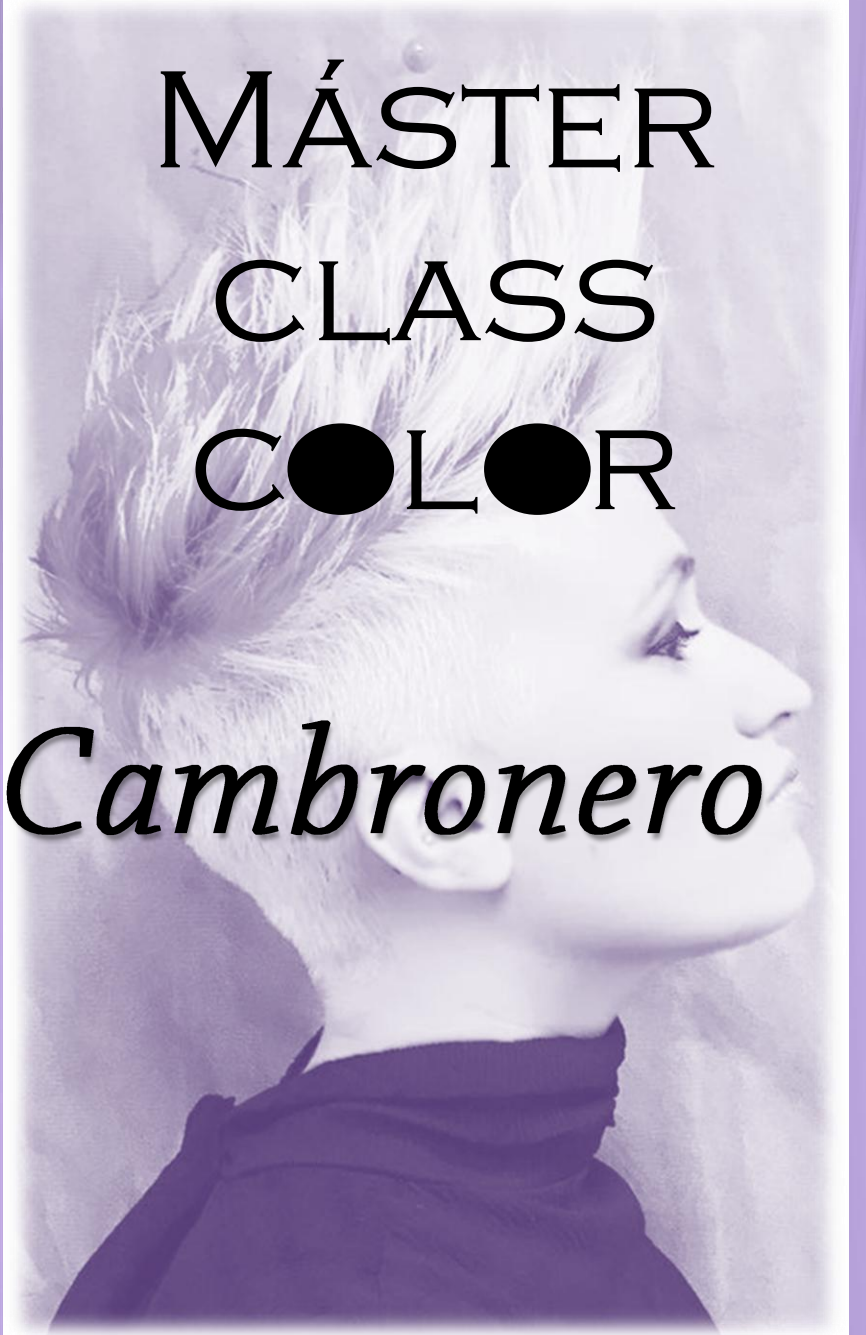
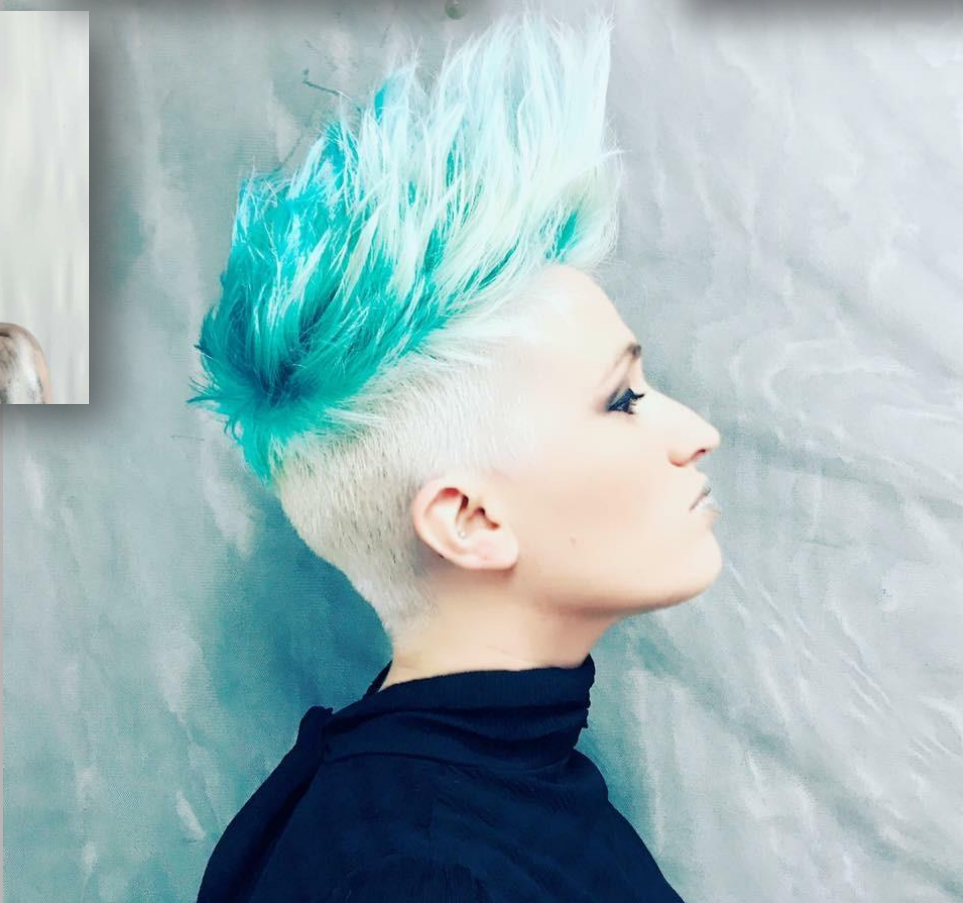
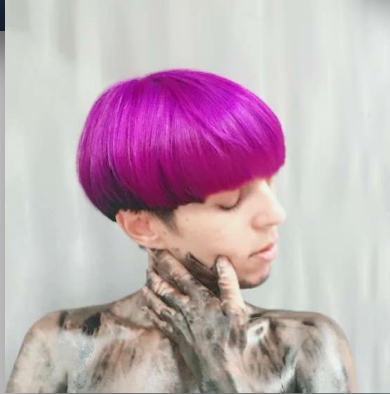


