

WINSOR & NEWTON
**GRIFFIN
ALKYD**

**FAST DRYING
OIL COLOUR**

*The Versatile
Oil Colour*



English

WINSOR & NEWTON™ GRIFFIN ALKYD

**FAST DRYING
OIL COLOUR**

An Introduction

Oil colour has been used in various forms since the fifteenth century. Its rich, voluptuous nature, unique aroma and extraordinary versatility has ensured that it still maintains its standing as one of the most popular painting media today.

Winsor & Newton began making colours in 1832, swiftly developing and subsequently maintaining a reputation for unparalleled excellence and consistency. Using this wealth of colour making experience, Winsor & Newton have developed a range of new and improved Griffin Alkyd Fast Drying Oil Colour which offers unique features not found in traditional oils or acrylics.

With this range the artist can enjoy all the benefits of using a conventional oil colour together with the convenience of completing a painting which is touch dry within a day.

Griffin Alkyd Fast Drying Oil Colour

Griffin Alkyd Fast Drying Oil Colour is a genuine oil colour made from pigment and oil modified alkyd resin which can be thinned using conventional oil colour solvents. It is this unique formulation which allows Griffin Alkyd Fast Drying Oil Colour to dry quicker than most oil colours but slower than acrylics.

The oil modified alkyd resin binder includes a solvent which is necessary to control the drying rate and consistency of the colour. This enhances the transparency and luminosity of Griffin Alkyd Colour. The binder used also produces a more fluid consistency than traditional oils.

The Griffin Alkyd Fast Drying Oil Colour Range has undergone a number of changes and improvements. The range offers the artist 16 new colours (total range of 50 colours) which are now available in 37ml size tubes. Each colour has been specially selected to offer the greatest choice and flexibility to artists and the ability to select the palette which suits their work. In addition, 3 colours have been modified, 31 have remained unchanged and 7 have been discontinued. Full details are available in the Technical Section.

Improvements in lightfastness have been made across the range using new, high durability pigments. All Griffin Alkyd Colours are now rated AA or A and are recommended as permanent for artists' use.

The Range

The Griffin Alkyd Fast Drying Oil Colour Range offers a wide and balanced spectrum of 50 colours in 37ml tubes. Titanium White is also available in larger 120ml and 200ml size tubes and Flake White (USA only) is available in 120ml size tubes.

The colour range has been chosen according to mass tone (colour from tube), undertone (bias of colour when in a thin film), strength and relative opacity.

The resultant colour spectrum of 50 colours ensures that the widest range of colours can be mixed from the range.

There are two Series in the Griffin Alkyd Fast Drying Oil Colour Range: Series 1 contains the largest number of colours (37) and Series 2 contains genuine Cadmiums and Cobalts (13 colours). The Series Number indicates the price of the colour and is mainly determined by the cost of obtaining and refining the pigment. Full details of all colours can be found in the Technical Section.

A set containing six tubes is also available which is ideal for the beginner.





Characteristics and Benefits of The Range

Formulation

Winsor & Newton have over 165 years of experience in the making of oil colours. The choice of raw materials, formulation and manufacture of Griffin Alkyd Fast Drying Oil Colour reflects this experience and provides a product of absolute excellence. The vehicle (oil modified alkyd resin) allows the colour to dry quicker whilst retaining the other characteristics of conventional oil colour.

Speed of Drying

The most outstanding advantage of Griffin Alkyd Fast Drying Oil Colour is the speed of drying. Depending upon your technique, you will be able to complete a picture in a fraction of the time required for a traditional oil painting. The best examples are glazing and impasto which normally take weeks to complete and dry.

All Griffin Alkyd Fast Drying Oil Colours have been specially formulated to dry at a uniform speed, regardless of pigment, making them easier to use.

Griffin Alkyd Fast Drying Oil Colour tends to remain workable on the palette for 4-8 hours yet is touch dry in 18-24 hours. However, the drying time will be affected by the thickness of the paint and the temperature of the environment.

Speed of drying makes Griffin Alkyd Colour ideal for using at college, art school or in art society environments and also for examinations, painting outdoors or on holiday.

