

COLOUR IN THE BUILT ENVIRONMENT



Session overview

AkzoNobel



**Introduction to
AkzoNobel**



**The Importance of Colour -
How we see & perceive it**



**Colour for Interiors
and Exteriors**



**Colour Combinations
and Colour Scheming**



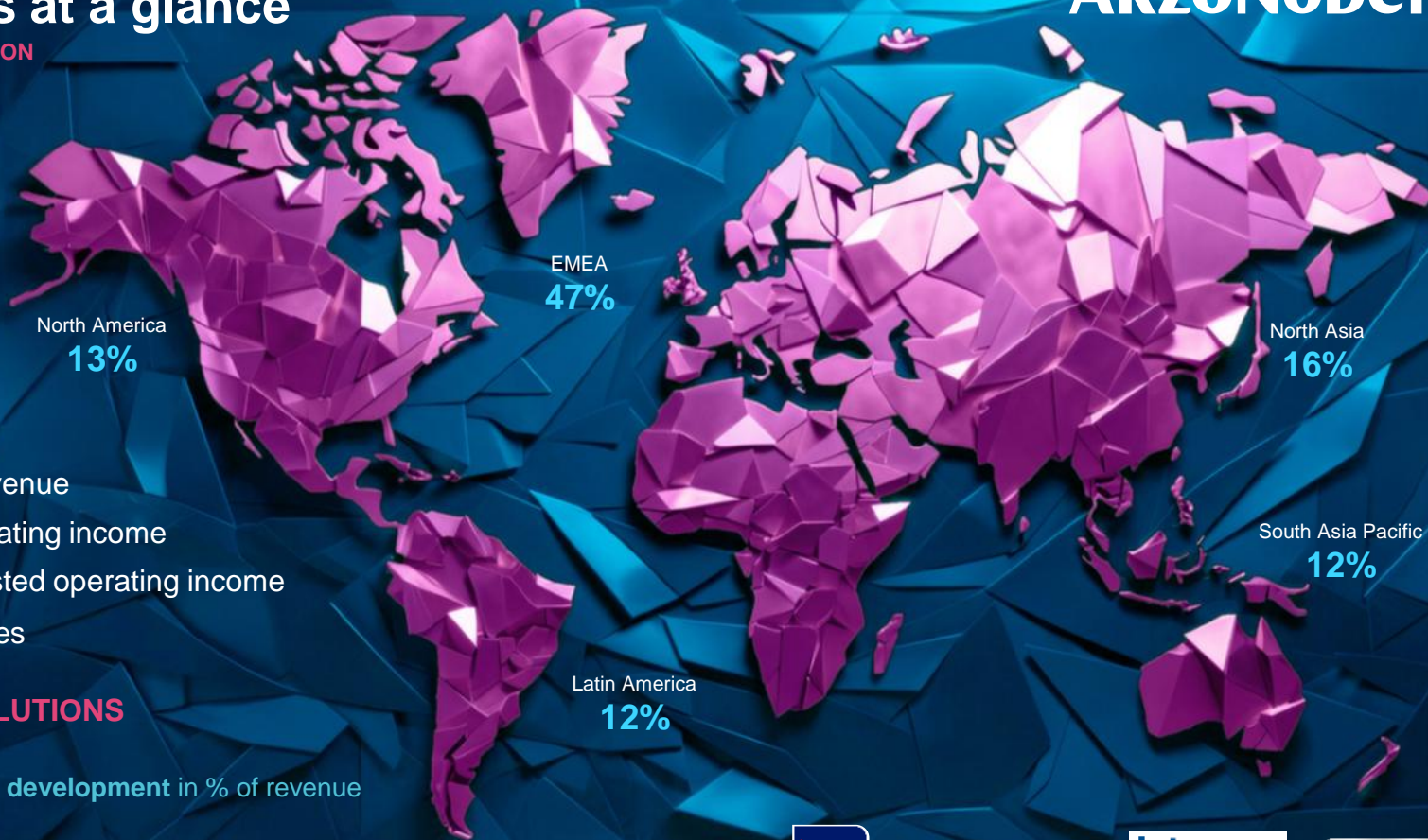
Questions

Introduction to Akzonobel

2023 results at a glance

REVENUE BY DESTINATION

AkzoNobel



2023 KEY DATA:

€10,668 mln revenue

€1,029 mln operating income

€1,074 mln adjusted operating income

35,200 employees

SUSTAINABLE SOLUTIONS

39%

Sustainable solutions development in % of revenue

39 / 39 / >50

2022 2023 2030

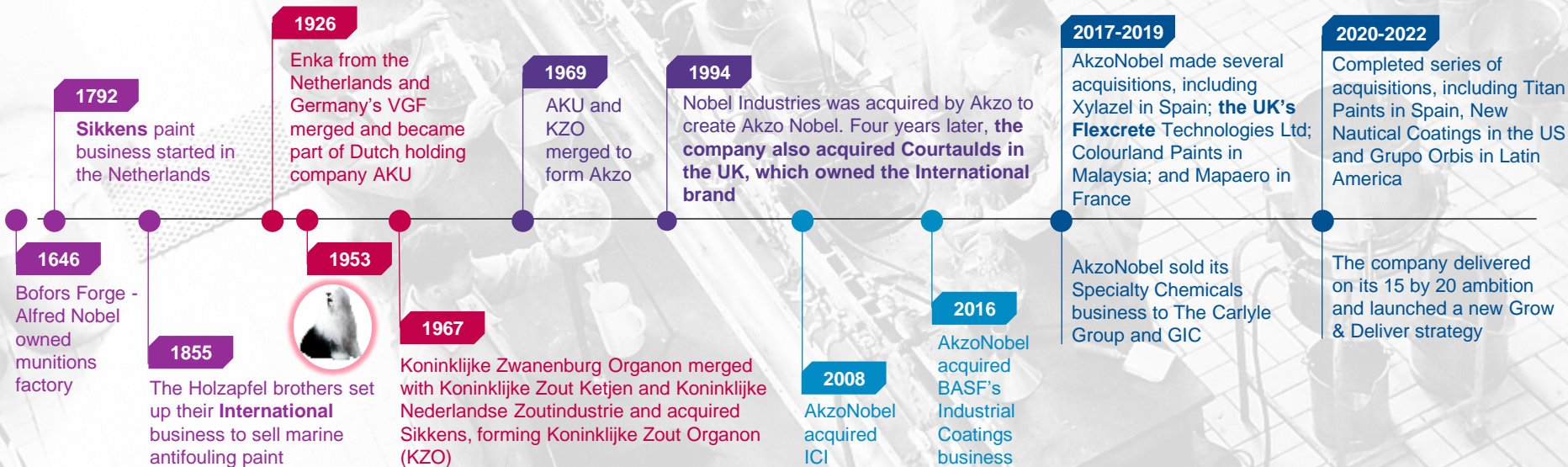


International

Interpon
POWDER COATINGS

sikkens

We've been setting the standard in colour and protection for more than 200 years



AkzoNobel sustainability pyramid

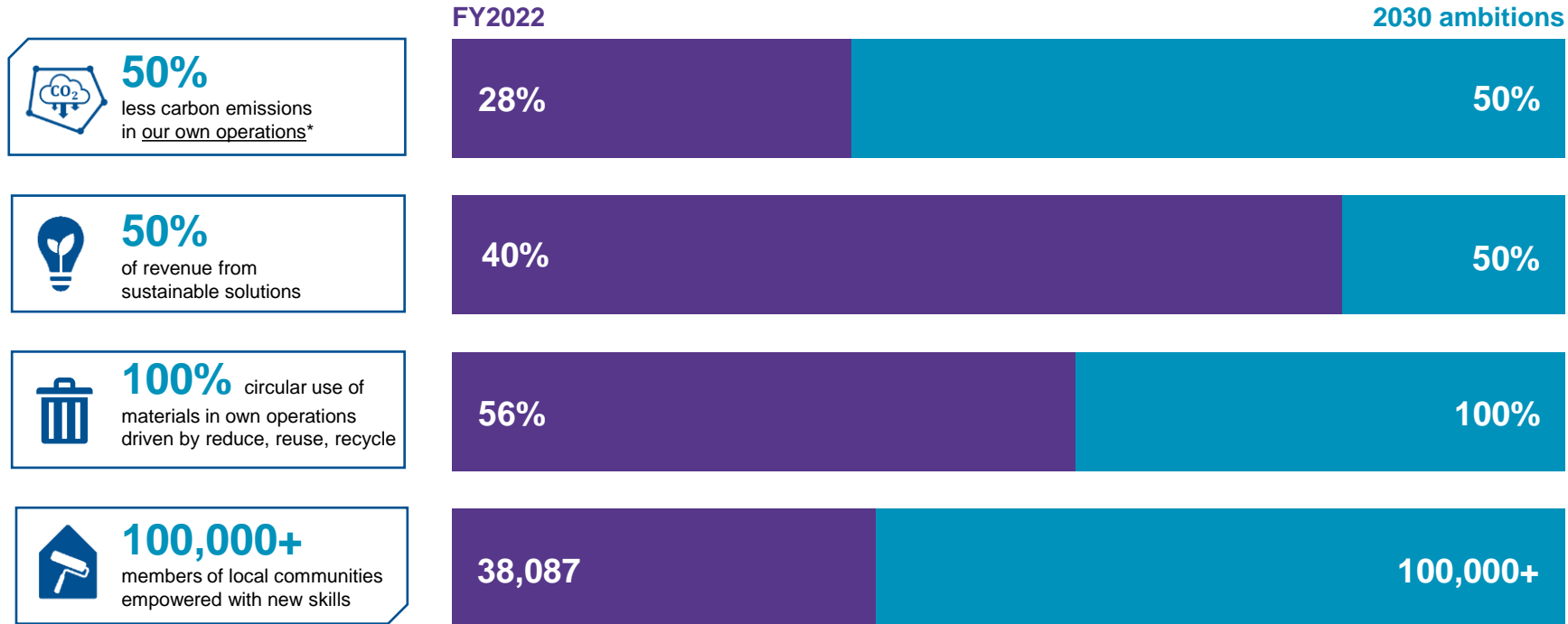
Our products and brands make it possible for us to live up to our People. Planet. Paint. sustainability approach.

They're each making crucial contributions to our sustainability ambitions through all the layers of this pyramid.



*Baseline 2018

Progress towards our ambitions



* Absolute reduction, baseline 2018.

The Importance of Colour

Imagine a world without colour



A vibrant rainbow arches over a lush green landscape under a blue sky with white clouds. The rainbow is the central focus, with its colors clearly visible. The landscape below is a rolling green field with scattered trees and distant hills. The sky is a deep blue with soft, white clouds. The overall scene is bright and cheerful, emphasizing the beauty of nature's colors.

Wouldn't life be boring?

Colour has an amazing power
which most of us take for granted

Colour choice can be challenging

In general, the colour selection process is regarded as quite difficult.

It is not a linear process and can be time consuming.



