MG McGrath

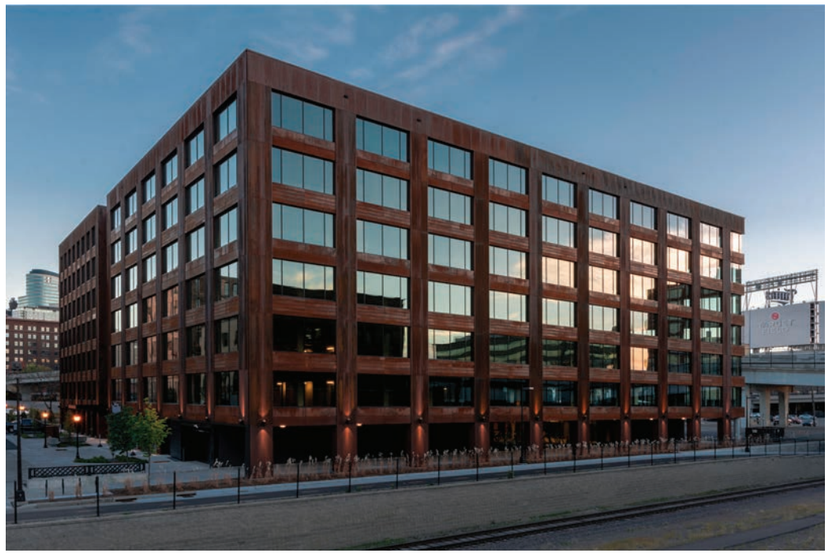
ARCHITECTURAL PATINA FINISHES

Science meets architectural design with our palette of custom MG McGrath metal surface finishes. We offer a wide range of pre-patinated metal surfaces that include: Zinc, Brass, Copper, Aged Copper, Weathered Steel, and Blackened Steel. The natural properties of these metals, combined with stunning layers of enhanced atmospheric color and texture, make them an ideal choice for architects and designers who want a high-quality product that creates a lasting impression.

Custom Finishes

Overview

For the past 25 years, McGrath has developed extensive market differentiation capabilities in the design, modification and consistent production of natural metal patination. The company utilizes controlled oxidation and chemical treatments, timed thermal exposure and specialized powder coatings to provide durable and sustainable aesthetics. McGrath has invested in specialized equipment systems to create consistent, scientifically repeatable and volume-based production. Depending on project specifications, McGrath utilizes finish coats, developed in partnership with Sherwin-Williams specifically for natural metals, for protection of the specific patinated finish to control migration of the patina due to environmental considerations (all forms of precipitation, atmospheric moisture, ultraviolet radiation, temperature).



Base Patinas and Specifier Modifications

McGrath currently has 24 base patinas and is active in a 2-year test of additional base patinas. The base patinas are frequently modified to meet specifier requests for lighter/darker base patinas, highlighting specific pigments, introducing additional colors/flecks, texture and sheen options as well as both consistent panel-to-panel appearance or aged variations where panels are purposely varied to create building texture.

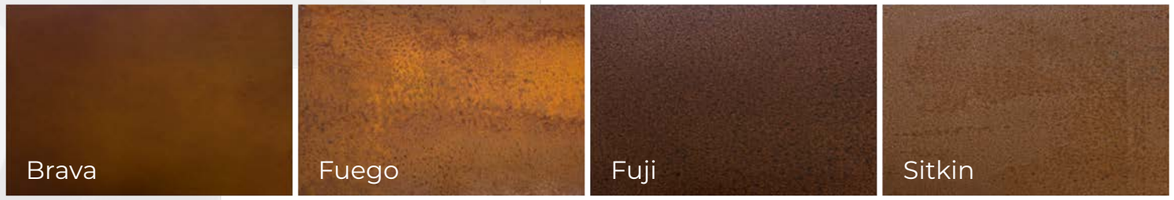
(McGrath utilizes numerous additional natural metals, treatments/ processes for national metal finish aesthetics, anodizing, composites/ applied finishes, liquid coatings/polymers not overviewed in this document. Please contact McGrath for architectural grade finish options for your project)

Current natural metal foundations for McGrath pre-patinated metal surfaces include: Bronze, Copper, Aged Copper, Blackened Steel, Weathered Steel and Zinc.