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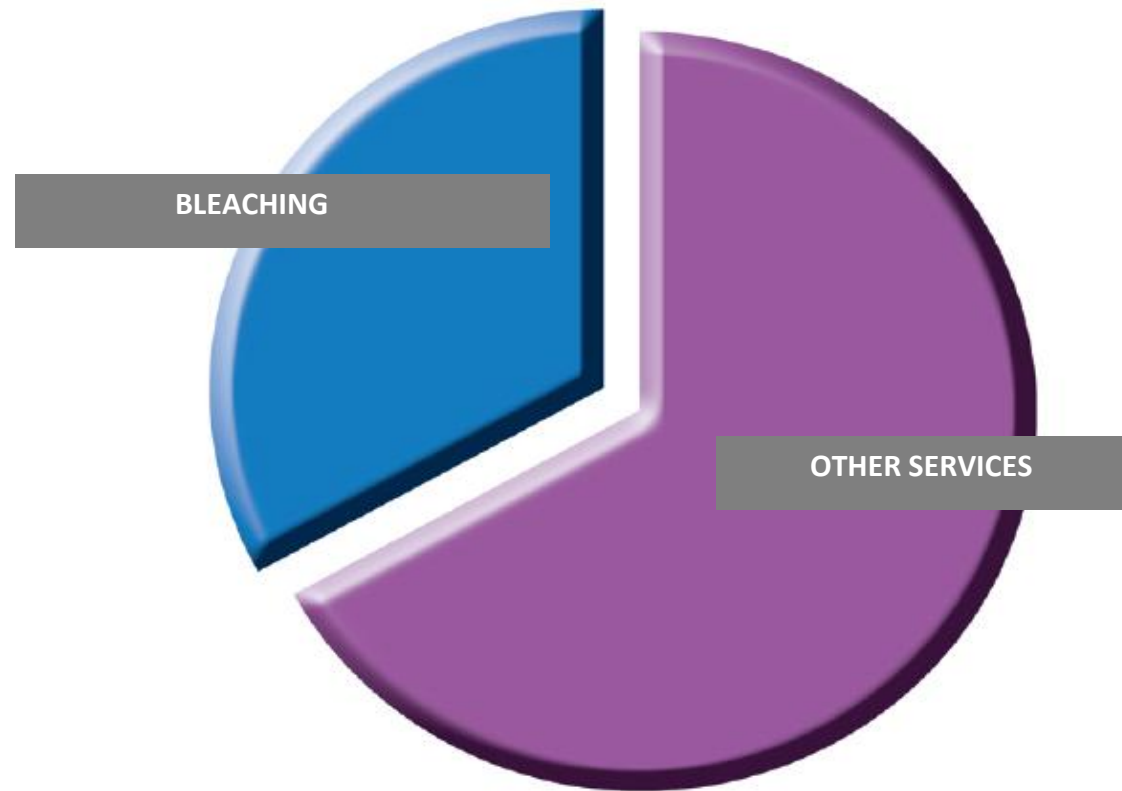
Sonia Jiménez Cambronero