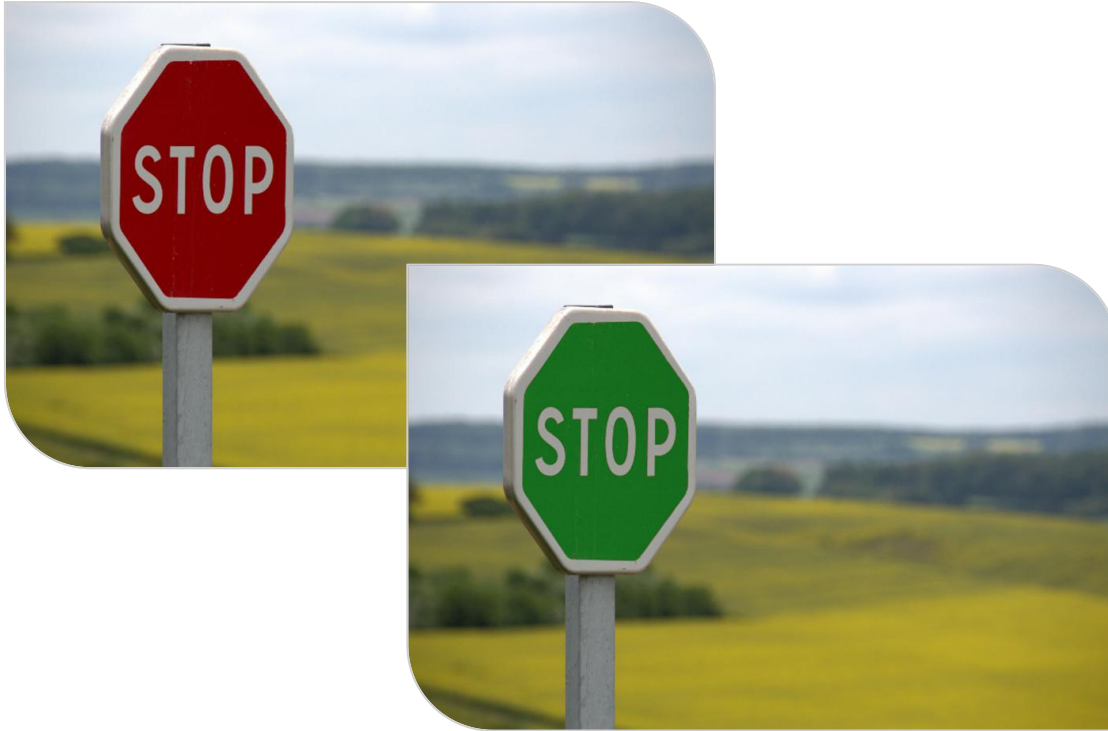
Colour has always been important



Historically coloured materials were frequently used for their **protective** effects on building materials.

However, colour was not always used purely for protection. It also provided **decoration**.

Colour is essential for identification



The colour red has a tendency to stand out from its surroundings.

It catches people's attention and therefore is often used to indicate danger or emergency.

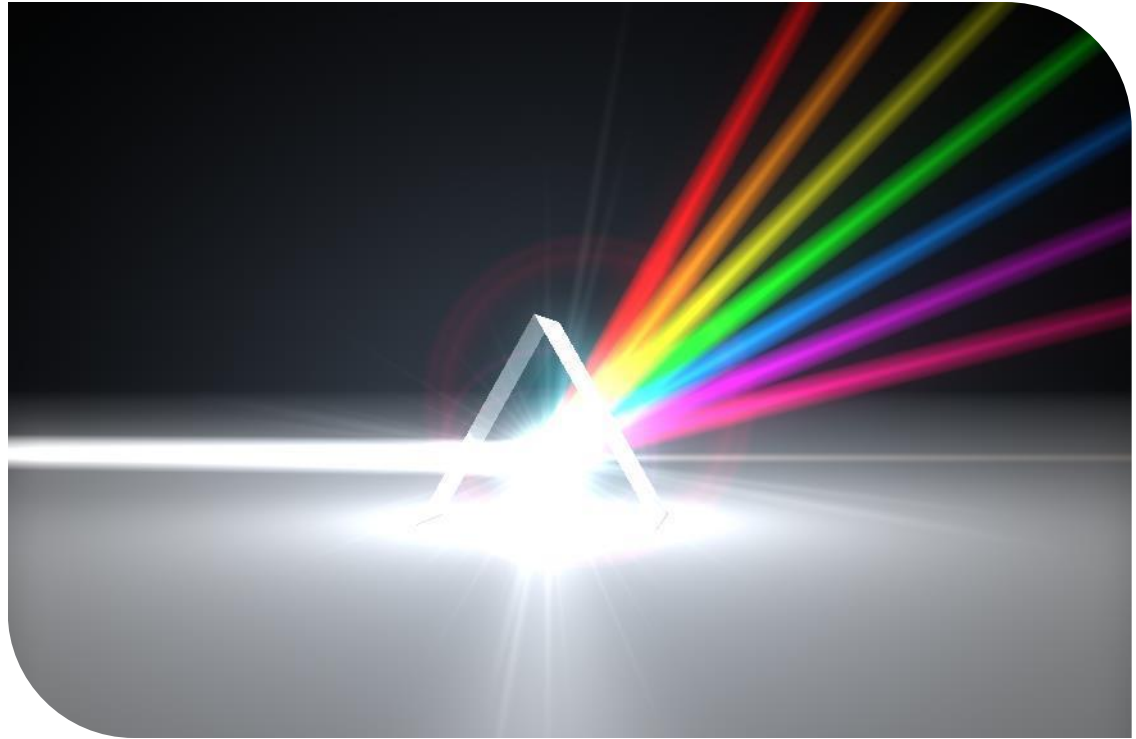
Would you stop at a green sign even if it had the word 'Stop' on it?

How We See Colour

The Rainbow

White light is made up of a mixture of different wavelengths of visible light.

