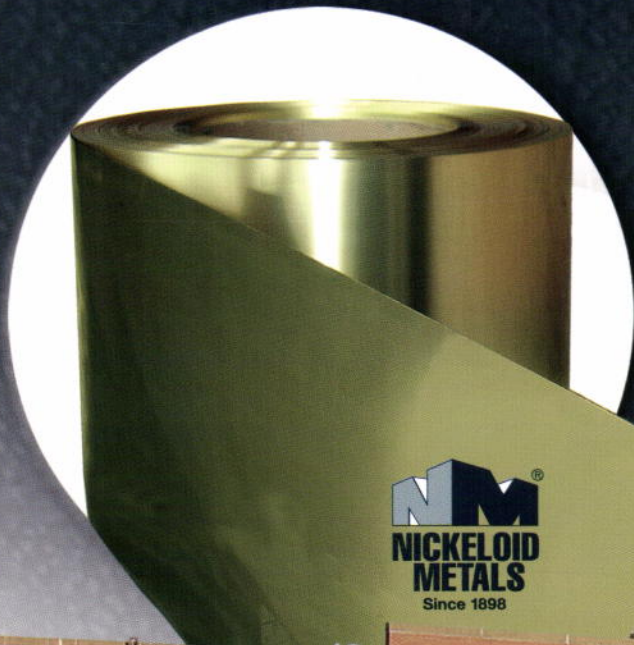


TRY US FOR THE APPEARANCE...



AMERICAN NICKELOID COMPANY

KEEP US FOR THE PERFORMANCE



More Than A Metal – It's A Method®



AMERICAN NICKELOID COMPANY

2900 W. Main Street
Peru, Illinois 61354-3703
815 223-0373
800-645-5643
FAX 815 223-5344

To our Valued and Prospective Customers:

As you browse through our catalog, you will discover a wide variety of metal finishes and many diverse applications. The beauty of our products extends well beyond their outward appearance to their quality and performance. American Nickeloid has been in business since 1898, proudly developing and producing innovative, durable, and custom products.

As a continuous coil operation, we control our process to a degree not possible in the post-finishing world. Our plating and coating thicknesses are consistent across the entire width and length of the coil. Since we are able to control surface quality and pre-treatment application, Nickeloid metals exhibit superior performance. Over the years, we have been successful selling our products into major markets such as Automotive, Vending, Electronics, Appliance, Housewares, Hardware, and Architectural Metals. As you will discover, there is a wide range of attributes that make American Nickeloid metals ideal for your specific requirements.

Our extensive testing and development programs enable us to constantly improve product appearance and performance. Our experienced chemists are able to develop specific applications in our fully equipped laboratory.

Please contact us about your next application. We are eager to answer your questions and meet your unique needs.

Sincerely,
THE AMERICAN NICKELOID TEAM

MORE THAN A METAL - IT'S A METHOD®



PRODUCT SELECTION GUIDE

Design and Fabrication Data to help you select
American Nickeloid Metals.

● CHROME STEEL PAGE 6

DESCRIPTION	FEATURES
Chromium plated steel, heavy nickel undercoat and/or copper and nickel undercoats	Rigid, smooth, lustrous, heat resisting, non-tarnishing, easily fabricated

● CHROME BRASS..... PAGE 6

DESCRIPTION	FEATURES
Chromium plated to nickel-plated brass	Corrosion resistant, non-tarnishing, durable, easily worked, tempered to suit application

● CHROME COPPER PAGE 6

DESCRIPTION	FEATURES
Chromium plated to nickel-plated copper	Corrosion resistant, non-tarnishing, formable

● NICKEL STEEL PAGE 7

DESCRIPTION	FEATURES
Nickel-plated steel, formable deposits of nickel and/or nickel over copper steel	Rigid, smooth, lustrous, heat resisting

● NICKEL BRASS PAGE 7

DESCRIPTION	FEATURES
Nickel plated to brass	Corrosion resistant, durable, easily worked, tempered to suit application

● NICKEL COPPER PAGE 7

DESCRIPTION	FEATURES
Nickel plated to copper	Corrosion resistant, formable

● BRASS STEEL PAGE 8

DESCRIPTION	FEATURES
Brass plated to steel with Bakekote® protection	Rigid, smooth, lustrous, substitute for solid brass