Pigments

A wide variety of pigments are used in Griffin Alkyd Fast Drying Oil Colour to provide all the characteristics expected from a Winsor & Newton oil colour:

- Good pigment strength – this provides covering power.
- A high proportion of single pigments – provides brilliance of colour and clean colour mixing. This is particularly important for greens, violets and oranges.

Transparency and Opacity

Both opaque and transparent colours are available in the range (refer to chart in Technical Section as a guide). Pigments vary in their transparency by nature and Griffin Alkyd Fast Drying Oil Colour has been formulated to reflect true pigment characteristics, ensuring that synthetic organics such as Phthalocyanines and Quinacridones (i.e. Winsor or Permanent colours) deliver maximum transparency, whilst Cadmiums and Earth colours offer excellent opacity. However, the formulation of Griffin Alkyd Colour naturally provides colours of greater transparency than conventional oils, making them popular for glazing. Transparent colours used for glazing and tinting give depth of colour to the painting surface.

Opaque colours cover well allowing flat areas of colour and the ability to create the underlayers of the painting.

Permanence

Most artists like to be certain that their colours are permanent. Winsor & Newton have therefore developed permanent alternatives for the less durable traditional colours without compromising the handling properties of Griffin Alkyd Fast Drying Oil Colour. As a result, the permanence across the colour range has been improved beyond the dreams of past painters.

All of the 50 colours in the range now carry the Winsor & Newton permanence rating of AA or A which means that they are recommended as permanent for artists' use. For a more detailed explanation of permanence and the individual rating of each colour see the Technical Section.

Published Pigment Information

Winsor & Newton were the first company to publish the composition and permanence of their colours in 1892, believing in providing artists with as much information as possible. Today the pigments used in Griffin Alkyd Fast Drying Oil Colour are printed on the labels and in this leaflet.

ADVANTAGES OF GRIFFIN ALKYD COLOUR OVER TRADITIONAL OILS AND ACRYLICS

Griffin Alkyd Colour versus oils

- Quicker speed of drying
- Greater transparency and luminosity from the tube
- More fluid consistency
- Harder paint film for outdoor or craft use

Griffin Alkyd Colour versus acrylics

- Oil colour consistency
- Depth of colour of oils
- Longer drying time
- Looks like oil colour painting when finished

Using Griffin Alkyd Fast Drying Oil Colour

TIPS, TECHNIQUES AND ACCESSORIES

Oil Painting Rules

Oil painting with Griffin Alkyd Fast Drying Oil Colour requires attention to three conventional oil painting rules:

- Fat over lean (flexible over less flexible). When oil painting in layers, each successive layer must be more flexible than the one underneath. This rule is maintained by adding more medium (e.g. Liquin) to each successive layer.
- Thick over thin. Thick layers of oil colour are best applied over thin underlayers.
- Due to differences in flexibility, never use Griffin Alkyd Colour on top of conventional oil colours unless the oil colour is completely dry (6-12 months). Conventional oils may, however, be used over Griffin Alkyd Colour.

Colour Mixing

Pigment purity in the Griffin Alkyd Fast Drying Oil Colour Range ensures the brightest colour mixtures. Artists are however, often interested in the colour theory of painting. The three primary colours in the Griffin Alkyd Fast Drying Oil Colour Range are Winsor Lemon, Phthalo Blue and Permanent Rose. These colours are the best selection when only three colours are used. When using a six colour mixing system, we recommend Winsor Lemon, Winsor Yellow, French Ultramarine, Phthalo Blue, Permanent Rose and Cadmium Red Medium.

Whites in the Range

White is the most popular colour in the spectrum and is most useful for producing 'tints' when mixed with other colours. The three whites which are available in the Griffin Alkyd Colour range offer the artist different working characteristics. Titanium White is the most popular modern white. It is the whitest, most opaque white and gives excellent covering power in a painting. Mixing White is the most transparent white available which makes it ideal for tints and glazing. Flake White (Lead White) is available only in the USA and is excellent for artists who want a less bright white than Titanium White.

TECHNIQUES

Glazing

Glazing is the build up of layers of transparent or semi-transparent colour over dry underlayers. It is a lengthy technique where the effects in oil are unmatched when compared to other media. Griffin Alkyd Fast Drying Oil Colour is excellent for glazing due to its speed of drying. Liquin is an excellent glazing medium and will reduce brushmarks.