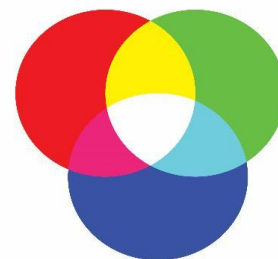
What we see as the colour of an object is dependent upon which of these wavelengths of light are absorbed by the object and which are reflected back from its surface.



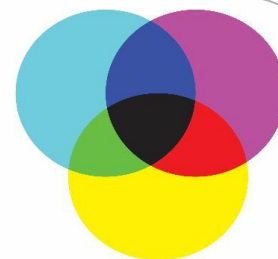
The building blocks of colour

For hundreds of years before colours could be measured scientifically, artists built their understanding on the coloured pigments that were available.

Other colour models available are RGB & CMYK.



RGB



CMYK





Building the artist's colour wheel

Starting with the primary colours red, yellow and blue.

To form the artist's colour wheel, you need to blend the spaces in between the three primary colours.

This is how designers use colour and is integral to understanding colour scheming.

The warmer side of the colour wheel is considered as the reds, oranges & yellows whilst the cooler side of the colour wheel are the violets, blues and greens.

Perception of Colour

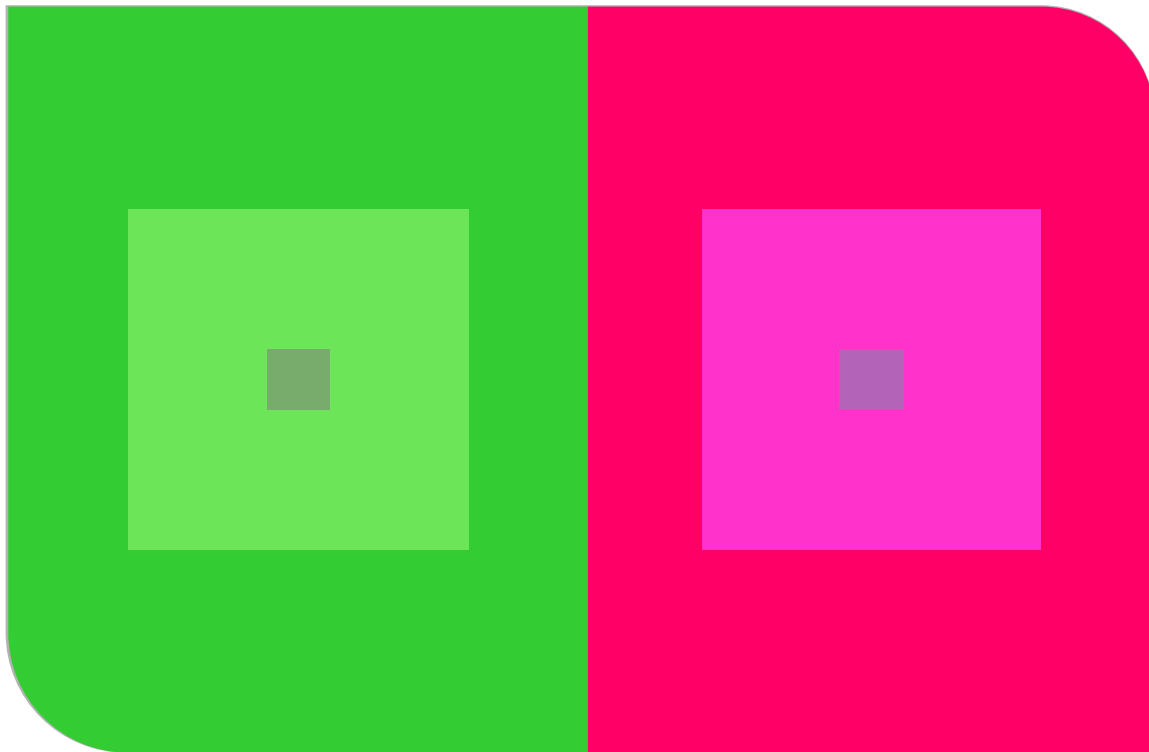
How colour is perceived?

What do we see when we look at a coloured object or surface?

The colour we observe can be different almost every time we look.



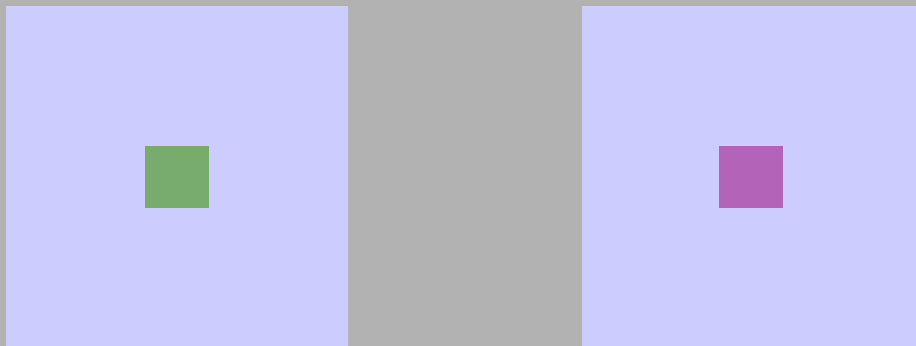
Contrast: the effect of adjacent colours



Surrounding colours can dramatically influence how our brain interprets its adjacent colour.

Colour should be assessed on a neutral background.

Contrast: the effect of adjacent colours



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Colour should be assessed on a neutral background.

Proportions: the effect of surface area

Our perception also varies according to the surface area covered.

A colour applied as a fine line has a different effect from the same colour applied over a large area.



Finish: the effect of product sheen



Sheen is the property of paint that defines whether it is gloss, silk or matt finish.

Sheen has a huge impact on how a colour appears, particularly in terms of depth.