1. The Coloring

One in 3 women requests a bleaching service:



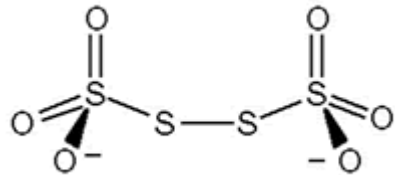
1-3. Bleaching

Definition

Bleaching is a technical service that allows obtaining the highest degree of Lightening on both natural and colored hair.

Formulation

Powdered or cream bleaches typically contain peroxide salts; Ammonium persulfate, sodium persulfate, potassium persulfate.



peroxydisulfate ion

Bleaching has two main purposes;

- ✓ to give the hair a lighter appearance.
- ✓ to prepare it for subsequent coloring.

2. ACTION



The bleaches mixed with water (hydrogen peroxide), develops a high PH and a high concentration of oxidants.


The cuticle opens, oxidants penetrate the hair and dissolve melanin or artificial color.

Depending on the volumes of hydrogen peroxide used, the bleaching base is enhanced.


3. THE 3 IMPORTANT FACTORS

- Bleaching depends on 3 important factors:
 - 3.1 The structure of the hair: Texture
 - 3.2 The health of the hair: Porosity and Elasticity
 - 3.3 The natural base of the hair: Melanin


3-1. THE STRUCTURE OF THE HAIR: TEXTURE

TEXTURE	DESCRIPTION	EFFECTS
FINE 	Composed of few layers of cuticle	Reacts quickly to bleaching chemical service but can also be resistant