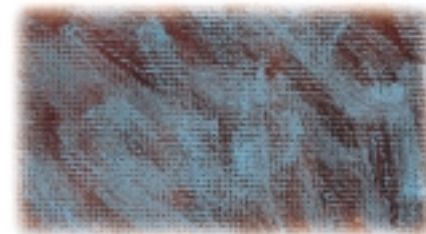
Blending

Blending is the mixing of two or more colours so that you can get an even gradation between them. To get an evenly blended area, it is recommended to mix Liquin with the colours on the palette first.



Scumbling

Loosely brush a thin film of opaque or semi-opaque colour over your underpainting. This may actually show through in places and can retain an important influence on the surface appearance of the painting. Liquin or Wingel can be used to thin the colour. If you prefer a thick texture, use Oleopasto.



Stipple Effect

A bristle brush and thick viscous oil colour can create a "stipple" texture. Tube colour alone will work well or colour mixed with Oleopasto.



Scraping Back

"S'graffito", the technique of scratching into a wet oil film, can be done with the pointed end of a brush, painting knife or any scraping device.

It is effective in defining outlines or details for expressive effects. If you want more time for scraping back Griffin Alkyd Colour, you can slow the drying by using Refined Linseed Oil or Artists' Painting Medium with the colours.



Impasto

This is the technique of applying paint thickly, so that the brushstrokes are plainly visible and create a textured effect. Oleopasto will add texture and increase transparency. For thick impasto, build the texture in several layers allowing each to dry first.



Underpainting

Many artists complete the underpainting of a project in Griffin Alkyd Colours to save time and then go on to complete it with conventional oil colour. Underpainting can be done in monochrome using any colour, or it can be done in full colour because of the rapid and consistent drying time of Griffin Alkyd Colour.



OTHER METHODS OF USING GRIFFIN ALKYD FAST DRYING OIL COLOUR

Alkyd resin dries to a hard paint film that has good resistance to physical wear and weathering. This makes Griffin Alkyd Fast Drying Oil Colour the ideal choice for using on surfaces such as wood, glass, metal or porcelain to decorate both functional (non-food use) and decorative items.

Griffin Alkyd Colour is ideal for decorative painting which is popular in Northern Europe and also with folk artists. The speed of drying and hard paint film make Griffin Alkyd Colour ideal for outdoor signs and oil colour murals.

Bright colours and fast drying make Griffin Alkyd Colour an exceptionally good choice for design work. Unlike gouache and water colours, Griffin Alkyd Colour is water-resistant.



USING GRIFFIN ALKYD FAST DRYING OIL COLOUR WITH CONVENTIONAL OIL COLOUR

Griffin Alkyd Colour can be mixed with traditional oil colour, although you will lose the speed of drying. Combinations should be made on the palette. Alternate layers of Griffin Alkyd Colours and traditional oil colour should not be used due to their differing flexibilities.

Examples of decorative painting using Griffin Alkyd Fast Drying Oil Colour



ACCESSORIES

Surfaces and Primers

Stretched, primed canvas is the traditional surface for oil colour but in recent years canvas board has become increasingly popular, particularly for sketching and painting outdoors. Winsor Canvas, Winsor Linen or Winsor Board are recommended if the artist wants to exploit a variety of techniques and ensure long term stability. Winsor canvases are not available in the USA.

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 recommended.

Artists can also prepare their own grounds using Winsor & Newton Primers: Acrylic Gesso Primer, Clear Gesso Base or Galeria Gesso can be used. Traditional Oil Painting Primer can also be used, but generally requires size underneath.

Solvents

Solvents (or thinners) are used to dilute Griffin Alkyd Fast Drying Oil Colour and to clean brushes and palettes after painting. The solvent evaporates as part of the drying process.

There are three main solvents which oil painters use, each one having its own characteristics and benefits. The traditional solvent is English Distilled Turpentine which has a strong and characteristic smell. It helps to maintain the oiliness of the colour but can deteriorate when stored. Artists' White Spirit (mineral spirit) makes a watery mixture with the colour and evaporates more quickly. It is less hazardous than Turpentine, is cheaper and does not deteriorate on storage.