A colour in gloss looks darker than in a matt finish.

Surface texture and combing materials

The materials used, including their texture and gloss level also define the perception of a room or space.

Textured surfaces can make colours appear darker.



Colour for Interiors

Lighting

Colours can change quite dramatically under the various lighting conditions and can create a very different mood at the flick of a switch.



Natural daylight



Light entering a building will differ depending on the room's aspect.

Generally speaking, colours will look their 'truest' in natural daylight.

However, they can be altered by varying degrees when artificial light is used.

Artificial Lighting

Incandescent light bulbs were banned by the UK government in 2018. Fluorescent bulbs are being phased out from Sept 2023.

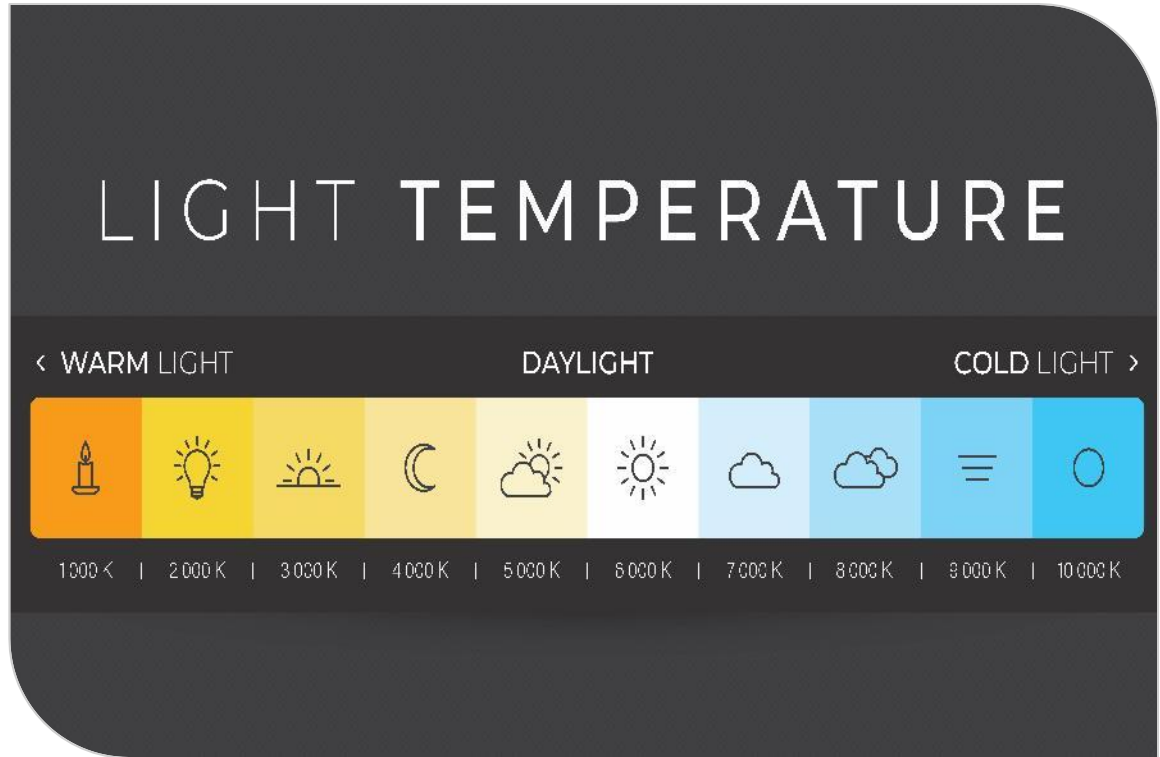
These have been replaced with long-lasting energy-saving technologies such as LED.



Artificial Lighting

The colour temperature of an LED lamp determines the light colour it emits.

The colour temperature is measured in Kelvin (K) and is often divided into warm white, natural white and cold white light.



Artificial Lighting - LED: Cool

LED: Cold / Cool

A cool watery light that can rob some colours of their vibrancy.

Cool colours appear brighter, warm colours appear dull.



Artificial Lighting - LED: Warm

LED: Warm

A warm light that casts a yellow glow.

Reflects back warm colours, tends to make cool colours look dull.



Artificial Lighting

When comparing these three different lights side by side we can really see the effect they have on how the final colours are seen.



LED Cool Light



Neutral Light / Daylight



LED Warm Light

How much light?



Appropriate lighting, with respect to its design, installation and maintenance, is essential.

The recommended illuminance for more common traffic routes and other areas is a minimum of 100 Lux at floor level.

Perception of interior space



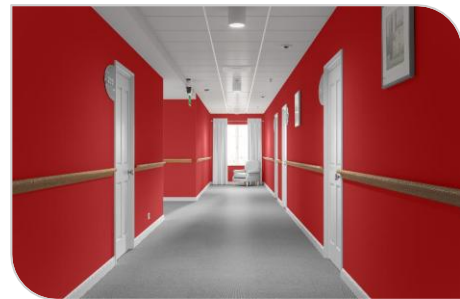
The balance and contrast between dark and light colours can be used for many purposes including signposting and to suggest a direction of movement.

Perception of interior space

The degree of saturation we select for the colours we choose determines the way we interpret distances in space.



Deeper colours make surfaces appear closer, pale colours make them appear to recede.



Health & Wellbeing considerations



90% of our time is spent indoors.

Physical characteristics of the built environment can contribute directly to people's health and well-being. Consider:

- **Links to Nature (Biophilic Design)**
- **Light**
- **Indoor Air Quality**

Colour for Exteriors

Colour in the architectural environment

Colour plays a crucial role in the way in which the form or shape of a building is perceived.

