



## ANODAL® SEAL AS POWDER

***Anodal Seal AS Powder*** is a fully blended nickel acetate seal containing dispersants and buffers to effectively manage smut formation and extend the life of the product. Solutions of *Anodal Seal AS Powder* may be used for either conventional single-stage sealing or for the first step of a duplex sealing system. In addition to organically dyed coatings, *Anodal Seal AS* can be used to seal clear, electrolytic and integral colored films. This product offers major advantages over boiling water, among which are:

- Control of sealing smut
- Reduced bleed-out of dyed coatings
- Control of pH for optimum performance
- Excellent sealing even when de-ionized water is not used.
- Superior light and weather fastness

### **PROPERTIES:**

Appearance: free flowing powder  
Color: light green

### **PRECAUTION:**

The use of *Anodal Seal AS* will not cause field service yellowing of properly formed anodic coatings. It is important that the anodizing conditions be kept within normal limits however, especially as to temperature and current density. If a faint residue is observed after the seal treatment, a slightly acidic final rinse is recommended. The service life of the bath depends on the operating conditions and the efficiency of rinsing prior to sealing. Filtration will extend the life of the bath considerably. *Anodal Aluseal powder* can be added to the bath to delay the onset of seal smut.

### **APPLICATION GUIDELINES:**

The sealing tank should be clean and free of deposits from old sealing solution. In order to prevent precipitation of any *Anodal Seal AS* components, the make-up water should have a pH of 5.5 or less, therefore, we recommend the addition of a small amount of acetic acid to the water before adding the *Anodal Seal AS Powder*.

### **Single Stage (conventional) Sealing:**

Concentration:	5-8 g/l
Water quality:	De-ionized water preferred
pH:	5.3 - 5.8
Temperature:	190° - 210° F.
Time:	For optimum quality: 5 minutes/tenth mil

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### APPLICATION GUIDELINES (CONT'D):

#### Duplex Sealing:

Step 1:	Concentration:	5-8 g/l
	pH:	5.3 - 5.8
	Temperature:	150° - 160° F.
	Time:	5 - 10 min.(20 min. for Arch. quality)
Step 2:	Composition:	1-4 ml./l <i>Anodal SH-1 Liq.</i>
	Temperature:	200° - 210° F.
	Immersion Time:	For optimum quality: 5 minutes/tenth mil

The presence of nickel in sealed organically dyed films improves the resistance to fading and corrosion. Analytical studies have shown that a far greater amount of nickel is absorbed by the anodic coating when immersion occurs at 150° - 160° F. than at boiling temperatures. For this reason the two phase method produces superior sealing quality

#### CONTROL METHOD:

1. Pipette 25 ml. of sealing bath into a 400 ml. beaker and add 200 ml. water.
2. Add 10 ml. of concentrated Ammonium Hydroxide
3. Add a few grains of murexide indicator.
4. Titrate with 0.1 M EDTA until there is a permanent and distinct purple end point.

Calculate:     **Anodal Seal AS Powder (g/l) = ml of EDTA x 1.7**

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.