



## Tufram<sup>®</sup> Basic Hard Anodizing

*Reliable coating for wear resistance on aluminum surfaces*

Part of our Tufram<sup>®</sup> family of coatings, Tufram<sup>®</sup> Basic hard anodizing is an electrochemical process that creates a protective oxide layer on aluminum parts, improving corrosion resistance and imparting other desirable surface properties such as lubricity. Since the entire process takes place in a cool electrolyte bath, Tufram<sup>®</sup> Basic hard anodizing protects aluminum parts from any thermal distortion.

A wide range of wrought and cast aluminum alloys can be hard anodized. Process conditions as well as aluminum alloy determine the hard oxide layer's thickness, surface characteristics and degree of substrate incorporation. Our tight process control is a crucial ingredient in a quality hard anodized coating.

### UPGRADE YOUR COATING

While these technical and performance characteristics are already far more plentiful than your average generic coating, applications requiring even more advanced performance should turn to the synergistic members of the Tufram<sup>®</sup> family.

The addition of a polymer and dry lubricants for sealing provides a lower coefficient of friction and superior coating quality. Our synergistic Tufram<sup>®</sup> coatings are uniform, and have better non-stick properties and chemical and corrosion resistance than our Tufram<sup>®</sup> Basic hard anodizing.



General Magnaplate is ISO 9001:2015 and AS9100:D certified, some of the highest accreditations in the industry for process control. In addition, we employ automated ramping for consistency in each batch. These high standards for process and end product make Tufram<sup>®</sup> Basic the only hard anodizing worthy of the Magnaplate name.



## Technical Advantages

- Improved hardness.
- Low coefficient of friction after lubrication.
- Over 500 hours salt spray corrosion resistance can typically be achieved.
- Average coating thickness of 0.002 inches, depending on alloy.
- Corrosion, wear, heat and electrical resistance.
- High dielectric strength.
- Superior quality and process control (ISO 9001:2015/AS9100:D).
- Compliance with industry standards such as:
  - REACH.
  - MIL-A-8625, AMS-2468, AMS-2469, AMS-2471 and AMS-2472.

## Properties of Tuftram® Basic Hard Anodizing

- Hardnesses from 60 to 70 HRC in unsealed conditions.
- Color depends on thickness and alloy.
- Average coating thickness of 0.002 inches, depending on alloy.
- Non-conductive and can withstand up to 500 volts per 0.001 inches of thickness.
- Can be ground, lapped, honed or polished.
- Can be dyed.
- Can be sealed.
- Resistivity ranges from  $10^6$  up to  $10^{13}$  Ohm-cm, depending on thickness.

## Ideal Applications

- Food processing.
- Automotive.
- Household appliances.
- Pharmaceutical.
- Aerospace.
- Semiconductors.
- Mining and defense.

## Materials

- Aluminum.



Intertek

AS9100:D & ISO 9001:2015  
Certificate #0099648-00

To learn more about TUFGRAM Basic and other problem-solving surface enhancement coatings, contact technical representatives at General Magnaplate Corporation.