Exterior building colour is always perceived in relation to the immediate surrounding environment - consider location and neighbouring buildings.

Colour appears brighter and more chromatic on larger surfaces.



Impact of colour in architecture



Functional:

External colour design can link to, or be inspired by, the purpose of the building.

Constructional:

In architecture colour can play a supportive role by highlighting decorative facades or details on a building.

Light colours reveal details, dark colours mask them.



Impact of colour in architecture



Symbolic:

Associations of specific colours with individual countries, well-known companies, or innate responses to certain hues.

Aesthetic:

The overall appeal of the colour combination in context.

Highly subjective.



Sustainable considerations



Consider products that are:

Longer Lasting

Low Carbon

Reduce material use

Reduced Waste

Adhere to environmental assessment methods such as the BREEAM framework, LEED and the WELL Standard.

The Language of Colour

The vocabulary of colour

When it comes to the vocabulary of colour, we find controversy and confusion over definitions.

Unlike weight or length, there is no universally understood measure of colour, making it unlikely that everyone communicates in standard terms.



There are many colour notation systems used globally.

The role of the notation system is to give each colour a clear, unique identity and to aid colour scheming.

A good notation system will reflect how the eyes see colour.

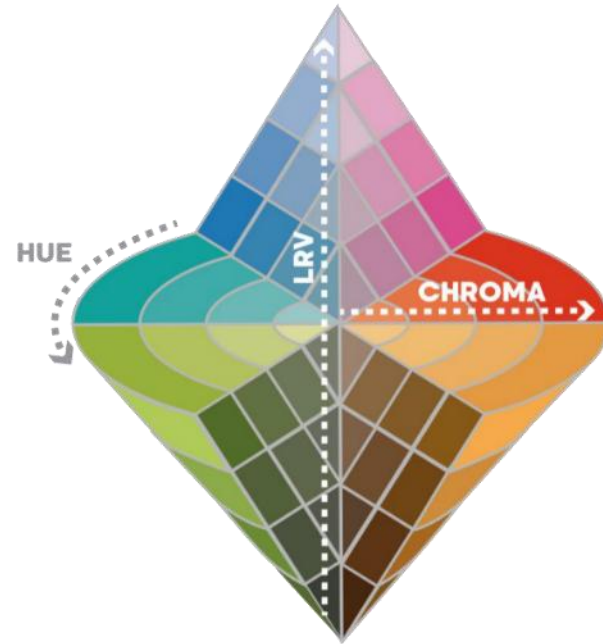


How the eye perceives colour

Colour, as perceived by the average eye, is Tri-Dimensional:

- **Hue**
- **Light Reflectance Value (LRV*)**
- **Chroma**

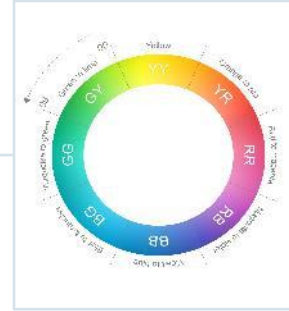
*LRV Difference Defines Visual Contrast as referenced in Building Regulations Approved Document Part M and in British Code of Practice BS 8300-2:2018



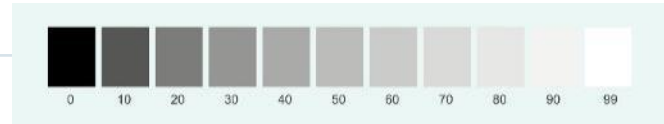
Example of a notation system

COLOUR PALETTE NOTATION REFLECTS THE THREE DIMENSIONS OF COLOUR:

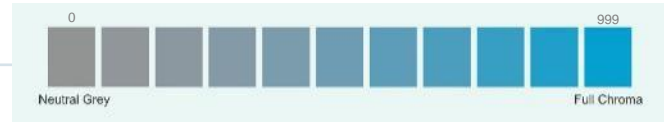
HUE – THE COLOUR FAMILY



LIGHT REFLECTANCE VALUE (LRV) –
LIGHTNESS OR DARKNESS OF COLOUR



CHROMA – INTENSITY OR PURITY OF COLOUR;
LOWER CHROMA = MORE NEUTRAL OR GREY
HIGHER CHROMA = MORE INTENSE COLOUR



EXAMPLE NOTATION:

30BB 08 / 263
HUE LRV CHROMA

Example of a notation system

COLOUR PALETTE NOTATION REFLECTS THE THREE DIMENSIONS OF COLOUR:

HUE – THE COLOUR FAMILY

LIGHT REFLECTANCE VALUE (LRV)
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CHROMA – INTENSITY OR PURITY

LOWER CHROMA = MORE NEUTRAL

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EXAMPLE 1

30BB **08** / **263**
HUE LRV CHROMA CHROMA

Colour Combinations and Colour Scheming

Where to start

Colour should be integral to a project - don't leave it until the end.

Consider:

- End users & the purpose of a space.
- Existing fixtures & fittings.
- Durability and usability.



Key colour scheming routes



There are numerous apps to aid colour choice.

But here are three classic routes to combining colours...