Finally, Sansodor performs in a similar way to turpentine but has a low odour and is the least hazardous of all the solvents. It does not deteriorate on storage. All solvents should be used in well ventilated conditions.

Mediums

Mediums allow you to alter the characteristics and working properties of your tube colour e.g. consistency, gloss, drying rate and texture. They work by diluting the colour and the addition of mediums whilst painting ensures that the artist does not overthin their paint.

There are two main types which can be used with Griffin Alkyd Fast Drying Oil Colours; oil based and alkyd based. The oil based mediums are traditional and combine oils and solvents which will slow down the drying process of the painting.

The alkyd based mediums combine synthetic alkyd resins with solvents to maintain the drying process, the most popular of these is Liquin.

Varnishes

Varnishes provide a transparent coating which protects your finished painting from general dirt. Picture varnishes are removable, enabling the painting to be cleaned in the future.

Varnishes should not be used as mediums for adding to the colour. Although Griffin Alkyd Fast Drying Oil Colour paintings are touch dry in 18-24 hours they should not be varnished until thoroughly dry (at least 3 months).

Brushes

Winsor & Newton have over 100 years experience in making brushes for artists. A selection of good brushes provides a choice of marks and makes it easier for you to paint. If well cared for, brushes will have a long lifespan.

If using thickly applied colour or impasto, bristle brushes are the most common.

Winsor & Newton supplies three ranges particularly suitable for oil; Artists' Hog (Rathbone in the USA), Winton and Azanta.

If you prefer a synthetic hair brush, the Artisan range has been specifically designed for use with oil colour. The stiff nature of the bristle and its natural split tips, called 'flags', produce brushes which wear well and carry considerable quantities of colour.

If blending and glazing is more prevalent in your technique, a soft hair brush is recommended. Cirrus sables or the blend of sable and synthetic in the Sceptre Gold series are most commonly used (in the USA Lexington II - bristle/synthetic and Monarch – synthetic mongoose brushes are also used).

Palettes and Dippers

Mahogany palettes can be used with Griffin Alkyd Fast Drying Oil Colour but white melamine palettes are often preferred by today's painters because canvases are commonly white. This means the colour you see on your palette will also look the same on the canvas. In selected countries, Winsor & Newton also supply expendable paper palettes which can be disposed of at the end of each painting session.

Dippers are specially designed to minimise the risk of spillage. Dippers are clipped onto or placed alongside your palette to hold solvent and mediums during painting.



Technical Information

INTRODUCTION

The Technical Section has been compiled to give you a comprehensive guide to the complete colour range. This section is split into five areas:

1. Composition and Permanence Table

This table gives essential information on the colour composition and performance of the entire Griffin Alkyd Fast Drying Oil Colour Range.

2. Modified Colours

A list of colours which have been modified together with an explanation for the changes.

3. New Colours

A list of the new colours and the reason for their introduction.

4. Discontinued Colours

A list of the colours from the previous range which have been discontinued together with an explanation for the changes. In addition, we list recommended colours from the new range which can be used as alternatives to the discontinued colours.

5. Colour Chart

A colour chart showing the entire range of colours (within the limitations of lithographic colour printing).

SECTION 1 – COMPOSITION AND PERMANENCE TABLE

This table is designed to provide a summary of the essential information on the colour composition of Griffin Alkyd Fast Drying Oil Colour. To help you understand the table, the following notations are explained:

Colour Code – Code

This colour code column indicates the code number that is given to each of the colours. These are the last 3 digits of the 7 digit product code. The colour codes are primarily for ease of reference for the retailer when stock holding, for catalogue purposes and to assist you in purchasing your materials.

Colour Name

This is the colour name e.g. Permanent Alizarin Crimson

U/M/N Unchanged/Modified/New Colour

Details by colour:

U Unchanged colour

- these colours have not been changed.

M Modified colour

- these colours have been changed in some way. Section 2 gives details why the changes have been made and the effect, if any on hue.

N New colour

- Section 3 details each individual new colour, why it has been introduced and its benefits.

