

# RheoLight<sup>tm</sup>

Crystal Glass Pigments  
*Signature Color*

Havanna WA17 (remastered)



HAVANNA

VOL

05

COLORLAB ACADEMY

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# From Darkness to Light



***A Classic BMW Brown  
Revealed in a New Light -  
Dark Brown Metallic with  
Subtle Bronze Effect***

Havana Metallic is a dark brown metallic by BMW, offered as part of its OEM exterior color range. The color is based on a fine aluminum pigment structure, delivering a controlled metallic effect with controlled reflectivity and a flop that ensures light-to-dark transitions across viewing angles. Under direct illumination, such as sunlight, subtle bronze nuances become visible, while in shaded or low-light conditions, the color shifts toward a richer, deeper brown, preserving visual depth and consistency across all lighting environments.

## **Remastered**

“Remastered” indicates that the original color formulation has been slightly adjusted based on the insights of our RheoLight ColorLab experts. These subtle refinements are designed to optimize the performance of the color combined with RheoLight Crystal Glass Pigments.

There are two primary objectives of the remastering process:

1. **Optimizing Color Perception:** Enhancements to pigment distribution and metallic effect increase visual depth and consistency while preserving the original hue.
2. **Improving Visibility:** The formulation is tuned to work effectively with RheoLight Crystal Glass Pigments, boosting reflectivity and significantly improving full-object visibility by slightly changing the base color’ identity.

# VISIBILITY LABEL

The Visibility Label rates the visibility of different colors for mobility, from A (very visible) to G (hardly visible), and ND (Not Detectable)

fig 1.

The label shows how adding RheoLight improves the visibility of the color Havana WA17 across different conditions.

LEFT :

0% RheoLight (F)

RIGHT :

6% RheoLight (E)

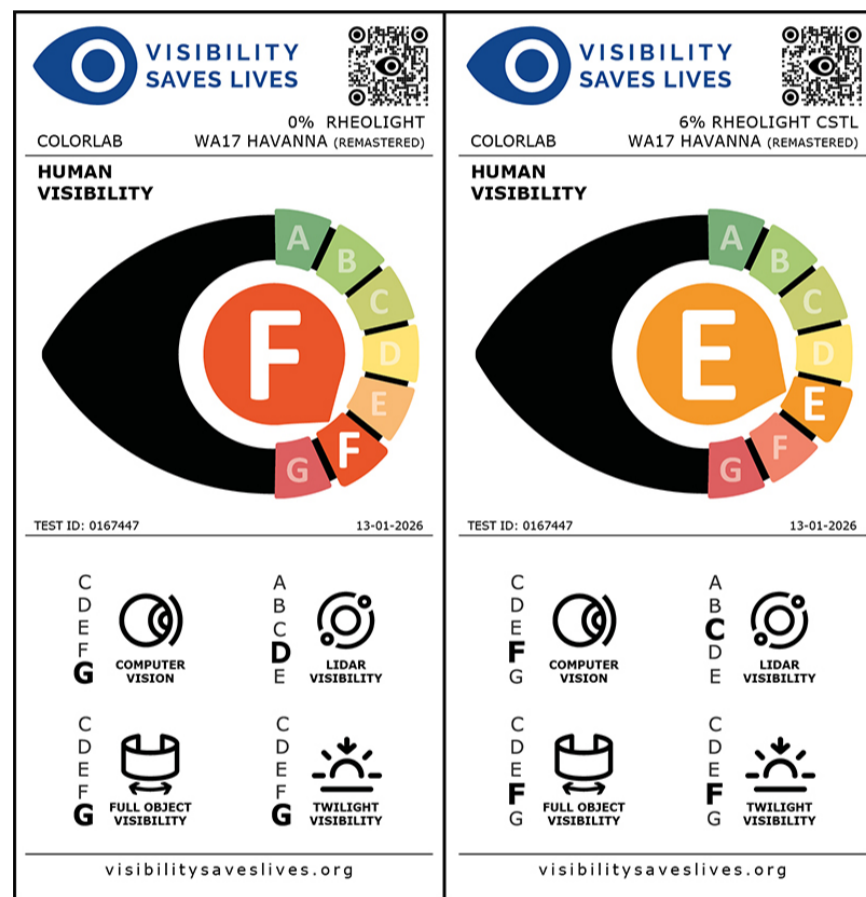


fig 1.

fig 2.

