



## Hydrochrome 32 Sq ft Kit Technical Data Sheet

### INTRODUCTION

Hydrochrome is a very versatile product that, once applied, produces a 100% mirror effect which, will not dull down under a 2K topcoat. Hydrochrome can be applied onto most substrates provided a suitable 2K primer has been applied first.

### POTENTIAL USAGE

Ideal for display items, models, props and other decorative purposes. Can also be used for mirror production. This kit is also useful as an initial test kit before larger Hydrochrome purchases.

**Creative Paints Ltd does not recommend this product for automotive use because 100% inter-coat adhesion cannot be achieved. For automotive usage, please refer to the Hydrochrome Extreme product.**

***Please note:** Larger items will require the use of a double nozzle suction fed gun available from the Creative Paints website in the silvering guns section.*

Creative Paints strongly recommends that individuals unfamiliar with this type of coating system should practice with sample pieces first to understand the process fully.

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## PROCESS OVERVIEW

Step 1: Apply a suitable 2K primer for your substrate and allow to fully cure.

Step 2: Spray on the 2K clear gloss basecoat provided and leave for 24 hours at room temperature.

Step 3: Apply the silver solutions, using the in-depth instructions that follow in this guide.

Step 4: Spray the Violet tinted topcoat provided.

## KIT CONTENTS

- 250g Hydrochrome clear basecoat
- 250g Hydrochrome violet tinted (chrome effect) topcoat
- 500g Catalyst
- 100g Activator and trigger sprayer bottle
- 100g Anti-oxidant and trigger sprayer bottle

### Silver Solutions

- 100g A1
- 100g A2
- 100g B
- Red double chamber trigger sprayer bottle – designed for small items (nothing bigger than a motorbike helmet or hubcap). The bottle will not be able to cover large areas quickly enough. For larger items use a double nozzle suction spray gun.
- 2 x HDPE 1L mixing bottles with twist caps.
- T.D.S. meter

**All trigger sprayer bottles must be rinsed before use to remove any contaminants.**

***Tip:** Pour in some mineral free water and shake well. Apply the trigger about 10-15 times to rinse the trigger head.*

## ADDITIONAL ITEMS NEEDED FOR APPLICATION

1. Fluid catcher tray and mini turn table.
2. A spray mask for 2K paints, suitable for filtering out isocyanates (B1 classification).
3. Protective rubber gloves and eye protection.
4. Spray gun for applying the basecoat and topcoat (1.1mm to 1.3mm needle set up).
5. A clean pressure sprayer or water based spray gun for rinsing between the stages.

**Hand pump sprayers:** Always inspect the insides of a new hand pump pressure sprayer. Some manufacturers use a lot of lubricant on the insides of the pump unit; this needs to be cleaned off with mineral free water to reduce the risk of contamination.

**Spray guns:** Ensure the air feed from the compressor to the spray gun is perfectly clean and moisture free - minerals in the compressed air can cause contamination.

**Tip:** A good way of testing the rinsing water is to spray some water through your system into a plastic cup then use the TDS meter provided to test the mineral content of the water.

- Jigs for holding items to be sprayed to enable items to be moved without being touched and keep them clear from splashes from waste fluids.

**Tip:** Use a hot glue gun to fix the items to your jig. Set them at an angle so that the fluids run off easily.

- Approximately 10 litres of mineral free water (also known as RO water or de-ionized water). This must have a mineral content reading of 0.00-0.02 on the electronic TDS meter provided.

## MIXING INSTRUCTIONS

*Mixing ratios are calculated by mass not volume.*

*Shake all concentrates well before mixing.*

### HYDROCHROME BASE COAT

Should be used as the topcoat if a coloured chrome finish is desired.

	%	RATIO	MASS IN GRAMS			
BASE	50%	1	50	100	250	500
CURING AGENT	50%	1	50	100	250	500
<b>TOTAL MIX</b>			<b>100</b>	<b>200</b>	<b>500</b>	<b>1000</b>

### ACTIVATOR

*(Mix 24- 48 hours before use)*

9 months shelf life in concentrate form.

*7- 8 days shelf life once mixed.*

Mix and add to yellow Hozelock bottle.

Shake well to mix.

