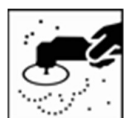


VC-211 LOW & SEMI GLOSS CLEAR

Valorem VC-211 Low & Semi Gloss Clear is an easy to use three-component matting finish which may be used in regulated markets. With a ready to spray VOC level of less than 2.1 lb/gal (<250 g/l), the desired gloss level can be achieved by mixing combinations of VC-211 Low Gloss and Semi Gloss

**SAFETY CONSIDERATIONS**

- Use suitable personal protection.
- When exposed to paint or solvents AkzoNobel recommends the use of a fresh air supply respirator.

**SUITABLE SUBSTRATES**

- Valorem WB basecoat
- Properly prepared existing finishes

**MIXING**

Mix To make M3 To Make M3 Matte Gloss (25-30 Gloss Units) clearcoat, combine:

100 Parts VC-211LG Low Gloss Clear

100 Parts VC-211SG Semi Gloss Clear

BY WEIGHT

-- THEN --

**RTS MIXING**

Mix

100 Parts VC-211 Low Gloss + Semi Gloss Clear combination

50 Parts VH-211 Low/Semi Gloss Clear Hardener

50 Parts VR-211 Low/Semi Gloss Clear Reducer

BY WEIGHT

✓ Other mixing ratios are available, see the complete TDS for detailed information.

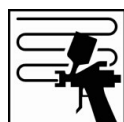
**EQUIPMENT**

Spray-Gun Set-Up for Sealer Mix:

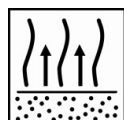
- 1.3 – 1.4 mm HVLP Gravity
- 1.3 – 1.4 mm Compliant Gravity

Application Air Pressure:

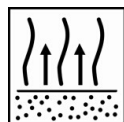
- HVLP – 10 psi (<0.7 bar) at cap maximum
- Consult manufacturer specifications.

**APPLICATION**

- Apply two full coats allowing complete flash off until evenly matte appearance

**FLASH BETWEEN COATS AT 70°F (21°C)**

- 15 minutes or until matte

**FLASH AT 70°F (21°C) BEFORE FORCE CURE**

- 15 minutes
- ✓ Allow VC-211 to flash until completely matte before force-dry curing

**DRYING/CURING****Drying at 140°F (60°C)**

- 30 minutes

Shortwave Infrared

- 4 minutes low power followed by an 8-minute full power cure.

Read the complete TDS and the product Safety Data Sheet (SDS) for detailed product information

VC-211 LOW/SEMI GLOSS CLEAR**DESCRIPTION**

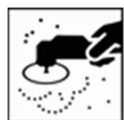
Valorem VC-211 Low & Semi Gloss Clear is an easy to use three-component matting finish which may be used in regulated markets. With a ready to spray VOC level of less than 2.1 lb/gal (<250 g/l), the desired gloss level can be achieved by mixing combinations of VC-211 Low Gloss and Semi Gloss.

**PRODUCT ASSORTMENT**

- Valorem VC-211LG 2:1:1 Low Gloss Clear – Item # 596278 (Liter)
- Valorem VC-211SG 2:1:1 Semi Gloss Clear – Item # 596280 (Liter)
- Valorem VH-211 Low/Semi Gloss Clear Hardener – Item # 596347 (Quart)
- Valorem VR-211 Low/Semi Gloss Clear Reducer – Item # 596348 (Quart)
- Stock unopened or used products in approved closed containers with proper labeling. Store in temperatures between 40°F - 95°F (5°C – 35°C). Avoid too much temperature fluctuation. Optimum storage temperature is approximately 70°F (21°C).

Note: Protect from freezing. Although it may visually appear normal, product should not be used if previously frozen, as performance may be degraded.

- Refer to the Product Shelf Life Overview TDS or the current price list for the most up-to-date shelf-life information.

**SUITABLE SUBSTRATES****Substrate**

- Valorem WB basecoat
- Properly prepared existing finishes

Preparation

- After basecoat TDS indicated flash time
- Sanded with #P1000 dry or gray scuff pad

**Surface Cleaning**

- Use suitable surface cleaners and technique to ensure a clean surface.



All gloss levels between M1-M5 can be achieved by mixing VC-211LG and VC-211SG Clear by weight. The gloss level should be determined by creating a reference spray out.

