Two-Step Coloring vs Organic Dye

Two parts can both be called black anodized and still use different coloring processes. Identify the process as well as the color so the appearance and service requirements are clear.

Question	Two-step coloring	Organic dye
How is color added?	Metal is deposited into oxide pores by an electrical process.	Dye is absorbed into the porous anodic layer.
NIA color families	Champagne, bronze and architectural black	Black; red and blue on the small line
NIA line	Large line	Black on both lines; red and blue on small line
Typical selection concern	Architectural color and resistance to fading	Specific dye shade and suitability for service exposure
What must be specified?	Process, shade, preparation and performance requirements	Dye color, preparation, sealing and performance requirements

Select for exposure as well as shade

Lightfastness means resistance to color change under light exposure. Organic dye performance depends on the dye, the amount retained in the coating and sealing. Do not assume every dyed finish has the same outdoor performance.

For an outdoor project, provide the applicable specification and exposure conditions. Ask for a process recommendation and any required supporting test information before approving the finish.

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Planning and next steps

Sealing is part of the finish

Anodizing and coloring are followed by the specified finishing treatments, including sealing where required. Specify the complete finish rather than assuming a color name defines coating thickness, seal or performance.

Use this selection sequence

1. Define service conditions

Identify sunlight, moisture, cleaning chemicals, handling and any functional requirements.

2. Identify the available process

Use the documented NIA line and color options as the starting point. Ask about feasibility for any additional color.

3. Approve the appearance

Review the desired color with the chosen alloy, texture and preparation.

4. Complete the finish requirements

Record process, color reference, thickness, sealing, masking and inspection requirements as applicable.

Questions to settle before release

• Does the drawing identify two-step or organic coloring where the distinction matters?

• Has the finish been reviewed against the actual exposure and governing specification?

• Are the approved sample, surface preparation and significant surfaces identified?

Does hardcoat automatically use the same colors?

Do not assume the small-line dye palette applies to every hardcoat requirement. Review alloy, thickness, color and sealing as a separate combination.

Discuss the right coloring process

Contact NIA with your drawing and project requirements to review the next step.

Sources: NIA Capabilities 2025, pages 7-8 and 10-11; large-line length corrected by NIA to 330 inches; Aluminum Anodizers Council - Electrolytic Coloring of Anodized Aluminum; Aluminum Anodizers Council - Anodizing FAQ.