Select proprietary methods are not explicitly detailed to safeguard McGrath's intellectual property and market position

Our Base Custom Finishes

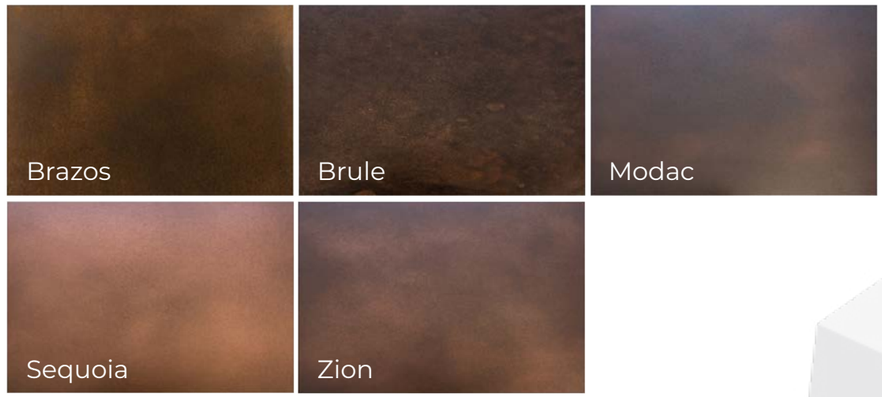
Weathered Steel



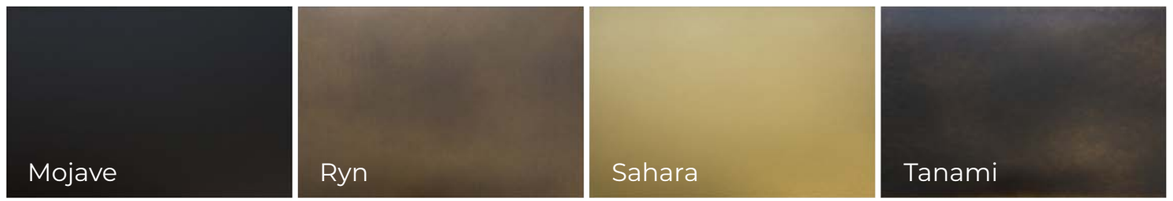
Blackened Steel

Aged Copper

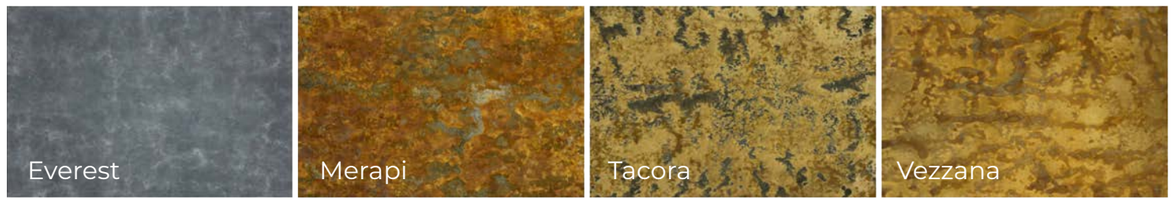
Copper



Bronze



Zinc



Patination Process

McGrath utilizes process variations based on the natural metal utilized and patination objective for the project. However, base processes includes:

Preparation

Cleaning and preparing the surface for a uniform, natural reaction. This includes various cleaning products and equipment to remove oils and contaminants.

Heat Application

Heat is used as an acceleration agent.

Chemical Application

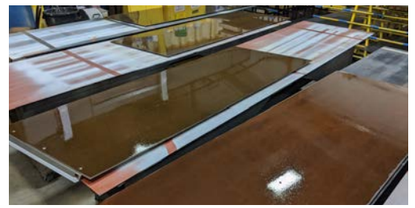
Chemical solutions are applied by select methods based on specific control times for each natural metal and patination goal. This controlled oxidation process is proprietary information of McGrath.