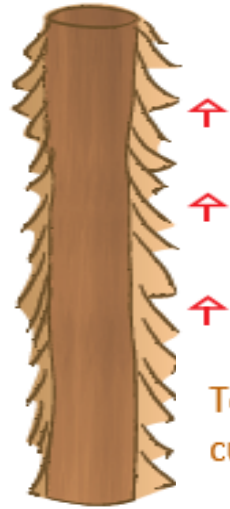
3-2. THE STRUCTURE OF THE HAIR: TEXTURE

TEXTURE	DESCRIPTION	EFFECTS
<p>MEDIUM</p>  A cross-sectional diagram of a hair shaft. The outermost layer is the cuticle, shown as a thin, overlapping scale-like structure. Below it is the cortex, a thick layer of elongated cells. In the center is the medulla, a smaller, more rounded structure. The diagram is rendered in shades of brown and tan.	<p>Composed of 5-10 <u>layers of cuticle effects</u></p>	<p>Reacts normally to <u>chemical bleaching service</u></p>

3-3. THE STRUCTURE OF THE HAIR: TEXTURE

TEXTURE	DESCRIPTION	EFFECTS
<p>THICK</p>  A cross-sectional diagram of a hair shaft. The top part shows a thick, multi-layered cuticle with a scaly, overlapping structure. Below the cuticle is the cortex, which is the main body of the hair, and at the very center is the medulla. The overall appearance is that of a thick, coarse hair.	<p>Composed of more than 10 layers of cuticle</p>	<p>May require a longer time to allow perfect penetration of the product through the cuticle layers</p>

3-4. THE STRUCTURE OF THE HAIR: TEXTURE



Temporary elevation of cuticle scales by shampooing

- **THE CUTICLE**

The cuticle, the outermost layer, is made up of flattened cells and superimposed one on top of the other. The cuticle layers can vary by determining the different types of texture.

The cuticle protects the stem from the external environment and its integrity is very important for hair health.

In addition, the cuticle is the main responsible for the shine of the hair. When the cuticle scales remain partially raised, the hair is much more vulnerable to the environmental agents.

- **DAMAGE TO THE CUTICLE**

The raised scales expose the cortex. The hair loses luminosity and hydration.

- **THE CORTEX**

The cortex constitutes 80% of the hair structure and is made up of chains of Keratin molecules.

The cortex contributes to the strength, combability and elasticity of the hair. Melanin is deposited inside the cortex, responsible for the natural hair color.

- **DAMAGE TO THE CORTEX**

Hair loses elasticity, becoming dehydrated and rough.



Elevation of the cuticle during a technical service

3-5. HAIR HEALTH: POROSITY

- ✓ Hair porosity is the ability to absorb and retain moisture. It is an indicator of the level of damage to the hair structure. Knowing the level of porosity is important for a good result of the bleaching service.
- ✓ Healthy hair has a low level of porosity and a low absorption capacity.
- ✓ Chemically treated hair has a high level of porosity and therefore a high absorption capacity.
- ✓ It is important to remember that porosity can vary in hair lengths since the cuticle can be compact and smooth near the base, while due to daily wear and tear the scales can be raised near the ends.

3-6. HAIR HEALTH: POROSITY



LEVEL: **VERY POROUS = LITTLE RESISTANT**

DESCRIPTION: the cuticle scales may be raised or be missing.

EFFECTS: Reacts easily to chemical service (holds well) but has low resistance (retention).

LEVEL: **POROUS**

DESCRIPTION: The cuticle scales are slightly raised.

EFFECTS: Reacts well to chemical service (holds well).

LEVEL: **MEDIUM**

DESCRIPTION: The cuticle scales are smooth and compact.

EFFECTS: reacts well to chemical service (holds well).

LEVEL: **VERY RESISTANT**

DESCRIPTION: The layers of the cuticle are tightly closed and very compact.

EFFECTS: Chemical service (grip) may take longer than provided.

3-7. HAIR HEALTH: ELASTICITY

- ✓ Elasticity is the ability of hair to elongate beyond its natural length (25% to 50%) and then return to its normal length.
- ✓ It is not advisable to perform a bleaching service on an unhealthy structure and with compromised elasticity.
- ✓ Poor elastic hair means that the Keratin inside the cortex has been damaged or weakened.
- ✓ It is necessary to evaluate the degree of elasticity before performing a bleaching service to determine the volumes of activator to use.