	%	RATIO	MASS IN GRAMS			
PURE MINERAL FREE WATER	95	19	237.5	475	950	1900
ACTIVATOR	5	1	12.5	25	50	100
		<b>TOTAL MIX</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>

### ANTIOXIDANT

9 months shelf life in concentrate form.

*3 months shelf life once mixed.*

Mix then add to yellow Hozelock bottle.

Shake well to mix.

	%	RATIO	MASS IN GRAMS			
PURE MINERAL FREE WATER	95	19	237.5	475	950	1900
ANTIOXIDANT	5	1	12.5	25	50	100
		<b>TOTAL MIX</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>

**SILVERING SOLUTIONS**

9 months shelf life in concentrate form.

**3 months shelf life once mixed.**

The same total quantity of A1/2 and B must be mixed.

**The water and silvering solutions should all be kept and used at room temperature. Cold solutions will take longer for the chemical reaction to occur.**

Mix up A1/A2 solutions in the mixing bottle supplied labeled A1/2.

Always add water first, then add A1 and A2 separately.

**NEVER mix A1 and A2 together without water. RISK OF REACTION.**

Replace lid and shake the bottle well. To avoid cross contamination, remove only the chamber marked A1/A2 from the red trigger sprayer bottle. Fill with A1/A2 solution then reattach to the trigger.

Mix up B solution using the mixing bottle labeled B and shake bottle well. Remove only the chamber marked B from the red trigger sprayer bottle. Fill with B solution then reattach to the trigger sprayer bottle.

		RATIO	MASS IN GRAMS			
A1/2 SILVER SOLUTION	PURE MINERAL FREE WATER	18	180	450	900	1800
	A/1	1	10	25	50	100
	A/2	1	10	25	50	100
	<b>TOTAL MIX</b>		<b>200</b>	<b>500</b>	<b>1000</b>	<b>2000</b>
		RATIO	MASS IN GRAMS			
B SILVER SOLUTION	PURE MINERAL FREE WATER	19	190	475	950	1900
	B	1	10	25	50	100
	<b>TOTAL MIX</b>		<b>200</b>	<b>500</b>	<b>1000</b>	<b>2000</b>

**TOPCOAT**

**Should be used as the basecoat if a coloured chrome effect is desired.**

	%	RATIO	MASS IN GRAMS			
BASE	50%	1	50	100	250	500
CATALYST	50%	1	50	100	250	500
<b>TOTAL MIX</b>			<b>100</b>	<b>200</b>	<b>500</b>	<b>1000</b>

## APPLICATION INSTRUCTIONS

Achieving the highest mirror-like reflectivity lies in the surface preparation of the object you are spraying. The smoother, more "glass-like" the surface is, the more reflective the final appearance will be.

Apply the correct 2K primer for the substrate first. Once this has fully cured, abrade the surface with 400 grit paper so it's smooth and blemish free.

### SPRAYING ON THE 2K GLOSS BASECOAT

**For the very best results apply a first flattening coat of an automotive 2K clear coat after the primer. Leave to fully harden for 2-3 days. Use a scotch pad to lightly abrade the surface and then apply the Hydrochrome 2K base coat.**

#### **IMPORTANT:**

If a coloured chrome finish is desired, you should use the violet tinted topcoat as the basecoat for your project. Then add your chosen candy tint into the Clear Basecoat product and use this as the topcoat for your item instead.

The basecoat must be sprayed evenly. Apply the mixed clear chrome 2K basecoat using standard spray gun settings with one light coat followed by one full wet coat – apply as wet as you can without it running. Allow the first wet coat to flash off for 15 minutes and then apply a second wet coat.

#### **IMPORTANT:**

The base coat must be left to air dry for 24 hours at room temperature to FULLY cure, so all solvents evaporate, otherwise the chrome effect will be dulled.

#### **VERY IMPORTANT:**

**DO NOT touch the base coated surface**, as finger marks will be visible in the chrome effect. Any grease or contaminants will stop the activator from bonding to the surface.

**DO NOT use solvent-based degreasants on the surface**; this will cause problems with the chrome. If you have touched the surface, use a water-based degreaser then rinse thoroughly with mineral free water.

**IMPORTANT:**

Activator, anti-oxidant and the silvering chemicals all need to be mixed before beginning the silvering.