● POLISHED BRASS & BRASS ALLOY PAGE 8

DESCRIPTION	FEATURES
Polished lustrous bright or satin with Bakekote® protection	Corrosion resistant, durable, easily worked

● COPPER STEEL PAGE 9

DESCRIPTION	FEATURES
Copper plated to steel with Bakekote® protection	Rigid, smooth, lustrous, substitute for solid copper

● POLISHED COPPER PAGE 9

DESCRIPTION	FEATURES
Polished lustrous bright or satin with Bakekote® protection	Corrosion resistant, durable, easily worked

● KOTENOL® PAGE 10

DESCRIPTION	FEATURES
Polished lustrous bright or satin with Bakekote® protection	Corrosion resistant, durable, easily worked

● LAMINOL® PAGE 11

DESCRIPTION	FEATURES
STEEL BASED Plastic film laminated to electro-galvanized steel, hot-dipped galvanized steel, stainless steel or cold-rolled steel	STEEL BASED High strength, resistant to abrasion and chemicals, readily formable, low cost material, variety of prints, colors and textures
ALUMINUM BASED Plastic film laminated to aluminum	ALUMINUM BASED Lightweight, resistant to abrasion and chemicals, readily formable material, variety of prints, colors and textures

● KOTE-ALUME PAGE 12

DESCRIPTION	FEATURES
Bright polished or satin finished aluminum with clear or tinted baked finish	Lightweight, corrosion resistant, highly workable. Tinted can simulate brass alloys or other colors

● FLUORINOL® PAGE 13

DESCRIPTION	FEATURES
Low and high gloss fluorocarbon coatings for excellent weatherability on aluminum and stainless steel bases	Weatherable, corrosion resistant, formable in large gloss and color range

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15 Considerations in Roll Forming

16 Production Considerations in Forming

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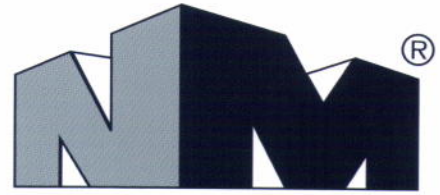
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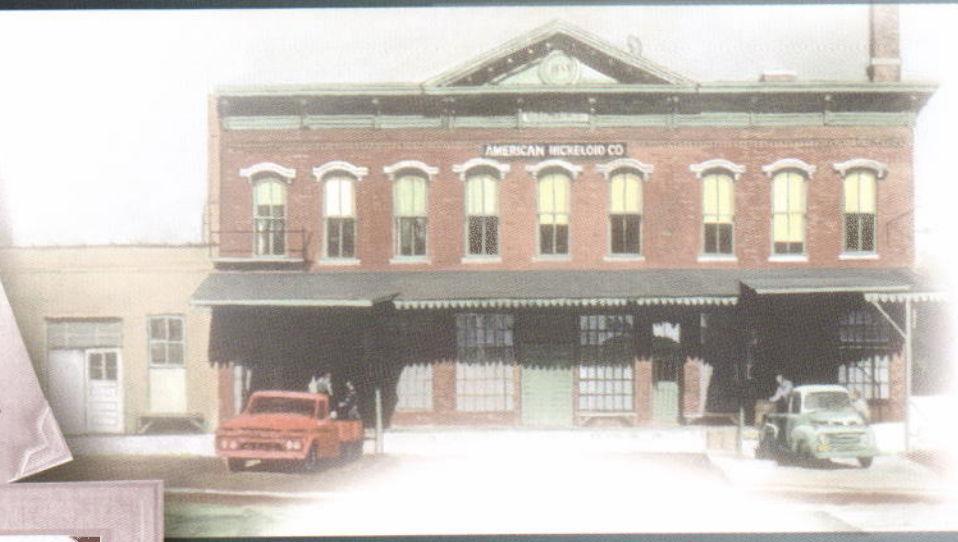
NICKELOID METALS

Since 1898

In 1898, American Nickeloid introduced America to the concept of finishing metal in sheet form to eliminate the need for finishing after forming and fabrication. Over the ensuing 100+ years, this concept has evolved and today American Nickeloid offers sheets and coils in a broad array of finishes including Plated, Polished, Painted, and Laminated.