Chemical Agents

Select agents such as ammonia, salt, commercial baking soda, vinegar and 3rd party commercial patina agents are utilized in very controlled quantities to ensure consistent results.

Chemical Layering

Several layers/coats of chemicals may be applied depending on the patination complexity.

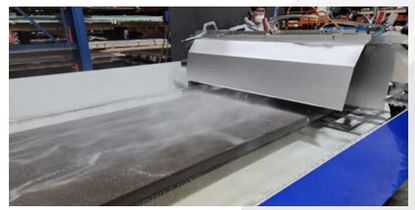


Fuming

The metal panels are sealed in a booth to let vapors create subtle color palettes.

Controlled Chemical Reaction

Based on timed applications, the metal panels are washed to stop the chemical reaction and dried.



Finishing Coat

Based on project and specifier goals, a clear finish coat (various sheen options) is applied to prevent further oxidation.

Finishing Equipment & PPE

McGrath has invested heavily in specialized equipment to create consistent patination for natural metals and to be able to address scaled architectural project requirements. Key pieces of equipment include:

Safety Equipment & Precautions

The most important process is a rigorous safety protocol to protect McGrath's full-time patination team (currently 6 employees) in every step of the process. McGrath has 3 full-time safety inspectors that oversee this process as well as additional factory and field safety procedures. The company utilizes commercial ventilation systems, respirator mask/hoods, safety goggles and chemical gloves as part of this process.

Industrial Kiln

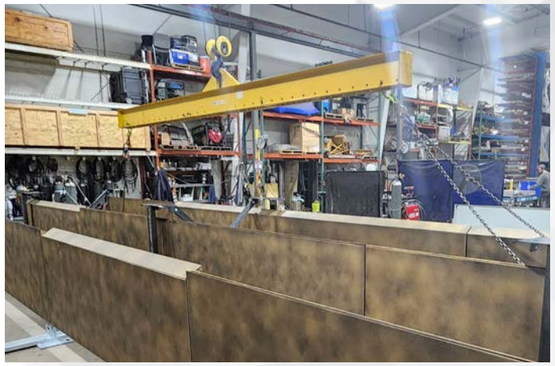
McGrath's programmable industrial scale kiln is an important part of the hot patination process where metal is heated to a range between 160 - 230 degrees depending on specific reaction protocols. This kiln allows multiple full-sized panels to heated simultaneously.

Gantry Crane Systems

McGrath's fabrication facilities utilize "gantry crane" systems for moving large, heavy load systems throughout the fabrication space.

Automated Finishing Lines

McGrath has engineered a patination line for cleaning processes, application of chemicals, agitation and temperature monitoring for specific patination results. This production line ensures a consistent process stage and has been developed for large project patinated natural metal panels prior to any engineered project fabrication (cutting, bending, perforation, etc.).



Quality Control

Consistent quality of patinated natural metals are traced back to each procedure in the process of cleaning, preparing, chemical application, controlled heating and terminating the oxidation process. To test for results following these processes, McGrath utilizes select test procedures including:

Visual Inspection

Visual inspections are done to evaluate the finish for uniformity and intended color depth using control samples. For a more precise level of visual testing, McGrath also uses gloss meters and color spectrometers to digitally record the control values and measure the completed product with the same instrumentation.

Adhesion Test

Ensure the patina is stable and does not have any loose or powdery evidence. Many times this just points to the need for additional rinsing and not an issue with the patination process.

A crosshatch cut may be utilized for custom sampling including a tape application to ensure the coating adhesion is stable.