Series Number

The Griffin Alkyd Fast Drying Oil Colour Range is split into two groups termed "Series". The Series indicates the relative price of

the colour and is determined mainly by the cost of the pigment. Series 1 is the least expensive and Series 2 the most expensive.

Chemical Description

This column provides the chemical description of the pigments used in each colour.

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 will allow you to research a specific pigment's working characteristics in reference books if you wish. 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 Winsor & Newton Griffin Alkyd Fast Drying Oil Colour are detailed in this leaflet, 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. opacity, lightfastness.

b) Colour Index Number – C.I. Number

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

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

Permanence – perm.

Permanence of an oil colour is defined as "its durability when laid with a brush and palette knife on ordinary prepared canvas and while under a glass frame in a dry room, freely exposed to ordinary daylight and an ordinary town atmosphere".

The actual grading system is as follows:

AA	-	Extremely permanent
A	-	Permanent

All Griffin Alkyd Fast Drying Oil Colours are recommended as permanent for artists' use.

ASTM

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

Each colour is rated on a scale from I – II for alkyd colour. In this system I is the highest lightfastness available though both ratings I and II are considered permanent for artists' use.

Where no ASTM rating is given for a Winsor & Newton colour this usually indicates that the pigment or the type of range 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 that evaluates colour on many aspects including lightfastness, should be used to indicate a colour's ability to resist fading.

Transparency/Opacity – T/O

Listed here and on the colour chart are the transparent or semi-transparent colours marked "T" and the relatively opaque or semi-opaque colours marked "O". Titanium White can be added to all colours to increase opacity but will reduce the colour to a tint.

Health & Safety Considerations

All artists' colours are chemical preparations and as such should be used and handled correctly. Winsor & Newton products are labelled according to the current legislation in the market in which they are being sold and provide health and safety information on each individual colour where appropriate.

The solvent contained in Griffin Alkyd Colour is a very low aromatic hydrocarbon solvent and is the least hazardous solvent used by artists for thinning oil colours without losing handling properties.

Used properly, Griffin Alkyd Colour should not present any serious hazards to health. The following hints and tips should help you establish and maintain a good working practice which is appropriate when using any artists' material.

• Avoid prolonged skin contact:

- Use a hand cleanser like Winsor & Newton Artgel rather than solvent to wash your hands.
- Wear protective gloves when cleaning up your palette and washing your brushes.

• Avoid ingestion (swallowing):

- Always wash your hands after painting and before eating, drinking or smoking.
- Do not point brushes in your mouth.

• Work in proper, ventilated conditions:

- Allow for good air circulation and extraction.
- Do not sleep in the same room used for painting.
- Do not leave colour and solvents out after painting.
- Only pour out the quantity of solvent, medium or colour required.
- Avoid wide brimmed, shallow vessels for solvents.

Should further information be required please see the Winsor & Newton catalogue and the Health and Safety Product Information Leaflet.