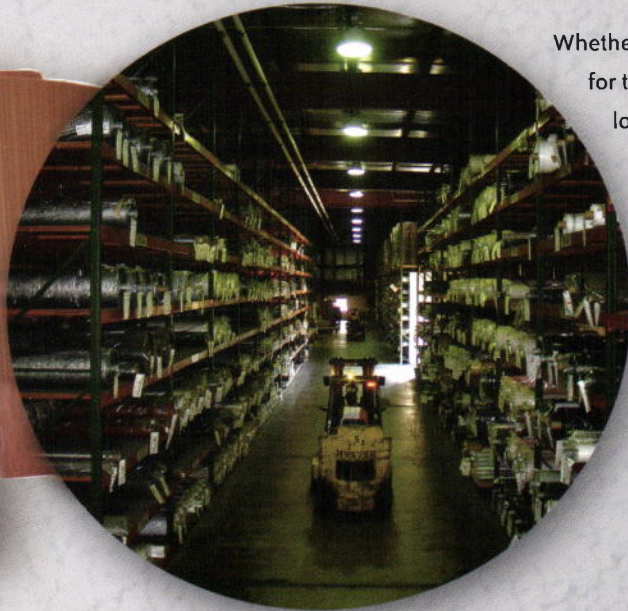
As these products have evolved, so have their applications. Today, American Nickeloid Metals are found in such diverse markets as Automotive, Appliance, Vending, Electronics, Housewares, Hardware and Architectural Metal.



