



## ANODAL® CS-2 LIQUID

**Anodal CS-2 Liquid** is used for sealing anodized aluminum at room temperature. It is recommended for sealing clear, electrolytic colored and organically dyed coatings. This sealing system can be maintained for extremely long periods of time due to its relative insensitivity to foreign contaminants.

- Very low or no energy costs because of the 80°F- 90° F temperature range.
- Reduction of excess humidity in the workplace.
- No ventilation needed.
- Virtual elimination of sealing smut.

Coatings sealed with *Anodal CS-2 Liquid* in accordance with the recommended procedure meet or surpass the requirements of the following internationally recognized tests:

Dye Stain Test	ASTM-B136
Acid Dissolution	ASTM-B680
CASS Test	ASTM-B368
Impedance/Admittance	ASTM-B457
Kesternicht Test	DIN 50018

### **APPLICATION CONDITIONS:**

Unlike hydrothermal sealing, the chemical conversion reaction of *Anodal CS-2* continues for up to several days with continued improvement of sealing quality. However, if so desired, all seal test requirements are normally achieved or surpassed immediately after a short hot water dip following the seal. The final hot water (160°F-180° F.) dip is recommended since this will shorten the time required to complete the sealing reaction, reduce the possibility of finger print marks, speed the drying time, and minimize "crazing" of hard coat films.

Concentration:	1.5 – 2.5 % vol	
Fluoride	300 - 1100 ppm (500 - 800 ppm optimal)	
Temperature:	80°F - 90° F. (26°C - 30° C.)	
pH range:	5.5 - 6.5	
Materials:	Stainless steel or plastic	
Agitation:	Not recommended	
Immersion Time:	<b>Without hot dip</b>	<b>With hot dip</b>
< 0.5 mils:	10 min.	5 min. + 5 min.
> 0.5 mils:	15 min.	8 min. + 5 min.

### **CONTROL PROCEDURE:**

1. Dilute 5 ml of seal solution with 100 ml DI water
2. Add 20 ml concentrated ammonium hydroxide
3. Add small amount of Murexide indicator
4. Titrate with 0.01 molar EDTA to a violet end point

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### **CONTROL PROCEDURE (CONT'D):**

Calculation: **Anodal CS-2 Liquid (% vol) = EDTA x 0.34**

#### Fluoride Analysis:

1. Pipette 25 ml. of seal solution into a small beaker
2. Pipette 25 ml. TISAB (total ionic strength buffer)
3. Using a calibrated meter with specific ion fluoride electrode\* read the concentration of fluoride.

\*The meter should be pre-calibrated with 100 & 1000 ppm F- standards diluted 50% v/v with TISAB.

The addition of 0.1 g/l sodium fluoride will raise the fluoride level by 45 ppm.

#### **PRECAUTIONS:**

Wear face shield, protective gloves, and apron when handling this product.

#### **ENVIRONMENTAL CONSIDERATIONS:**

This product contains nickel and fluoride. A common method of disposal is via pH elevation, precipitation and filtration.

Recommendations, notices or instructions as to handling, use, storage or disposal of this product, including its use alone or in combination with other products, or as to any apparatus or process for its use are based upon information believed to be reliable. No liability is taken with respect to any such recommendations or instructions. Sole and exclusive warranty is that products comply with published chemical and physical specifications as provided on the certificate of analysis. No other warranties, either express or implied are given.