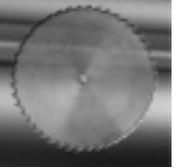


Handling Light and Medium Bronze Anodized Orders

By Todd Hamilton



Light and medium bronze anodized finishes can be a beautiful and lasting finish for aluminum. Specifiers often choose them because when handled correctly, they are of surpassing beauty. But because expectations can run high for these finishes, light and medium bronze can also become a nightmare for the anodizer, the specifier, and the building owner. These colors are subject to severe color variation from piece to piece. This article will attempt to explain why light and medium bronze vary in color and what you can do to prevent trouble.

With lighter colors, the human eye perceives more variations in chromaticity and hue (two key components of color). This variation is far less noticeable with darker colors. Lighter colors also develop very quickly in the anodizing tanks. Sometimes, just a few extra seconds in the tank will make a difference between a light and medium bronze color. Thus, the margin for error in anodizing these colors is smaller. While these problems are frustrating, there is a way to help. The problems with anodizing lighter colors can be minimized if the orders are handled carefully. There are just a few important issues to consider.

Anodizing color is affected by numerous variables: alloy type and temper, load time, etch time, tank temperature and coating thickness just to name a few. We are able to control many of these variables in our process. However, when finishing customers' metal, we are unable to control the alloy type. Customers can help improve the color consistency of light and medium bronze anodized jobs through careful alloy selection. Certain types of alloys anodize better than others. For flat or fabricated sheet items, 5005 produces the best results. For extrusions, 6063 is the best alloy choice.

To take alloy selection a step further, supplying metal (sheets, extrusions, fabricated parts) from one lot of material can improve color consistency. When aluminum is produced, each lot has slight differences:

alloy constituents, temper, extruded temperature, grain, rolled temperature, etc. These slight differences can have a big effect on anodizing color. For example, material from one lot anodized light bronze might produce a color to the light side of a range. Whereas material anodized from another lot might produce a color near the middle of the range, while both lots were anodized using the exact same process and tank time. Thus, anodizing material from one single lot will minimize the chances of color variation.

Customers often want to match the color of a piece of sheet to the color of an extrusion. Unfortunately this is not possible, especially with light and medium bronze. Different alloys take on slightly different appearances when anodized. Thus, an anodized piece of 5005 sheet will look slightly different than an anodized piece of 6063 extrusion. Furthermore, we supply our range samples on 5005 sheet alloy. If a customer is looking to match their storefront extrusion to our 5005 range samples, the color will not match. For best results, customers should let the anodizer create range samples from the lot of material they plan to anodize, thereby giving the customer the most accurate depiction of color range they can expect.

Producing a perfect match with light or medium bronze anodizing is impossible. Because so many variables exist, a certain degree of color variation is inevitable. Given that some color variation will exist, a way to minimize the color variation is for SAF to use a target color when anodizing the job. This brings us to the dichotomy between sales and production. Production must have a target to do their job, but salespeople need something called "range samples." Range samples are really a technique to adjust the expectations of specifiers and customers and are not helpful to the production staff. The reason is that color is just one of the aspects of appearance and not even color can be

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PROJECT SPOTLIGHT

John McDougall Company - Oak Hills High School: SAF gets an A+

Handling light bronze jobs can be a lot like writing a report for school: you have to develop a thorough plan & process, do research, learn the important facts, and then prepare the finished product. If done right, the finished product can get high marks. Last year, Southern Aluminum Finishing Company anodized a large light bronze job for John McDougall Company for Oak Hills High School in Cincinnati, Ohio. This job is an excellent case study on how to properly and effectively handle a light or medium bronze anodize job.

The job called for John McDougall Co. to supply numerous sizes and shapes of fabricated brake metal to be anodized light bronze. The customer required a warranty on the anodized finish. For Southern Aluminum Finishing Company to provide a warranty, we have to supply the metal. So SAF supplied the customer with 0.125" 5005 alloy sheet. To help minimize the potential for color variation on the job, SAF supplied sheets from the same lot of material. The customer then fabricated the sheet and sent the pieces back to SAF for anodizing.

