Rectifier is used as direct current source to operate any plating or anodizing system.

Thickness testing on the anodized products.

Scrubber controls air pollution and cooling tower transfers process waste heat to the atmosphere.

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Technology Application and Promotion Institute (TAPI)

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Bicutan, Taguig City

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website: http://www.tapi.dost.gov.ph

ALUMINUM ANODIZING

for more information, please write, fax, call, or email:

MIRDC

DEPARTMENT OF SCIENCE AND TECHNOLOGY
METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER

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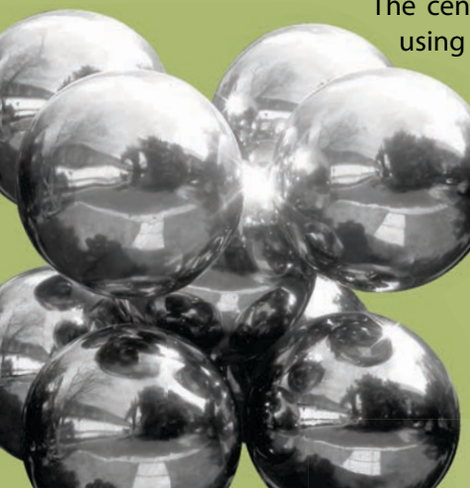
ALUMINUM ANODIZING

Aluminum anodizing is an electrochemical process of modifying the surface by forming oxide on aluminum substrate when a current with sufficient voltage is passed through an aqueous acid electrolyte medium. In the said process, the aluminum acts as the anode and a suitable material acts as the cathode.

The Metals Industry Research and Development Center established its anodizing facility to address the increasing demand for new technologies that will make the Surface Finishing industry in the Philippines more competitive and at par with international standards.

The center offers anodizing using sulfuric acid **(Types II and III)** and can accommodate materials with approximately 12″x12″x10″ (lxwxh) in size at maximum.



TYPES AND APPLICATIONS OF ANODIZING

TYPE	DESCRIPTION	BENEFITS	APPLICATIONS
TYPE I Chromic Acid Anodize	Thinnest; 0.00002″-0.0001″	-good for tight tolerance parts -good for bonding, welded parts and assemblies -non conductive	-precision machined components -aerospace components
TYPE II Sulfuric Acid Anodize*	Most common method; 0.0001″-0.001″	-less expensive -more alloys can be finished -harder than TYPE I -clearer finish	-optical components -hydraulic valves bodies -military weapons -computer and electronic enclosures -mechanical hardware
TYPE III Hardcoat Anodize*	Much thicker and denser than TYPE II; 12.7µ-115µ Specific for aluminum components subject to extreme wear applications	-improved wear resistance -non conductive -can repair worn surfaces on Al -improves parts surface for slide applications -can be black dyed; -can be ground or lapped	-valves -pistons -sliding parts -hinge mechanisms -cams -gears -swivel joints -insulation plates -blast shields

* Offered at MIRDC

TECHNICAL SPECIFICATIONS

SCR Rectifier	1000 Amp, 0-60 V, 220 V, 3P
Chiller	5Hp, 3P
	Can attain 0-8 °C at 200 L capacity
Cooling Tower	¼ hp, 1P
Chemical Pump	½ hp, 3P
Deionizer	1000 L/day
Scrubber	7.5 hp, 3P
PP Chemical Tanks	27″x27x″30″ with cathode bar and complete braces for 200-L capacity
PVC Rinsing Tanks	27″x27″x30″ with cathode bar and complete braces for 100-L capacity
Fumehood w/acrylic cover	
Ducting	
Reactor Tanks w/ FRP lining	3'x3'x4.7'
Neutralization Tank w/ FRP lining	4'x4'x4'
PP Sludge Tank	2'x2'x2'
Mixer	¼ hp
Chemical pump	1hp, 3P
Dosing pump	½ hp, 1P
Pipings	

Anodizing Coating Thickness Tester
non-destructive, 1-layer thickness tester