Gloss levels will vary depending on the following:

- Basecoat type.
- Application technique.
- Flash time between coats.
- Flash time before bake.
- Surface preparation.
- Temperature and humidity.
- Accuracy of mixing.
- Clearcoat film build – the higher the film build, the higher the gloss.



- For easy mixing, it is suggested to use the mixing function within the MIXIT or Color Manager computerized mixing systems.
- If computerized mixing is not available, use the tables below to mix VC-211 Low/Semi Gloss Clear by weight (absolute).

VC-211 LOW/SEMI GLOSS CLEAR

BY WEIGHT

Pint Mixing	M1 Low-Gloss (5-10GU)	M2 (10-15GU)	M3 Matte-Gloss (25-30GU)	M4 (40-45GU)	M5 Semi-Gloss (80-85GU)
VC-211LG Low-Gloss Clear	282	225	141	57	X
VC-211SG Semi-Gloss Clear	X	57	141	225	282
VH-211 Hardener	141	141	141	141	141
VR-211 Reducer	141	141	141	141	141



BY WEIGHT

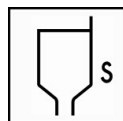
Quart Mixing	M1 Low-Gloss (5-10GU)	M2 (10-15GU)	M3 Matte-Gloss (25-30GU)	M4 (40-45GU)	M5 Semi-Gloss (80-85GU)
VC-211LG Low-Gloss Clear	562	450	281	112	X
VC-211SG Semi-Gloss Clear	X	112	281	450	562
VH-211 Hardener	281	281	281	281	281
VR-211 Reducer	281	281	281	281	281

Mixing Notes:

- Gloss units (GU) listed in the tables above are the 60° gloss achieved with each mix
- Stir VC-211 Low/Semi Gloss Clear before use and use 125-micron paint strainers before application.



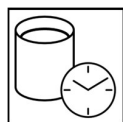
NOTE: The components of VC-211 Low/Semi Gloss Clear are to be mixed **BY WEIGHT ONLY**. Mixing by volume may result in inconsistencies in gloss and/or durability.



DIN #4

VISCOSITY – READY TO SPRAY AT 70°F (21°C)

- 12 – 16 Seconds

**POT-LIFE WHEN MIXED****Product Mix**

- Valorem VC-211 Low/Semi Gloss Clear
 - ✓ A shorter pot-life can be expected in higher temperatures.

At 70°F (21°C)

30 minutes

**SPRAY-GUN SET-UP****Spray-Gun Set-Up**

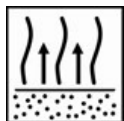
- 1.3 – 1.4 mm HVLP Gravity
- 1.3 – 1.4 mm Compliant Gravity

Application Air Pressure:

- HVLP – 10 psi (<0.7 bar) at cap, maximum.
- Consult manufacturer specifications.

VC-211 LOW/SEMI GLOSS CLEAR**APPLICATION**

- Apply 2 full coats allowing complete flash-off until matte.
- For horizontal panels, apply 1 coat and allow to flash followed by a cross-coat. This product is designed for total respray or edge to edge application.

**FLASH DRYING****Flash Between Coats at 70°F (21°C)**

- 15 minutes

Flash at 70°F (21°C) Before Force Cure

- Allow VC-211 to flash until completely matte before force-dry curing

- ✓ Flash time is dependent on temperature and application.
- ✓ Do not use any accelerated flashing methods to shorten the flash dry time

**DRYING / CURING****Drying at 140°F (60°C)**

- 30 minutes
 - Allow VC-211Clear to flash until completely matte before force-dry curing



Drying / Curing with short wave light IR equipment and a surface distance of 20 – 27 inches (50 – 70cm). The object temperature must not reach a temperature above 212°F (100°C).

- Allow 15-minute flash-off before infrared curing.
- Cure 4 minutes on low power followed directly by an 8-minute full power cure.



- Drying times are stated at recommended application method, film thickness and object temperature.
- Dry to handle – Following the drying cycle, allow the object to cool down fully to ambient temperature.
- To ensure proper performance characteristics, VC-211 Low/Semi Gloss Clear should be force cured.

**RECOATING**

- Recoating matte clears is not recommended without properly sanding and preparing the surface and repeating the repair process.