3-8. THE NATURAL BASE OF HAIR: MELANIN

- The natural color of the hair is the result of the amount of melanin they contain: very dark hair contains large amounts of melanin, which explains why it is more difficult to lighten them.
- There are three types of melanin that are decisive in natural hair coloring:
 - EUMELANIN: black-brown color.
 - TRICOSIDERIN: red color.
 - PHEOMELANIN: yellow color.

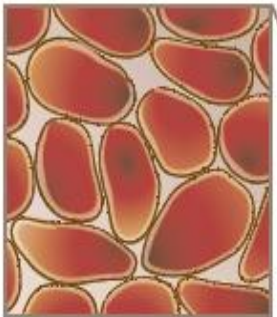
Melanin pigments are produced by melanocytes, special cells found at the base of the hair bulb. The structure of melanin pigments can be granular or diffuse and they are distributed in the cortical part and are chemically and physically bound to the keratin chains.

3-9. THE NATURAL BASE OF HAIR: MELANIN

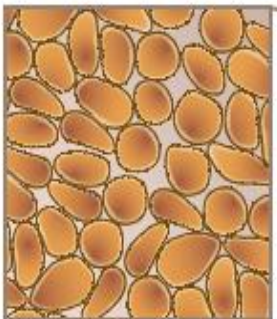
4-



- **EUMELANIN:** it is decisive to create the intensity of the color (height of tone). It is a pigment that clears up more easily both due to natural effects (sun) as during the bleaching service. It is mainly concentrated on the part outermost layer of the fibrous layer of hair.



- **TRICHOSIDERIN:** is smaller in size than eumelanin pigment. For this reason it is more resistant to rinsing and requires a longer bleaching service to be removed. Mainly concentrates on intermediate layers of the fibers.








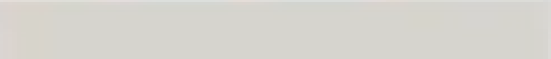

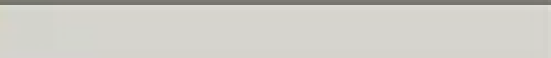


- **PHEOMELANIN:** concentrates mainly on the innermost part of the hair. For results, the pheomelanin has to be removed as much as possible, so that no yellow highlights remain in the color result.
- **It is resistant to rinsing and requires a longer bleaching service.**

3-10. THE NATURAL BASE OF HAIR: EFFECT OF BLEACHING ON MELANIN

- The bleaching service permanently modifies a natural or cosmetic color, transforming it from dark to lighter.
- The lightening action intervenes mainly on eumelanin, the predominant melanin, which once eliminated makes trichosiderin and pheomelanin visible, thus creating the residual melanin tone.
- During the bleaching process the hair undergoes the following color change: black-purple-red-orange-light yellow-lightest yellow.

3-11. THE NATURAL BASE OF HAIR: EFFECT OF BLEACHING ON MELANIN

Level	Shade Name	Dominant Pigment	
10	LIGHTEST BLONDE	PALE YELLOW	
9	VERY LIGHT BLONDE	YELLOW	
8	LIGHT BLONDE	YELLOW/ ORANGE	
7	BLONDE	ORANGE	
6	DARK BLONDE	RED/ ORANGE	
5	LIGHT BROWN	RED	
4	BROWN	RED/ VIOLET	
3	DARK BROWN	VIOLET	
2	DARKEST BROWN	BLUE/ VIOLET	
1	BLACK	BLUE	

3-12. THE NATURAL BASE OF HAIR: EFFECT OF BLEACHING ON MELANIN

The amount of lightened melanin is indicated in shades. The natural shades of the hair are the consequence of different melanin concentrations.

Each natural shade has its own amount of melanin that defines the color.