**Key Takeaways:**

6% CSTL RheoLight shows significant improvement with Full Object Visibility achieving 6.4x improvement – the highest factor among all parameters. Human Visibility shows 2.6x improvement, Computer Vision 2.2x, LiDAR 1.9x, and Twilight Visibility 2.0x.

This demonstrates balanced performance improvement across all visibility parameters at 6% concentration, with Full Object Visibility showing the most dramatic response to RheoLight enhancement.

Visibility Label	BMW Havana WA17	BMW Havana WA17 RL
<b>RheoLight (w%)</b>	<b>0</b>	<b>6% CSTL</b>
Human Visibility	1,0	2,6
Computer Vision	1,0	2,2
LiDAR Visibility	1,0	1,9
Full Object Visibility	1,0	6,4
Twilight Visibility	1,0	2,0

fig 2.

# BMW WA17 Havana Metallic Overview

**Color Name:** BMW WA17 Havana Metallic

**Car Refinish Paint System:** Syrox Waterbased (Axalta)

**Primer:** Dark Grey

**Basecoat Layers:** 2

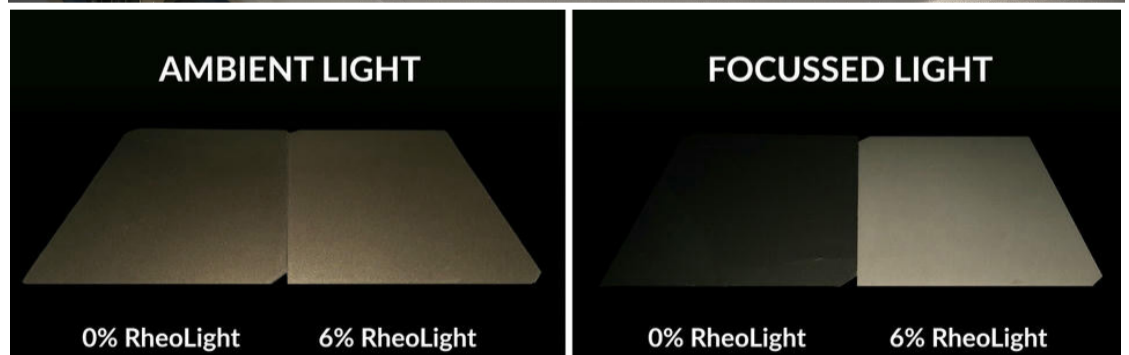
**Clearcoat:** Gloss

**Primary Applications:** OEM and aftermarket automotive coatings, color-accurate restoration, and refinishing.

*fig 3.*

The hood of the car is lit by direct sunlight. The darker panel on the left has 0% RheoLight, while the panel on the right contains 6% RheoLight.

The RheoLight panel shows improved visibility under direct sunlight.



Havana WA17 was first introduced on BMW's production vehicles in the early 2000s and remained in the BMW palette through the late 2010s. During this period, the color was offered on a wide range of models, including the 3 Series, 5 Series, 6 Series, 7 Series, Z4, and selected M models. Availability varied by model, market, and model year. Havana is referenced under paint codes A17 / WA17 in OEM documentation and refinish systems and remains available through automotive refinish suppliers for color-accurate restoration and repair.

# UNDER THE HOOD



## Formulation Havanna 0% RheoLight

Component	Weight percentage (%) in grams
Syrox S900 Clear Binder	15,4
Syrox S150 Black	45,0
Syrox S604 Extra Fine Brilliant Silver	9,0
Syrox S603 Medium Coarse Silver	6,5
Syrox S703 Green Red Pearl	3,9
Syrox S251 Brownish Red	1,8
Syrox S451 Blue	1,1
Syrox S902 Flop Controller	0,6
Syrox S940 Dilution	16,7
Syrox S900 Clear Binder	15,4
<b>Total</b>	<b>100,0</b>

## Formulation Havanna 6% RheoLight CSTL

Component	Weight percentage (%) in grams
Syrox S900 Clear Binder	14,5
Syrox S150 Black	42,3
Syrox S604 Extra Fine Brilliant Silver	8,4
Syrox S603 Medium Coarse Silver	6,1
Syrox S703 Green Red Pearl	3,7
Syrox S251 Brownish Red	1,7
Syrox S451 Blue	1,0
Syrox S902 Flop Controller	0,5
Syrox S940 Dilution	15,7
RheoLight-Base WB CSTL	6,0
<b>Total</b>	<b>100,0</b>

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