COMPOSITION AND PERMANENCE TABLE

Code	Colour Name	U M N	Series No.	Chemical Description	C.I. Name	C.I. Number	Perm.	ASTM	T/O
074	Burnt Sienna	U	1	Synthetic iron oxide	PR101	77491	AA	I	T
076	Burnt Umber	U	1	Calcined natural iron oxide	PBr7	77491	AA	I	T
086	Cadmium Lemon	U	2	Cadmium zinc sulphide	PY35	77205	A	—	0
089	Cadmium Orange	U	2	Cadmium sulphoselenides	PR108, PO20	77202, 77199	A	I	0
097	Cadmium Red Deep	U	2	Cadmium sulphoselenide	PR108	77202	A	I	0
100	Cadmium Red Light	U	2	Cadmium sulphoselenide	PR108	77202	A	I	0
099	Cadmium Red Medium	U	2	Cadmium sulphoselenide	PR108	77202	A	I	0
111	Cadmium Yellow Deep	U	2	Cadmium zinc sulphide, Cadmium sulphoselenide	PY35, PO20	77205, 77199	A	—	0
113	Cadmium Yellow Light	U	2	Cadmium zinc sulphide	PY35	77205	A	—	0
116	Cadmium Yellow Medium	U	2	Cadmium zinc sulphide	PY35	77205	A	—	0
137	Cerulean Blue	N	2	Oxides of cobalt and tin	PB35	77368	AA	—	0
139	Cerulean Blue Hue	U	1	Titanium dioxide, Chlorinated copper phthalocyanine, Copper phthalocyanine	PW6, PG7, PB15	77891, 74260, 74160	A	I	0
178	Cobalt Blue	U	2	Oxides of cobalt/aluminium	PB28	77346	AA	I	T
217	Davy's Gray	N	1	Slate powder, Synthetic iron oxide, Carbon black	PBK19, PY42, PBk7	77017, 77492, 77266	AA	—	T
229	Dioxazine Purple	U	1	Dioxazine violet	PV23	51319	A	I	T
245	Flake White (US only)	U	1	Basic lead carbonate	PW1	77597	A	I	0
257	Flesh Tint	M	1	Synthetic iron oxide, Titanium dioxide, Quinacridone	PY42, PW6, PV19	77492, 77891, 46500	A	I	0
263	French Ultramarine	U	1	Complex silicate of sodium and aluminium with sulphur	PB29	77007	A (iii)	I	T
317	Indian Red	U	1	Synthetic iron oxide	PR101	77491	AA	I	0
319	Indian Yellow	N	1	Isoindoline yellow	PY139	56298	A	—	T
331	Ivory Black	U	1	Amorphous carbon produced by charring animal bones	PBk9	77267	AA	I	0
337	Lamp Black	U	1	Carbon black	PBk6	77266	AA	I	0
362	Light Red	U	1	Synthetic iron oxide	PR101	77491	AA	I	0
380	Magenta	N	1	Quinacridone, Copper phthalocyanine	PR122, PB15	73915, 74160	A	I	T
415	Mixing White	N	1	Titanium dioxide	PW6	77891	AA	I	0
422	Naples Yellow Hue	U	1	Titanium dioxide, Synthetic iron oxides	PW6, PR101, PY42	77891, 77491, 77492	AA	I	0
447	Olive Green	M	1	Azomethine copper complex, Carbon black	PY129, PBk7	48042, 77266	A	—	T
459	Oxide of Chromium	N	1	Anhydrous chromium oxide	PG17	77288	AA	—	0
465	Payne's Gray	U	1	Complex silicate of sodium and aluminium with sulphur, Carbon black	PB29, PBk6	77007, 77266	A	I	0
468	Permanent Alizarin Crimson	N	2	Anthraquinone	PR177	65300	A	—	T
480	Permanent Geranium Lake	N	1	Quinacridone red	PR209	73902	A	—	T
501	Permanent Rose	U	1	Quinacridone violet	PV19	46500	A	I	T
503	Permanent Sap Green	N	2	Chlorinated copper phthalocyanine, Azomethine copper complex, Thioindigo violet	PG7, PY129, PR88	74260, 48042, 73312	A	—	T
514	Phthalo Blue	U	1	Copper phthalocyanine	PB15	74160	A	I	T
521	Phthalo Green (Yellow Shade)	N	1	Brominated copper phthalocyanine	PG36	74265	A	—	T
522	Phthalo Green	U	1	Chlorinated copper phthalocyanine	PG7	74260	A	I	T
538	Prussian Blue	U	1	Alkali ferriferrocyanide	PB27	77510	A	I	T
544	Purple Lake	N	1	Anthraquinone, Complex silicate of sodium and aluminium with sulphur	PR177, PB29	65300, 77007	A	—	T
552	Raw Sienna	U	1	Natural iron oxide	PY43	77492	AA	I	T
554	Raw Umber	U	1	Natural iron oxide, Synthetic iron oxide	PBr7, PBk11	77492, 77499	AA	I	T
603	Scarlet Lake	N	1	Naphthol AS	PR188	12467	A	—	T
637	Terre Verte	U	1	Chlorinated copper phthalocyanine, Natural earth	PG7, PG23	74260, 77009	A	I	T
644	Titanium White	U	1	Titanium dioxide	PW6	77891	AA	I	0
667	Ultramarine (Green Shade)	N	1	Complex silicate of sodium and aluminium with sulphur	PB29	77007	A (iii)	I	T
676	Vandyke Brown	U	1	Calcined natural iron oxide, Carbon black	PBr7, PBk6	77491, 77266	AA	I	0
680	Vermilion Hue	M	1	Naphthol carbamide, Benzimidazolone orange, Titanium dioxide	PR170, PO36, PW6	12475, 11780, 77891	A	—	0
692	Viridian	U	2	Hydrated chromium oxide	PG18	77289	AA	I	T
722	Winsor Lemon	N	1	Arylamide yellow	PY3	11710	A	II	T
726	Winsor Red	N	1	Naphthol AS, Naphthol carbamide	PR188, PR170	12467, 12475	A	—	T
730	Winsor Yellow	N	1	Arylamide yellow	PY74	11741	A	—	T
744	Yellow Ochre	U	1	Natural iron oxide	PY43	77492	AA	I	0