The customer supplied a target sample to match. Of course SAF could attempt to match their color; however, a color range is required to anodize a production run like this. With their years of expertise and the help of a colorimeter, Cecil Gates,

SAF's anodizing production foreman and Robert Gunn, one of SAF's best anodizers, worked together to develop a color range around the sample provided by the customer. The range samples were sent to the customer and were approved so that production could begin.

Anodizing light colors is a difficult job. Once production begins on a job like this, maintaining consistency in the anodizing process is crucial. For this job, Cecil

assigned Tan Minh Pham (Hoang) and Terry Gates to rack each piece with Robert Gunn as the anodizer. This consistency of personnel helped to ensure that each load was racked and anodized the same way. Working with the approved range samples as a guide, each load was anodized and checked with a colorimeter to determine acceptability. This careful attention to detail helped produce a consistent color for the customer.

The pieces were finally all anodized, shipped and installed on the school. Through careful project management, detailed planning and preparation, skilled production, and consistent processing, SAF is the world's leading source for light and medium bronze anodized aluminum.



Plant Improvements

Plant Improvements

During the past several months we have continued to improve our production facilities. Additional lighting was added to our coil cut-to-length area. The additional lighting will allow our operators to better inspect the quality of our sheet.

We also purchased a new extrusion fabrication saw. The new saw improves our ability to supply "ready to install" extrusion lengths to our customers. The saw uses a pneumatic vise to hold the extrusions in place, helping to ensure the squareness of our cuts. The saw can also accommodate pieces with a cross-section up to 4.5" x 6.5".

DEPARTMENT

Focus On Quality

Spotlight

By Richard Moore

What makes up Southern Aluminum Finishing Company? A key element of Southern Aluminum Finishing Company is its people. While most everyone here at SAF has a different role, we all attempt to work together as a team. Every employee in each department in the company plays a vital role in accomplishing one of our main objectives: satisfying our customers. The Insider will be running a regular series over the next several issues highlighting different areas within Southern Aluminum Finishing. This first issue will focus on Quality, an area that affects every employee.

Southern Aluminum Finishing works hard to bring high quality aluminum products to our customers. As the demand for our products increases, Southern Aluminum Finishing strives to improve our products and services. This continuous improvement relies upon dedicated plant and sales personnel, loyal customers, and the quality system. The first quarter of the year 2000 has been good when defined in terms of the number of complaints and rework performed by Southern Aluminum Finishing and thus is a good indicator of the efforts to improve quality.

Information from our customers is perhaps the most important tool Southern Aluminum Finishing can use to improve quality. Clear and concise purchase order requirements or even complaints about previous orders are crucial pieces of information to production, sales and quality control personnel. This information allows Southern Aluminum Finishing to reduce nonconforming products and in some cases prevent nonconformance altogether. We urge our customers to be descriptive and detailed whether we are matching colors for painted or anodized material, ordering stock items, or fabricating custom shapes in our fabrication department. Southern Aluminum Finishing has an extensive database that stores all customer complaints. Once a complaint is entered, quality control investigates the cause of the problem and works with all personnel involved to change any processing problems detected. Regardless of the size of the order, we value customer input so do not hesitate to provide us with feedback.

The production personnel at Southern Aluminum Finishing work hard every day to ship out quality products. Our Anodizing, Fabrication, and Paint departments all participate in a newly formed incentive program designed to improve the quality of work performed at Southern Aluminum Finishing. This program is part of the entire Southern Aluminum Finishing Quality System. Our Quality System is used to help reach specific quality objectives enabling Southern Aluminum Finishing to serve our customers better. Incentive-based programs have helped many companies reach goals otherwise thought to be far out of reach. Southern Aluminum Finishing has successfully used this type of program previously to reduce our number of lost time accidents. Now we have applied this type of program to our quality goals and so far have seen promising results. The program allows for constant improvement to the standards used to monitor compliance in the program.

