



# Surface Finishing

Choose Your Custom Metal Surface Finishing

When selecting a surface finishing for your sheet metal parts, it's important to consider the desired corrosion resistance levels, the coating thickness and how this will impact your part's tolerances and fit, and whether your part's material and surface geometry is suited for that surface finishing process. To learn more about the choices and ins and outs of zinc plating, powder coating, e-coating and some of our other available surface finishes, please review the table below or our article on selecting the best surface finish for your project

TYPES		PROPERTIES	COLORS
FINISH	CORROSION RESISTANCE	COATING THICKNESS	ABRASION RESISTANCE
Powder Coating	<ul style="list-style-type: none"> <li>· Corrosion resistance depends on type of material used and pre-treatment process</li> <li>· Surface must be pre-treated before powder coat or part will be at risk of corrosion and adhesion issues</li> <li>· Chips or incomplete coverage adds to risk of corrosion</li> </ul>	<ul style="list-style-type: none"> <li>· Can range from 70 to 150µm</li> <li>· Thicker than traditional liquid paint</li> <li>· Improves appearance</li> <li>· Various colors and textures available</li> </ul>	<ul style="list-style-type: none"> <li>· Heat cured finish</li> <li>· Material composition and pre-treatment may have enhanced abrasion resistance</li> <li>· Creates a hard finish that resists abrasion well</li> </ul>
E-Coating	<ul style="list-style-type: none"> <li>· Good corrosion resistance</li> <li>· Provides physical and chemical barrier to corrosion</li> </ul>	<ul style="list-style-type: none"> <li>· Typically 10 to 25µm but can be more</li> <li>· Often used to increase surface thickness</li> <li>· Thickness of application is uniform</li> </ul>	<ul style="list-style-type: none"> <li>· Good durability</li> <li>· Heat cured finish</li> <li>· Good longevity</li> </ul>
Zinc Plating	<ul style="list-style-type: none"> <li>· Provides physical barrier to corrosion</li> <li>· Acts as a sacrificial anode to prevent corrosion</li> <li>· Parts can sustain minor damage and remain corrosion resistant</li> </ul>	<ul style="list-style-type: none"> <li>· Can range from 5 to 25µm</li> <li>· If use as an undercoat for other finishes, poor adhesion</li> <li>· Best for detailed surfaces and not heavy-duty applications</li> </ul>	<ul style="list-style-type: none"> <li>· Very strong finish</li> <li>· Highly durable to abrasion</li> </ul>
Anodizing	<ul style="list-style-type: none"> <li>· Good corrosion resistance</li> </ul>	<ul style="list-style-type: none"> <li>· Ranges from 0.5 to 15µm</li> </ul>	<ul style="list-style-type: none"> <li>· Hard, wear resistant finish</li> </ul>

	<ul style="list-style-type: none"> <li>· Commonly used for saltwater or marine environments</li> </ul>		<ul style="list-style-type: none"> <li>· Often used for parts that come in frequent contact with other material</li> </ul>
Passivation	<ul style="list-style-type: none"> <li>· Good corrosion resistance through an inert, oxide layer</li> </ul>	<ul style="list-style-type: none"> <li>· The process removes free iron from the surface leaving a thin and transparent oxide film</li> </ul>	<ul style="list-style-type: none"> <li>· Does not change durability or abrasion resistance</li> </ul>

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