SECTION 2 - MODIFIED COLOURS

Below is a list of colours which have been modified together with an explanation for the changes.

Code	Modified Colour Name	Reason for Modification	Change in Hue?
257	Flesh Tint	Improved Lightfastness.	Yes, slightly brighter.
447	Olive Green	Improved Lightfastness.	Yes, slightly brighter.
680	Vermilion Hue	Improved Lightfastness.	No.

SECTION 3 - NEW COLOURS

This table gives you details of all the new colours in the range.

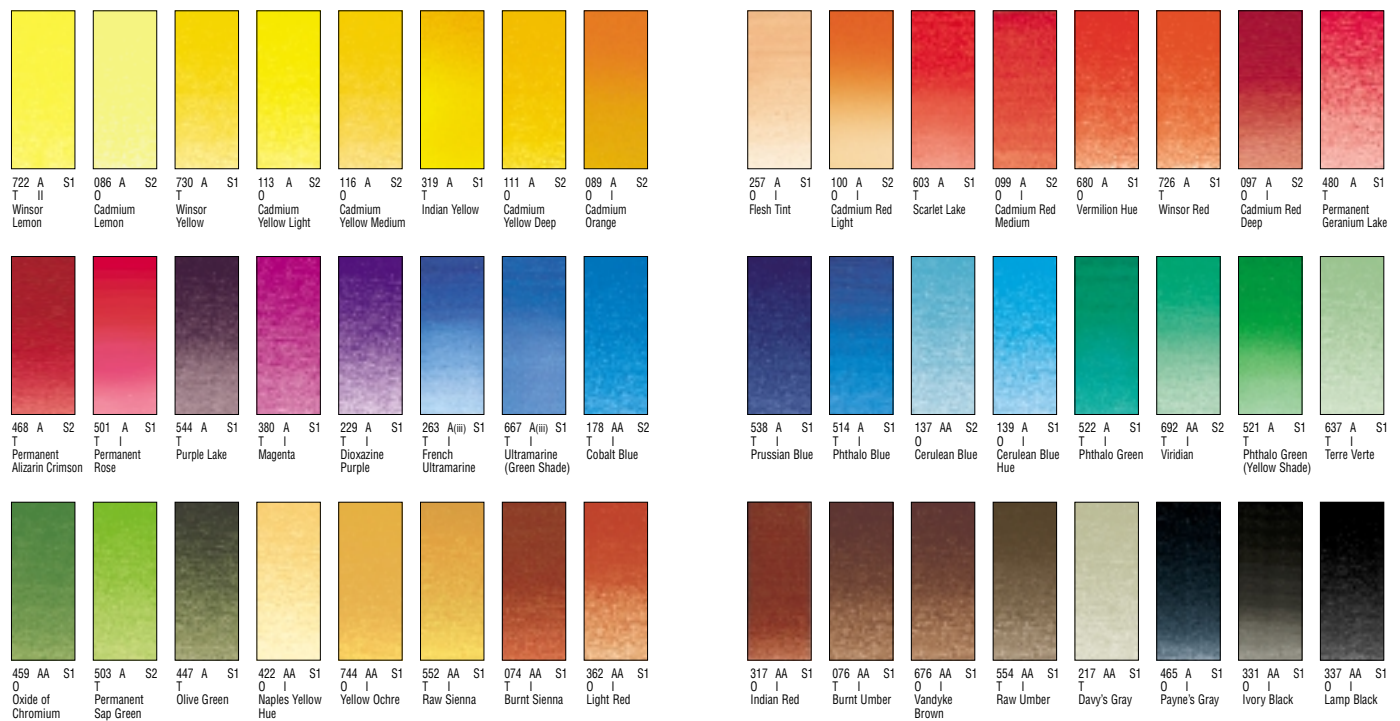
Code	Colour name	Reason for new colour	Benefit
137	Cerulean Blue	New colour to improve the spectrum across the range.	Opaque, pale blue. Greatly valued traditional pigment.
217	Davy's Gray	New colour to improve the spectrum across the range.	Excellent for toning down mixtures without blackening them, particularly for landscape artists.
319	Indian Yellow	New colour to improve the spectrum across the range.	Highly transparent, bright yellow.
380	Magenta	New colour to improve the spectrum across the range.	A blue shade violet.
415	Mixing White	New colour to improve the spectrum across the range.	Alternative to Zinc White. Excellent for tints and glazing.
459	Oxide of Chromium	New colour to improve the spectrum across the range.	Highly opaque, earthy green. Excellent for landscapes and underpainting.
468	Permanent Alizarin Crimson	Lightfast replacement for Alizarin Crimson.	Permanent alternative to highly popular blue shade crimson.
480	Permanent Geranium Lake	New colour to improve the spectrum across the range.	A bright, highly transparent yellow shade pink. Excellent for flowers.
503	Permanent Sap Green	Lightfast replacement for Sap Green.	Permanent alternative to this traditional landscape and still life green.
521	Phthalo Green (Yellow Shade)	New colour to improve the spectrum across the range.	Bright yellow shade green with high tinting strength.
544	Purple Lake	New colour to improve the spectrum across the range.	Traditional dark purple, useful in shadows.
603	Scarlet Lake	New colour to improve the spectrum across the range.	A bright, clean, yellow shade transparent red.
667	Ultramarine (Green Shade)	Green shade ultramarine to improve spectrum across the range.	Green shade ultramarine, ideally suited for mixing greens.
722	Winsor Lemon	New colour to improve the spectrum across the range.	A pale, transparent, green shade yellow, which makes bright mixtures.
726	Winsor Red	Lightfast replacement for London Red.	A bright, blue shade transparent red.
730	Winsor Yellow	Lightfast replacement for London Yellow.	A red shade, transparent yellow.