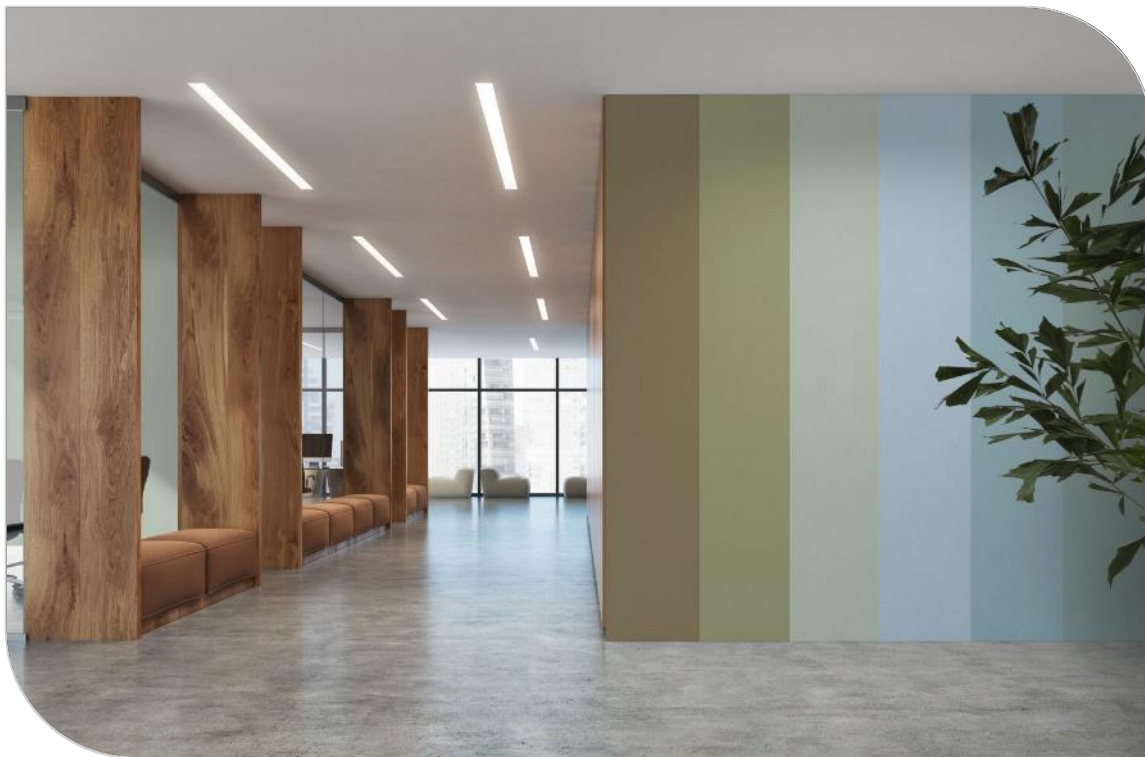
Tonal:

Using lighter and darker shades of the same colour (hue).

Tonal schemes are often simple and classic.



Key colour scheming routes



Harmonising:

Using two or more colours that sit next to each other on the artist's colour wheel.

Harmonious schemes tend to be interesting and versatile.