**ACTIVATOR NOTES**

Once the activator has been mixed, it should be left in a warm place for 24 - 48 hours before use. Once the solution has turned a yellow colour, it is ready for use.



**Picture on the left:** the activator is visibly beading on the surface. Beading indicates the activator is not yet ready for use. Applying the silver solutions over the beading activator will result in a spotty looking chrome effect.

**Picture on the right:** the activator is sheeting with no water breaks. The activator is now ready for use and will give a true mirror finish.

Any small areas that will not stay wet indicate there are contaminants on the surface.

Creative paints strongly recommends only the use of the supplied trigger sprayer to apply the activator. Using a normal spray gun without 316 stainless steel internals will result in a sub standard chrome finish.

**APPLYING THE SILVER LAYER****IMPORTANT:**

Steps 1-5 must be completed immediately after one another.

1. Spray on the activator with the trigger sprayer bottle nozzle 5-10mm from the surface. Ensure the solution is sheeting over the whole surface with no breaks, then rinse off with water. **Do not leave the activator on for too long as it will burn the basecoat and light white marks will appear on the final finish.**
2. Twist the double chamber trigger sprayer nozzle to spray setting. From about 20cm distance, start spraying from the bottom of the item and work upwards; ensure the entire surface is saturated.

Continue spraying until the bright, reflective mirror effect appears (the mirror effect will appear more quickly if the object and air temperature are warm).

3. Quickly rinse off the item with the water. If there are any areas which haven't been silvered, apply the silvering solution again to these areas and then fully rinse again.
4. Apply a light coat of the antioxidant followed by a final rinse off with water.
5. Using clean compressed air, blow dry the item until all the water has been pushed/evaporated off. Until the object is completely dry, there will be visible watermarks on the surface.
6. Place the sprayed item into a warm area at 30°C for 20 minutes to remove the remainder of the moisture in the silver layer.

**IMPORTANT:**

Due to the silver reacting within the red trigger bottle, ALWAYS clean out and rinse the trigger head assembly after each use. See the red trigger sprayer maintenance instructions for the full procedure

**SPRAYING ON THE 2K GLOSS TOPCOAT****IMPORTANT:**

If a coloured chrome finish is desired, you should use the violet tinted topcoat as the basecoat for your project. Then add your chosen candy tint into the Clear Basecoat product and use this as the topcoat for your item instead.

Apply a dustcoat followed immediately by a wet coat using standard spray gun settings for your gun. The clear coat will appear a little foggy at first but this will turn clear as the paint starts to flow.

Leave to dry for 48 hours.

**COLOURED TINTS****IMPORTANT:**

If a coloured chrome finish is desired, you should use the **Violet Tinted** topcoat as the base coat for your project. Then add your chosen candy tint into the **Clear** base coat product and use as the topcoat for your item.

**Standard Tints:** Add 1g of concentrated coloured tint to 100g of topcoat.

*Tip: Start with a small amount of dye to topcoat ratio (as above) and add more if needed after spraying a test coat. If too much tint is added the brilliance of the chrome will be lost.*

*Tip: The coloured tints can also be mixed to achieve other colours. Add 1g of the mixed tint to 100g of topcoat.*

**Gold tint:** 1g per 100g will give a 9-carrot gold effect. To achieve a 24-carrot effect, either apply two further coats (leaving it to flash off in between coats) or, add 3g per 100g and spray one coat.

## TROUBLE SHOOTER

**PROBLEM - Red trigger sprayer has stopped working.**

**SOLUTION -** Strip down the trigger assembly head using the maintenance guide and rinse the parts well with mineral free water.

**PROBLEM - Silver has come out uneven. I can see the basecoat under it.**

**SOLUTION -** Make sure when applying the activator that it has been left for 24-48 hours before it is applied. If the item is still not being coated evenly, it is likely that there is grease/contaminant on the surface. Use a water-based cleaner and rinse well at least twice then start again.

**PROBLEM - I have applied the topcoat and it looks smoky.**

**SOLUTION -** There is moisture left in the silver layer. Put the item in an oven at 30°C for 20 minutes. Ensure the item is getting up to temperature and there are no cold spots in the oven, or place next to a warm hot air heater if no oven is available.