SECTION 4 - DISCONTINUED COLOURS

This table explains why some colours have been discontinued and recommends the closest alternative to the colour you formerly used.

Code	Discontinued colour	Reason for discontinuation	Nearest equivalent colour(s) in the new range
004	Alizarin Crimson	Replaced by more lightfast/permanent pigment.	Permanent Alizarin Crimson.
194	Cobalt Violet Hue	Replaced by more useful colours in the spectrum.	Magenta + Dioxazine Purple + Titanium White.
373	London Red	Replaced by more lightfast/permanent pigment.	Winsor Red.
374	London Yellow	Replaced by more lightfast/permanent pigment.	Winsor Yellow.
483	Permanent Green Light	Replaced by more useful colours in the spectrum.	Titanium White + Winsor Lemon + Phthalo Blue.
579	Rose Madder	Close to Alizarin Crimson.	Permanent Alizarin Crimson.
599	Sap Green	Replaced by more lightfast/permanent pigment.	Permanent Sap Green.

SECTION 5 - COLOUR CHART



KEY TO CODING

415 AA S1	644 AA S1	245 AA S1
O I	O I	O I
Mixing White	Titanium White	Flake White

AA	Extremely Permanent
A	Permanent
T	Transparent/Semi-Transparent
O	Opaque/Semi-Opaque
S	Series Number

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	

(iii) Bleached by acids, acidic atmospheres

Sizes available:	
37ml Tubes	- All colours except Flake White
120ml Tubes	- Titanium White and Flake White
200ml Tubes	- Titanium White

NB. Flake White is only available in the USA

This colour chart is produced within the limitations of lithographic colour printing and is intended as a guide only.



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