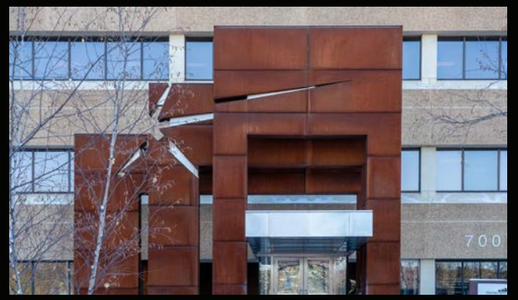
Project Tracking Application

McGrath's proprietary Project Tracking Application is utilized throughout fabrication as well as in-field for McGrath installation of projects. This application tracks every step that a material (a panel for example) takes throughout a patination and fabrication process at McGrath as well as being tracked to an exact install location on a project site. Part of this process includes overhead photos that documents each panel for quality consistency, control and for best practices resolution (was a step potentially missed or not completed to McGrath control standards)

Alice Walton School of Medicine

T3 Office Building Lobby

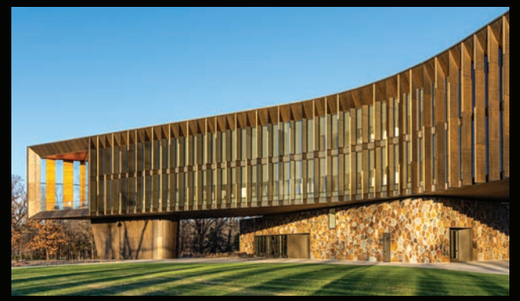
Edina City Hall



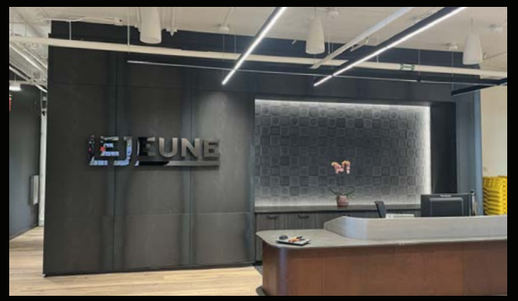
Mortenson Construction Headquarters

Dr KC Patel School of Medicine

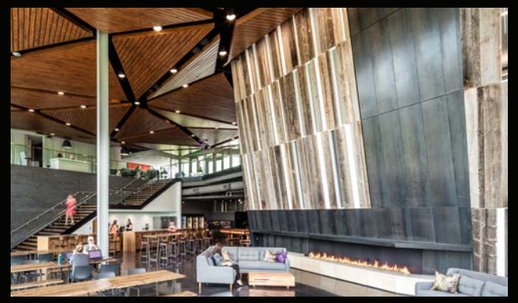
T3 Office Building



Heartland Whole Health Institute



LeJeune Steel Main Office



Anytime Fitness Headquarters

Fiserv Forum NBA Arena

Nashville Bridge Company

Herrig Center For The Arts

The Andrus Lobby

MN Capitol Gold Star Table

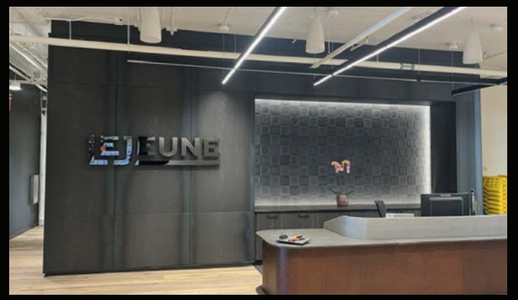
Campbell Mithun Building

Delaware Art Museum

University of MN McNamara Alumni Center

T3 Office Building Lobby

Local 10 Sheet Metal Union Hall Desk



LeJeune Steel Main Office

Ovative Office Fireplace

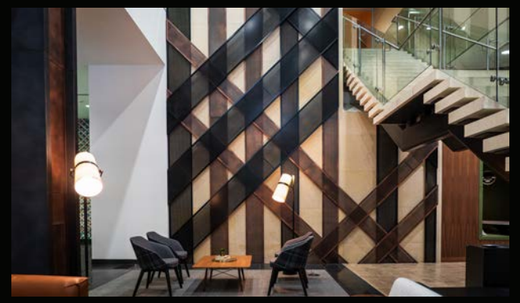
MSP Airport Planters

MG McGrath Lounge

Mortenson Construction Headquarters

The Andrus Lobby Fireplace

Fiserv Forum NBA Arena



The Andrus Lobby Metal Art

Herrig Center For The Arts

Atrium Planter Boxes

Kohler Headquarters

Campbell Mithun Building

North Dakota Heritage Center