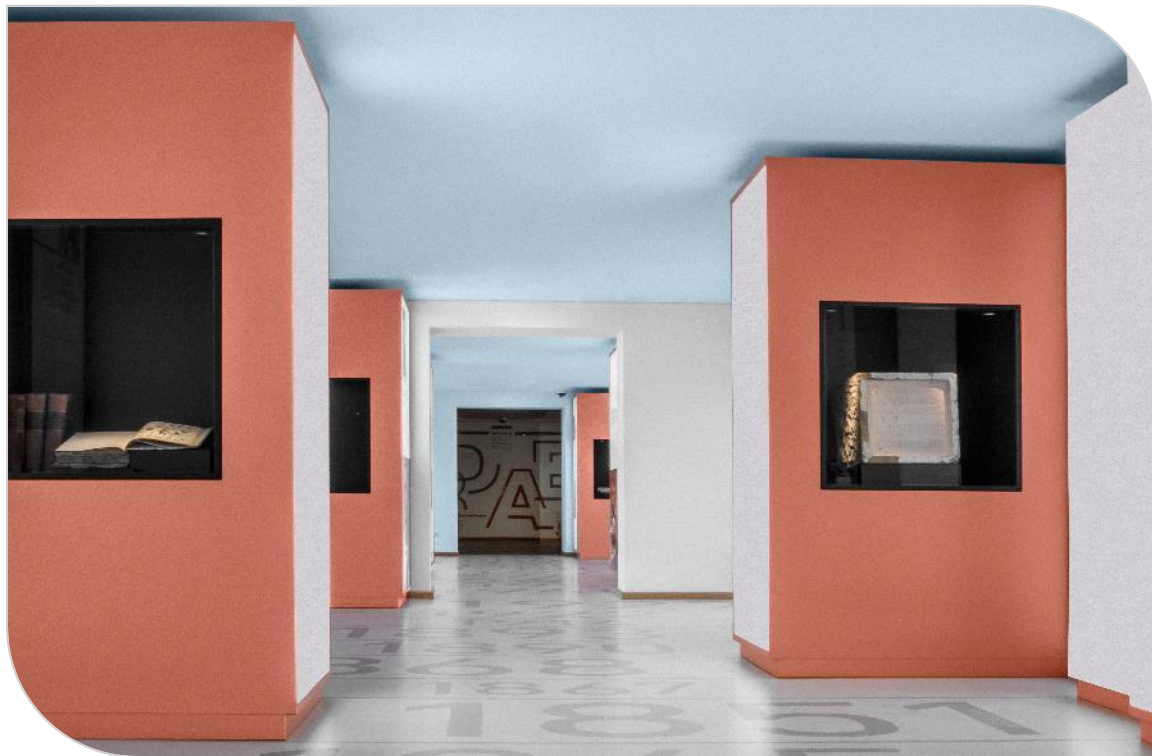


Key colour scheming routes

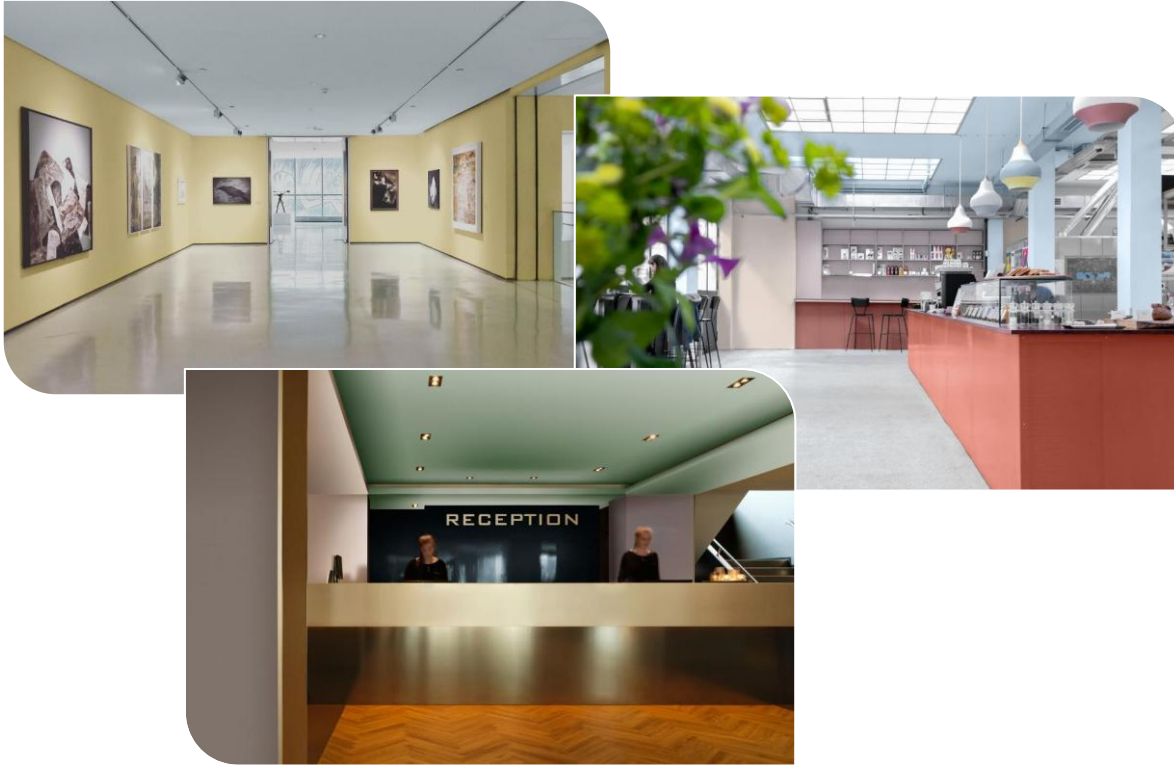
Contrasting:

Using colours that are opposite each other on the artist's colour wheel.

Contrasting schemes create a dramatic and exciting look.



Creating the right atmosphere



What sort of look
and feel are you
aiming for?

Rich, calm, vibrant,
sophisticated etc?

Achieving the desired effect

Tints:

The original colour (hue) lightened with white.

For example, red as the hue and pink as the tint.



Achieving the desired effect



Tones:

The original colour (hue) is 'greyed off,' creating the type of colours often seen in heritage style palettes.

Achieving the desired effect

Shades:

Closer in tone to the original colour (hue) but are deepened with black, often with dramatic effect.



External help and inspiration

INTERIOR PALETTES

A WARM COLOUR STORY



A CALM COLOUR STORY



AN UPLIFTING COLOUR STORY



COMFORTING SPACES

Warm, natural shades of sand, soil and terracotta, this family of global earth tones can help create spaces that feel familiar and embracing. These colours are ideal for layering to create a warm, comforting backdrop, and they work particularly well in residential or hospitality spaces – places where people want to come together, connect with family and friends and feel relaxed.



QUIET SPACES

Recalling the colours of woodlands and seascapes, these soft greens and blues have a naturally calming and clarifying effect. Mixing darker shades with lighter neutrals, this is a balanced palette that can bring a feeling of simplicity and serenity – perfect for offices, where people need peaceful spaces for focused tasks and for healthcare settings to help patients, visitors and staff feel at ease.



FRIENDLY SPACES

Mixing ethereal and dreamy tones of ochre and soft lilac, this palette has a contemporary, uplifting mood. Its mix of shades provides great opportunities for dynamic colour combinations that can enliven a scheme and bring energy and positivity. This is an upbeat palette that is perfect for educational and hospitality spaces where people need a friendly, creative and inclusive feel.



Colour trends, like all trends, are continually evolving and can emerge out of every possible corner of society.

They provide sources of inspiration and a quick way to find colours that work well together.

Summary

SUMMARY



The importance of colour and how we see and perceive it.



Colour for interiors, including how light & surface finish affects colour and how colour application can affect the appearance of interior spaces.



The consideration of colour application to building exteriors for functional, constructional, symbolic & aesthetic reasons.



Basic colour schemes using the artist's colour wheel and different types of colour, i.e. Tints, Tones & Shades, as a guide.

QUESTIONS?



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Further Reading

- THE EQUALITY ACT 2010
- BUILDING REGULATIONS APPROVED DOCUMENT PART M Vol 2 2015
- BRITISH CODE OF PRACTICE BS 8300-2:2018

- **DULUX TRADE OCCUPANT CENTERED COLOUR AND DESIGN HUB – AN ONLINE RESOURCE FOR SPECIFIERS:**
<https://www.duluxtradepaintexpert.co.uk/en/content/occd-hub>
- **DULUX TRADE COLOUR FUTURES 2025 PALETTES:**
<https://www.duluxtradepaintexpert.co.uk/en/colour-of-the-year-2025>

- CONTACT THE **DULUX TRADE TECHNICAL ADVICE TEAM** ON: **0333 222 770**