With everyone working together we can and will continue to bring the highest quality products and services to our valued customers. Southern Aluminum Finishing will continue to do the best quality work. We encourage our customers to provide us with both positive and negative feedback. This information is highly regarded and can be used in our quality system by our personnel to reach our quality goals.

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measured on a light-to-dark axis. What one might describe as "lighter," might really be "yellower." Range samples are only useful to give someone a feeling for the degree of variation that is possible. They are not scientifically defined limits of color. For more information about range samples please contact your SAF representative. The bottom line is that SAF requires a target color on all light and medium bronze projects.

For best results the next time you have a light or medium bronze anodize job, remember these key points:

- SAF Requires a Target Color For All Light & Medium Bronze Anodize Projects
- Expect Some Degree of Color Variation
- Use 5005 Alloy for Sheet and 6063 Alloy for Extrusion
- Do Not Attempt to Match Sheet with Extrusion
- Supply Material From One Lot of Metal
- Have Range Samples Developed From the Same Lot of Material You Plan to Provide On Orders Over \$10,000
- Agree Upon An Acceptable Color Range



Birthdays & anniversaries

ROBERT GUNN	07/04
STANLEY JOSEPH DASZUTA	07/12
JOHNNY BROWN	07/13
CECIL GATES	07/19
MARK CARROLL	07/21
MONICA MORELAND	07/22
DENVER HENDERSON	07/25
JAMES PARKER	07/25
TAI VAN BUI	07/27
THANH MAI NGHIEP	08/01
HENRY MALLARD	08/11
SANTOS RAMIREZ	08/13
REYNOLDS MCCLATCHEY	08/15
KENNETH JOHNSON	08/20
TAN MINH PHAM	08/20
PAUL BUSH	08/22
CALVIN MITCHELL	08/22
CARL BUTLER	08/23
LARRY LUPO	08/24
DALLAS STEELE	08/30
WADE OLYER	08/31
JEFFERY ROWE	08/31
ERICRUDINE RICHARDSON	09/02
KEITH MAUNEY	09/05
DOUGLAS FARLEY	09/05
QUY VAN LE	09/10
VIRGINIA BENDER	09/11
DUC THANH NGO	09/12
TODD HAMILTON	09/18

The following people have celebrated significant service anniversaries from September of 1999 through June 30, 2000. Congratulations!!

KHANH THAO DINH PHAM	10/27/99	5 years
OMARA WOODS	12/7/99	5 years
TERRY SMITH	2/6/00	5 years
WADE OLYER	5/11/00	5 years
FRANK MILLS	1/8/00	10 years
RONNIE HULL	1/22/00	10 years
CHARLIE MALLARD	1/4/00	15 years
KENNETH JOHNSON	2/6/00	15 years
CARL BUTLER	3/18/00	15 years
NGOI VAN PHAN	4/3/00	15 years
BETTY BAILEY	12/18/99	20 years
WALTER GRASMEIER	2/19/00	20 years
MARK CARROLL	3/10/00	20 years
ANITA THOMPSON	4/14/00	20 years
PAUL BUSH	9/3/99	25 years
TOMMY GRIER	3/5/00	25 years



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NEWEST Additions & Announcements

Southern Aluminum Finishing welcomes Jim Maurer back. Jim joined SAF in January as Plant Engineer. Jim has a B.S. in Chemical Engineering with a minor in Business from The University of South Carolina. Jim worked for SAF last summer in the sales department.

We also welcome Stephanie Lovely to SAF. Stephanie is currently pursuing a degree in Sales & Marketing at Southern Polytechnic State University and will be helping in the sales department this summer.

Congratulations to Deanna & Bill Piepmeier on the birth of their baby boy, Matthew Piepmeier, on May 27th, 2000. Matthew weighed 7lbs 5 oz and was 21" long.

Congratulations to Yelena & Maurice Badawy (SAF-Charlotte) on the birth of their son, Simon Badawy, on May 23, 2000. Simon weighed 4 lbs. 4 oz. and was 17" long.

What's Inside

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