4.1. THE BLEACHING AGENT: LIGHTENING POWER

- ✓ The lightening power of the bleaching product is linked to the concentration of hydrogen peroxide used in the mixture.
- ✓ The concentration of hydrogen peroxide can be expressed in 2 ways:

1. VOLUMES

Solución peso	Oxígeno activo peso	Agua desmineralizada
1000	3% = 30 g	970 g
1000	6% = 630 g	940 g
1000	9% = 190 g	910 g
1000	12% = 120 g	880 g

2. WEIGHT

ml H ² O ²	Volúmenes de H ² O ²	ml de oxígeno activo
1000	10 Vol	10.000 ml
1000	20 Vol	20.000 ml
1000	30 Vol	30.000 ml
1000	40 Vol	40.000 ml

4.2. THE BLEACHING AGENT: NEUTRALIZATION / TONING

- ✓ During the natural color modification process, the warm undertone becomes evident due to the pheomelanin and trichosiderin present in the hair. To obtain a cool blonde color, this warm undertone must be neutralized.



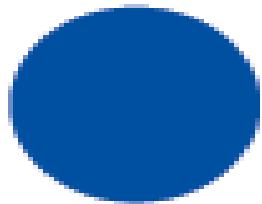
5-1. THE CONTRACOLOR

PRINCIPLES OF COLOR

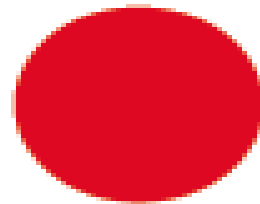
- ✓ Colors interact in a consistent and predictable way.
- ✓ When you understand these interactions, you can formulate any color with confidence.

PRIMARY COLORS

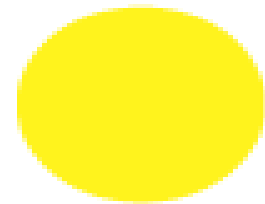
- ✓ Primary colors are fundamental elements of all color. They cannot be created by mixing any other color.



Blue



Red



Yellow

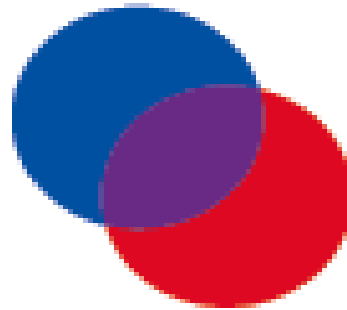
5-2. THE CONTRACOLOR

SECONDARY COLORS

✓ If you mix in equal proportions a primary color.



Green



Violet



Orange

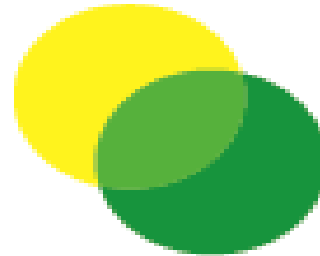
5-3. THE CONTRACOLOR

TERTIARY COLORS

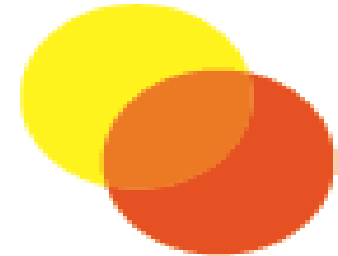
- ✓ If you mix in equal proportions a Primary color with the immediately adjacent Secondary color on the color wheel, you will get a Tertiary color:



Blue-Green



Yellow-Green



Yellow-Orange



Red-Orange



Red-Violet

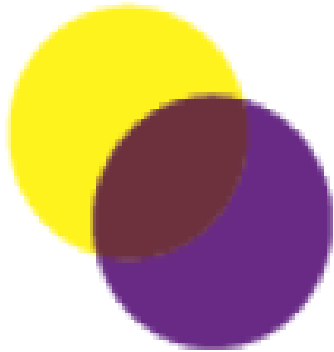


Blue-Violet

5-4. THE CONTRACOLOR

COMPLEMENTARY COLORS CREATE NEUTRAL COLORS

- ✓ Shades that neutralize each other are known as Complementary colors.
- ✓ A neutral color is created by mixing any color with the color that is directly opposite it on the color wheel.



► Color Wheel

The color wheel shows the complementary relationships of the Primary, Secondary and Tertiary colors. It also shows the warm and cool colors.