**PROBLEM - I have applied the silver layer and there are white ghost marks in the silver.**

**SOLUTION -** This is a simple case of activator burn. Do not leave the activator on too long.

**PROBLEM - I have just applied the silver and placed it in an oven. After 20 minutes I can see a misty rainbow effect.**

**SOLUTION -** The oven temperature is too high. The 2K basecoat has softened due to the heat and contaminated the silver layer. The heat only needs to be low (30°C) for 20 minutes. Check the oven is working correctly and maintains a consistent temperature. Ideally use an infrared thermometer.

**PROBLEM - I am spraying the silver and I'm getting a strange contamination around the edges of the item.**

**SOLUTION -** This could be one of two things:

- 1) The activator may not have been rinsed correctly and it has just gathered around the edge.
- 2) The back of the item has not been cleaned correctly so the rinsing water may have dripped round and touched the unclean back of the item, then contaminated the edge. When preparing items for spraying, clean the back as well as the surface being sprayed and spray the primer and 2K basecoat at least 3 7.5cm in from the edge to prevent this problem.

**PROBLEM – I have applied the violet tinted topcoat and it has a gold tint to it.**

**SOLUTION -** Make sure the topcoat has been shaken well before spraying.

- Leave to flash off for 10-15 minutes and apply a second coat. Make

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Include your name, order number and a photograph showing the problem; remember we are here to help.



## RED DUAL CHAMBER TRIGGER SPRAYER MAINTENANCE

The units will last for a long time if looked after correctly. The first time you strip one down it can be a little stiff, but after the second and third time it becomes a lot easier to do.

The complete process takes about 10 minutes. Rebuild kits are available upon request.

Remove spray tip by gently prying it away from the body.



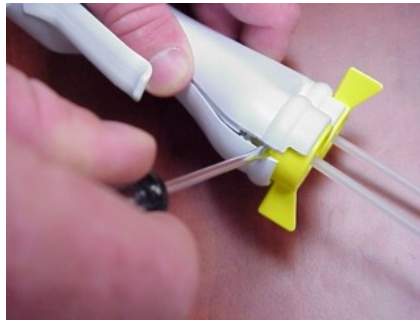
Make a note as to which way round this red rubber insert goes in. This will need to be cleaned as the silver forms around the red rubber and the white surround also.



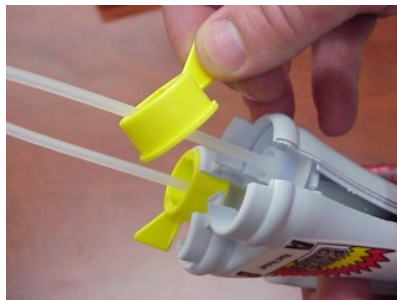
Separate the sprayer body.

Disengage latch located on the bottom of body between bottle locks.

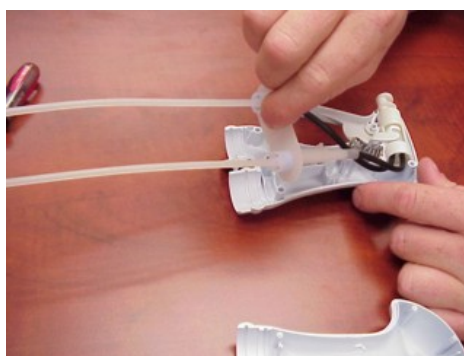




Remove bottle lock rings.



Remove dip tube assembly.



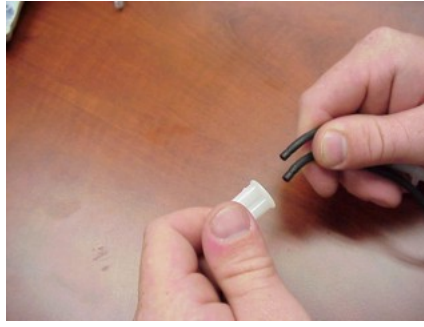
Remove trigger / piston drive yoke and pump assembly from sprayer body.



Pay attention to trigger spring placement and set it aside.



Here is where the silver forms around the plunger, this needs to be cleaned out also.



After everything has been washed out and rinsed well, use an airline to blow through any bits that may be caught in the pipes etc., then reassemble in reverse order.

#### **HEALTH & SAFETY**

*Please read all Material Safety Data Sheets for all products before use.*

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