**FILM THICKNESS – USING SUITABLE APPLICATION**

- 2 coats will achieve a thickness of 1.6 – 2.0 mils (40-50 µm) when using suitable application.

VC-211 LOW/SEMI GLOSS CLEAR**VOC / REGULATORY INFORMATION**

- Notice: Do not handle until the Safety Data Sheets have been read and understood. Regulations require that all employees be trained on Safety Data Sheets for all chemicals with which they come in contact. The manufacturer recommends the use of an air-supplied respirator when exposed to vapors or spray mist.

Valorem VC-211 Low/Semi Gloss Clear Ready to spray VOC: ≤ 2.1 lb/gal (≤ 250 g/l)

**MATTE FINISHES CLEANING AND MAINTENANCE**

- The following information describes the best practices in caring for Matte Finishes. Vehicle manufactures are using Matte Finishes within their range of options and great care should be taken during use and cleaning of this type of finish. The information hereby given is based on the use of the Sikkens brand products and should not be used as a reference document for original finishes.

**MATTE FINISHES GENERAL REMARKS**

- This paint system is the equivalent to systems recommended by all the major motor manufacturers and is applied in state-of-the-art facilities under strict quality control standards.
- Vehicles are often subjected to continual and regular cleaning using a wide range of chemical cleaners and varied cleaning types of equipment. In most cases this causes no problems, but instances do occur when the cleaning process can damage the paint film, usually irreversibly.
- Whatever the choice of cleaning, either mechanical, or manual, the surface dirt should be removed by a non-contact method such as power washing, preferably with cold or slightly warm water.

**MATTE FINISHES CLEANING METHOD AND MAINTENANCE****When:**

When a vehicle is freshly painted, the paint film is at its most sensitive to attacks by chemical cleaners and the cleaning process. It is recommended that freshly painted vehicles be allowed a minimum of 7 days before being subjected to any form of chemical cleaning process, ideally extended to 21 days.

Method:

1. Thoroughly rinse the vehicle with clean cold water preferably using a hose or a pressure washer to remove any loose road traffic film and dust particles. The use of a high-pressure steam cleaner is not recommended.
2. The vehicle can then be washed by using a pH neutral based soap and soft sponge to minimize the risk of any type of abrasions. Use a cleaning soap that is pH neutral possibly a good quality wash-n-wax will be ideal for this operation. At all times avoid excessive rubbing of the paint surface as this could lead to the surface increasing in gloss as compared to other areas.
3. Rinse thoroughly with clean cold water preferably using a hose or a pressure washer. Allow the vehicle to dry naturally until only a few water drops are present on the surface. To remove the remaining water drops and to prevent any water marking dry gently using a soft chamois avoiding excessive rubbing of the paint surface.

VC-211 LOW/SEMI GLOSS CLEAR**Notes:**

- Avoid washing the vehicle in direct sunlight and or when the vehicle surface temperature is excessive (>77°F (25°C)).
- Any contamination found on the paint surface should be removed immediately e.g., bird droppings or insects. Thoroughly soak the affected area with clean water preferably with a hose or high-pressure washer to soften the contaminated area and remove gently using a soft sponge and pH neutral soap. For difficult to remove contamination it might be necessary to use a solution designed specifically to remove insects found in car care shops. Care should be taken not to allow any type of solution to dry on the paint surface as this can damage the surface even further. Always follow the manufacturer's instructions on use.
- Automatic car washes and wax cannot be used.
- Do not use rough cloth or paper towel to clean the repair surface.

*** Never use an automatic car wash or any type of brush to wash or clean matte finishes.**

**Maintenance:**

- It is not possible to carry out any type of polishing or waxing to the matte finish. Polishing or waxing of the matte finish will only lead to areas being left glossy due to the rubbing technique and abrasive compounds found in polishing materials.
- Regular washing is the only way possible to maintain the paint surface as described above. Remove contamination as soon as it becomes visible using the method detailed above to prevent damage.
- Particular care should also be taken when opening and closing doors, hood and rear lid as excessive rubbing around handle areas will also lead to the area becoming glossy.
- Please note that once an area increases in gloss the only remedy is to repaint the affected area(s).

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FOR PROFESSIONAL USE WITH SUITABLE HSE EQUIPMENT

IMPORTANT NOTE The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Safety Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advices given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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