Surface Finish & Coating Guide

Anodizing, plating, passivation, polishing and more

Surface finishing improves corrosion resistance, wear, conductivity and appearance. This guide lists the finishes we offer and where each is used.

Finish	Materials	Function	Notes
Type II anodizing	Aluminum	Corrosion & wear, color	Many RAL/Pantone colors
Type III hard anodize	Aluminum	Hard, wear-resistant layer	25–50 µm typical
Electroless nickel	Steel, aluminum	Uniform corrosion/wear coat	Even on complex shapes
Zinc plating	Steel	Corrosion protection	Clear/yellow/black
Passivation	Stainless steel	Restores corrosion resistance	Per ASTM A967
Bead blasting	Most metals	Uniform matte texture	Cosmetic / pre-coat
Polishing	Most metals	Smooth, reflective finish	Down to Ra 0.1–0.4 µm
Powder coating	Steel, aluminum	Durable colored finish	Thick, tough layer
Black oxide	Steel	Mild corrosion, low glare	Minimal dimensional change

Surface roughness reference

Process	Typical Ra (µm)
As-milled / turned	1.6 – 3.2
Fine machining	0.8 – 1.6
Bead blasted	1.0 – 2.0
Ground	0.2 – 0.8
Polished	0.1 – 0.4

Color, thickness and spec callouts (e.g. MIL-A-8625, ASTM B733) can be matched to your drawing. Confirm requirements during DFM review.