50	77344 77377
190	Cobalt Turquoise	5	AA	I	■	Cobalt chromite	PB36	77343
191	Cobalt Turquoise Light	4	AA	I	■	Cobalt titanate	PG50	77377
192	Cobalt Violet	5	AA	I	▨	Cobalt phosphate	PV14	77360
201	Cremnitz White	1	A	I	■	Basic lead carbonate	PW1	77597
214	Copper	2	A	-	◪	Iron oxides/Titanium dioxide coated mica	-	-
217	Davy's Gray	2	AA	I	▨	Synthetic iron oxide Carbon black Slate powder	PY42 PBk7 PBk19	77492 77262 77017
242	Flake White Hue	1	AA	I	■	Titanium dioxide Zinc oxide	PW6 PW4	77891 77947
246	Flake White No.1	1	A	I	■	Zinc oxide Basic lead carbonate	PW4 PW1	77947 77597
257	Flesh Tint	2	A	I	■	Zinc oxide Quinacridone Synthetic iron oxide	PW4 PV19 PY42	77947 73900 77492
261	Foundation White	1	A	I	■	Basic lead carbonate Zinc oxide	PW1 PW4	77597 77947
263	French Ultramarine	2	A(iii)	I	☐	Complex sodium alumino-silicate containing sulphur	PB29	77007
283	Gold	2	A	-	◪	Iron oxides/Titanium dioxide coated mica	-	-
285	Gold Ochre	1	AA	I	■	Synthetic iron oxide	PY42	77492
294	Green Gold	2	A	I	☐	Azomethine copper complex	PY129	48042
317	Indian Red	2	AA	I	■	Synthetic iron oxide	PR101	77491
319	Indian Yellow	2	A	I	☐	Synthetic iron oxide Isoindolinone	PR101 PY139	77491 56298
320	Indian Yellow Deep	2	A	I	☐	Nickel azo	PY150	12764
321	Indanthrene Blue	4	A	I	☐	Indanthrone	PB60	69800
322	Indigo	2	A	I	☐	Copper phthalocyanine Complex sodium alumino - silicate containing sulphur Carbon black	PB15 PB29 PBk7	74160 77007 77266
330	Iridescent White	1	A	-	◪	Titanium dioxide coated mica	-	-
331	Ivory Black	1	AA	I	◪	Bone black	PBk9	77267
333	Jaune Brillant	1	A	I	■	Quinophthalone Synthetic iron oxide BON Arylamide (Naphthol AS) Titanium dioxide	PY138 PY42 PR188 PW6	56300 77492 12467 77891
337	Lamp Black	1	AA	I	■	Carbon black	PBk6	77266
347	Lemon Yellow Hue	4	AA	I	■	Nickel titanate	PY53	77788
362	Light Red	1	AA	I	■	Synthetic iron oxide	PR101	77491
379	Manganese Blue Hue	1	A	I	☐	Chlorinated copper phthalocyanine Copper phthalocyanine	PG7 PB15	74260 74160
380	Magenta	2	A	I	☐	Dioxazine violet Quinacridone red	PV23 PR122	51319 73915
386	Mars Black	2	AA	I	■	Synthetic iron oxide	PBk11	77499
395	Mars Violet Deep	2	AA	I	■	Synthetic iron oxide	PR101	77491
400	Mauve Blue Shade	1	A	I	▨	Quinacridone Dioxazine violet Copper phthalocyanine	PV19 PV23 PB15	73900 51319 74160
422	Naples Yellow	1	A	-	■	Zinc oxide Chromium titanate	PW4 PBr24	77947 77310
425	Naples Yellow Deep	2	AA	-	■	Chromium titanium oxide	PBr24	77310
426	Naples Yellow Light	1	A	I	■	Titanium dioxide Quinophthalone Benzimidazalone	PW6 PY138 PO62	77891 56300 -
447	Olive Green	2	A	I	☐	Isoindolinone Carbon black	PY110 PBk6	11775 77266
459	Oxide of Chromium	4	AA	I	■	Chromium oxide	PG17	77288
465	Payne's Gray	1	AA	I	▨	Powdered slate Complex sodium alumino-silicate containing sulphur Synthetic iron oxide Carbon black	PBk19 PB29 PR101 PBk6	77017 77007 77491 77266
468	Permanent Alizarin Crimson	4	A	I	☐	Anthraquinone	PR177	65300
479	Permanent Carmine	2	A	-	☐	Quinacridone/Pyrrol	-	-

