



ANODAL® ULTRA MATTE SYSTEM

Anodal Ultra Matte is a fluoride based blended product that is used for the pretreatment of anodized aluminum. When used alone, the ratio of fluoride to additive will equilibrate over time to an optimum level. A brief caustic etch generally follows the Ultra Matte treatment step. Processing aluminum in this way can produce a high quality low gloss finish. Aluminum of substandard quality can often be effectively treated. Compared to a conventional caustic etch a reduction of up to 80% production waste solids can be expected.

TANK MAKE-UP

45 g/l Anodal Ultra Matte
45 g/l Anodal Ultra Matte Additive

This ratio should also be used as replenishment after a substantial decant. Normal day to day replenishment is carried out with *Anodal Ultra Matte* alone.

RECOMMENDED OPERATING CONDITIONS

Anodal Ultra Matte:	45 +/- 5 g/l
pH:	4.8 +/- 0.1
Temperature:	115 +/- 5 °F
Immersion time:	2 - 6 min (typical)
Agitation:	light

EQUIPMENT / MATERIALS

Anodal Ultra Matte solutions are corrosive to glass (incl. fiberglass), metals (incl. stainless), and cement. Preferred materials of construction include: polyethylene, polypropylene, PVC, PTFE, etc. Process tanks, plumbing, pumps, steam coils, ventilation equipment, etc. coming into contact with this product should be constructed with suitably corrosion resistant materials. Cooling is generally not required.

Due to low solubility of the reaction product, aluminum fluoride sludge is generated in the production tank therefore the process bath must be filtered or decanted on a regular basis. Approximately 1 lb of 15% solids sludge is generated per 10ft² aluminum processed. A plate and frame filter press is suggested for architectural installations.

HF containing mist produced by the collapse of H₂ bubbles at the etch surface can be mitigated effectively by the addition of small additions of Ekaline F, however ventilation and scrubbing are recommended.

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ANALYSIS METHOD

By fluoride probe (preferred):

1. Dilute 10 ml aliquot to 500 ml and mix
2. Further dilute 25 ml with 25 ml TISAB
3. Measure directly with a properly calibrated* ion selective electrode for fluoride

Calculation: **Anodal Ultra Matte (g/l) = measurement x 0.088**

*Be sure to use fluoride calibration standards that have been diluted 50:50 with TISAB (total ionic strength buffer), e.g. a 1000 ppm fluoride standard diluted 50:50 with TISAB is used to calibrate at 1000 ppm. It is preferable to use two fluoride standards for calibration: 100 ppm and 1000 ppm.

By titration:

1. Pipette 10 ml cooled *Anodal Ultra Matte* bath into a 250 ml beaker
2. Add 100 ml water and several drops of phenolphthalein indicator
3. Titrate with 1.0N sodium hydroxide to a pink endpoint

Calculation: **Anodal Ultra Matte (g/l) = Titer ml x 5.5**

Replenishment: for every 1g/l below target concentration add:

- 8.5 lb *Anodal Ultra Matte* per 1000 gal tank volume

PRECAUTIONS

May be fatal if swallowed or inhaled. May affect respiratory system, heart, skeleton, circulatory system, central nervous system and kidneys. May cause irritation and burns to skin, eyes and respiratory tract. May be harmful if absorbed through skin. Read MSDS thoroughly. Wear approved PPE.

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.