CODE	COLOUR NAME	SERIES	PERM.	ASTM	T/O	CHEMICAL DESCRIPTION	COLOUR INDEX C.I. NAME	COLOUR INDEX C.I. NO.
481	Permanent Green	2	A	II	◪	Quinophthalone Chlorinated copper phthalocyanine Titanium dioxide	PY138 PG7 PW6	56300 74260 77891
482	Permanent Green Deep	2	A	I	◪	Quinophthalone Chlorinated copper phthalocyanine Titanium dioxide	PY138 PG7 PW6	56300 74260 77891
483	Permanent Green Light	2	A	I	◪	Chlorinated copper phthalocyanine Titanium dioxide Arylide yellow	PG7 PW6 PY74	74260 77891 -
489	Permanent Magenta	2	A	I	□	Quinacridone	PV19	73900
491	Permanent Mauve	4	AA	I	◪	Manganese phosphate	PV16	77742
502	Permanent Rose	2	A	I	□	Quinacridone	PV19	73900
505	Perylene Black	1	A	-	◪	Perylene black	PBk31	71132
511	Pewter	2	A	-	◩	Iron oxides/Titanium dioxide coated mica	-	-
526	Phthalo Turquoise	1	A	I	□	Chlorinated copper phthalocyanine Copper phthalocyanine	PG7 PB15	74260 74160
538	Prussian Blue	1	A	I	□	Alkali ferriferrocyanide	PB27	77510
540	Prussian Green	2	A	I	□	Isoindolinone Copper phthalocyanine	PY110 PB15	56280 74160
543	Purple Madder	2	A	-	□	Benzimidazalone Quinacridone	PBr25 PV19	12510 73900
544	Purple Lake	1	A	-	□	Carbazole dioxazine Benzimidazolone brown	PV23 PBr25	51319 12510
545	Quinacridone Magenta	2	A	I	□	Quinacridone	PR122	73915
548	Quinacridone Red	4	A	-	□	Quinacridone	PR209	73905
552	Raw Sienna	1	AA	I	□	Natural iron oxide Synthetic iron oxide	PY43 PY42	77492 77492
554	Raw Umber	1	AA	I	◪	Natural iron oxide	PBr7	77492
557	Raw Umber Light	1	AA	I	◪	Natural iron oxide	PBr7	77491
558	Raw Umber (Green Shade)	1	AA	I	◪	Natural iron oxide	PBr7	77491
573	Renaissance Gold	2	A	-	◩	Iron oxides/Titanium dioxide coated mica	-	-
576	Rose Doré	5	A	II	□	Lake of natural madder	Nat.R9	75330
587	Rose Madder Genuine	5	A	II	□	Lake of natural madder	Nat.R9	75330
599	Sap Green	2	A	I	□	Isoindolinone Copper phthalocyanine	PY110 PB15	56280 74160
603	Scarlet Lake	2	A	-	□	Pyrrol	PR255	561050
617	Silver	2	A	-	◩	Aluminium flake	PM1	77000
635	Terra Rosa	1	AA	I	■	Synthetic iron oxide	PR101	77491
637	Terre Verte	1	AA	I	□	Natural earth Hydrated chromium oxide	PG23 PG18	77009 77289
644	Titanium White	1	AA	I	■	Titanium dioxide Zinc oxide	PW6 PW4	77891 77947
646	Transparent Gold Ochre	2	AA	I	◪	Natural iron oxide Synthetic iron oxide	PBr7 PY42	77492 77492
647	Transparent Red Ochre	1	AA	I	◪	Natural iron oxide	PR101	77491
648	Transparent Brown Oxide	1	AA	I	□	Synthetic iron oxide	PR101	77491
653	Transparent Yellow	4	A	-	□	Azo condensation	PY128	20037
655	Transparent White	1	AA	I	◪	Titanium dioxide Zinc oxide	PW6 PW4	77891 77947
657	Transparent Maroon	2	A	-	□	Benzimidazalone	PBr25	12510
667	Ultramarine (Green Shade)	1	A(iii)	I	□	Complex sodium alumino-silicate containing sulphur	PB29	77007
672	Ultramarine Violet	2	A(iii)	I	□	Complex sodium alumino-silicate containing sulphur	PV15	77007
674	Underpainting White (Fast Drying)	1	AA	I	■	Titanium dioxide Zinc oxide	PW6 PW4	77891 77947
676	Vandyke Brown	1	A	-	□	Bituminous earth Calcined natural iron oxide	Nat.Br8 PBr7	- 77491
678	Venetian Red	1	AA	I	■	Synthetic iron oxide	PR101	77491
692	Viridian	4	AA	I	□	Hydrated chromium oxide	PG18	77289
706	Winsor Blue (Red Shade)	2	A	I	□	Copper phthalocyanine	PB15	74160
707	Winsor Blue (Green Shade)	2	A	I	□	Copper phthalocyanine	PB15	74160
708	Winsor Emerald	2	A	I	■	Brominated copper phthalocyanine Zinc oxide	PG36 PW4	74265 77947
720	Winsor Green	2	A	I	□	Chlorinated copper phthalocyanine	PG7	74260
721	Winsor Green (Yellow shade)	2	A	I	□	Brominated copper phthalocyanine	PG36	74265
722	Winsor Lemon	2	A	II	◪	Arylide yellow	PY3	11710
724	Winsor Orange	2	A	-	◪	Pyrrol	PO73	561170
725	Winsor Red Deep	2	A	I	◪	Perylene red	PR149	71137
726	Winsor Red	2	A	-	◪	Pyrrol Pyrrol	PR255 PR254	561050 56110
730	Winsor Yellow	2	A	I	◪	Arylide yellow	PY74	11741
731	Winsor Yellow Deep	2	A	I	◪	Arylide yellow RN	PY65	11740
733	Winsor Violet (Dioxazine)	2	A	I	□	Carbazole dioxazine	PV23	51319
744	Yellow Ochre	1	AA	I	◪	Natural iron oxide	PY43	77492
745	Yellow Ochre Light	1	AA	I	◪	Natural iron oxide	PY43	77492
746	Yellow Ochre Pale	1	AA	I	■	Synthetic iron oxide	PY42	77492
748	Zinc White	1	AA	-	■	Zinc oxide	PW4	77947

By Appointment to
HRH The Prince of Wales
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Winsor & Newton
London

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