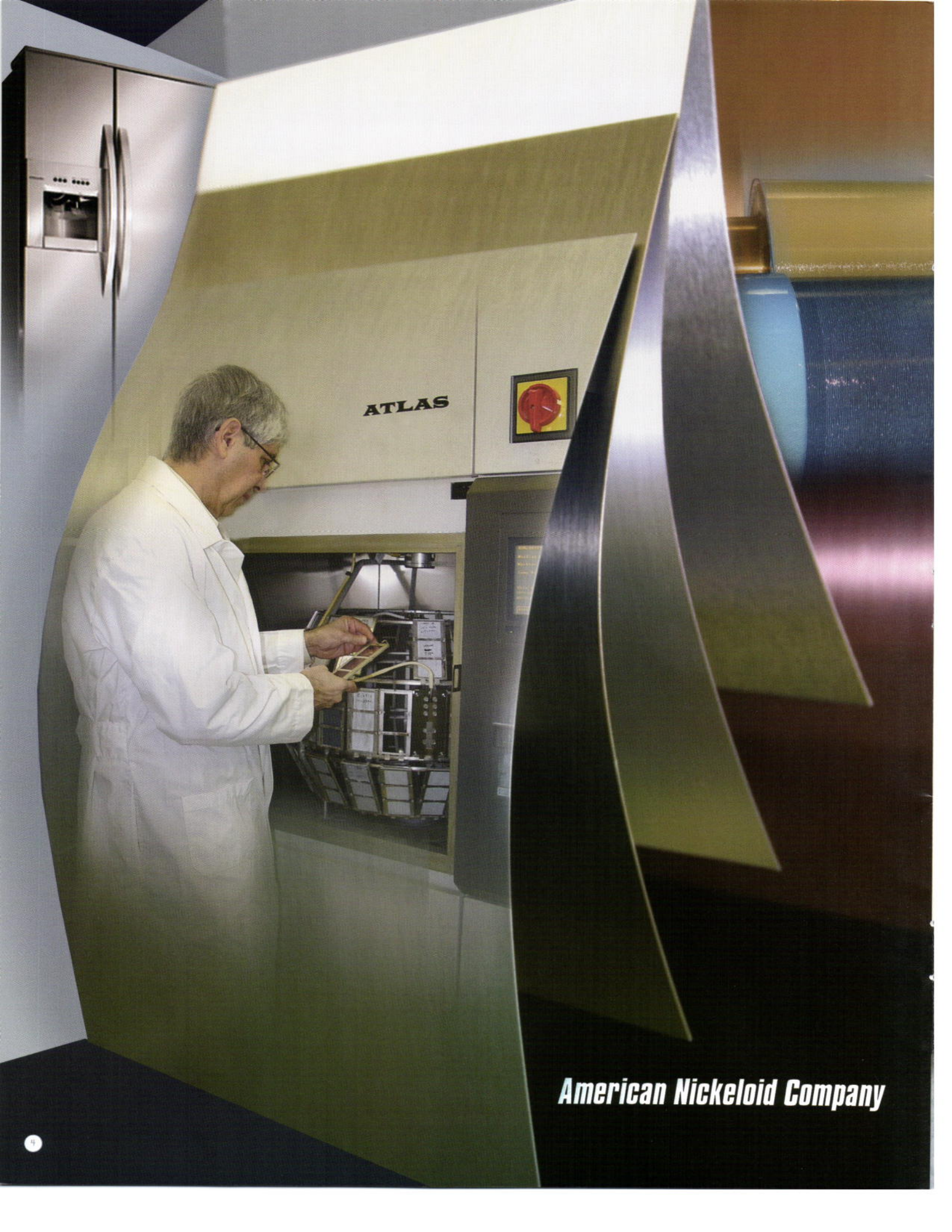


Though the company is grounded in traditional values, there is nothing traditional about our approach to product development. The technology employed within our processes and the metal finishing expertise that we have developed over the years have positioned us to tackle the most challenging and unique coil finishing projects.

Whether you are looking at finished metals for the first time, or you are simply looking to improve your quality and yield, look to American Nickeloid...



More Than A Metal – It's A Method[®]



ATLAS



American Nickeloid Company



USING SCIENCE...MAKING ART

The beauty of Nickeloid metals is much more than skin deep. From substrate metallurgy to surface pre-treatment and coatings, Nickeloid understands the chemistry behind the long lasting beauty.

Product Development is a particular strength at Nickeloid. Our fully equipped development laboratory enables our experienced chemists to create finishes and processes tailored to specific applications.

Line trials follow lab development and are conducted to ensure that the actual production processes meet application requirements.

Performance testing of production material ensures that long range performance requirements are met. Nickeloid has provided coated, laminated and plated products into critical markets such as Automotive and Appliance for more than 50 years. Success in these markets requires ongoing testing and rigorous process control.

From the birth of a product concept through physical testing of production materials, Nickeloid is committed to the science behind the art.





Chrome

Now you can add some flash with the shining beauty of real chrome, without the high costs or hassles usually associated with reflective surfaces, or you can choose our soft satin finish for subtle variations and additional character.

American Nickeloid pre-plated chromium is available with either a steel, copper or brass base. See the design and fabrication data in this catalog for specifics in terms of fabrication standards, durability, sizes and other characteristics.

Coatings and protective coverings are described on page 14.

CHROME

BASE METAL	STAMPING		SPOT WELDING	SOLDER/BRAZE	BENDING FORMING	RIVETING SEAMING	HEAT RESISTANCE (°F) CONTINUOUS DUTY	PERFORMANCE			MAX. SHEET SIZE (INCHES) GAUGES			MAX. COIL SIZE (INCHES) GAUGES	
	BLANKING	DRAWING						SALT AIR	OUTDOOR	INDOOR	WIDTH	LENGTH		WIDTH	
Steel	Excellent	Good	Excellent	Fair	Excellent	Excellent	500	Poor	Poor	Exc.	36 (a) 24 (b)	144	.050	36 (a) 24 (b)	.050
Brass	Excellent	Excellent	Poor	Good	Excellent	Excellent	500	Good	Fair	Exc.	24 (b) 12 (c)	144	.050 (d) .062 (e)	24 (b) 12 (c)	.050 (d) .062 (e)
Copper	Excellent	Excellent	Poor	Good	Excellent	Excellent	500	Fair	Fair	Exc.	24 (b) 12 (c)	144	.050	24 (b) 12 (c)	.050

This table is for general guideline purposes. Contact American Nickeloid Company to ensure that we meet your specific requirements.

Notes: Temper, hard to soft. The abbreviation "Exc." stands throughout for "Excellent." (a) to and including .036" thickness. (b) over .036" thickness up to .050". (c) to and including .062" thickness. (d) to and including 24". (e) to and including 12".

Ask about C.Q.P. (custom quality plate), heavier platings than normal for special problems of corrosion and abrasion.

Brass

The appearance and texture of brass adds an old-world elegance to contemporary design. Now, you can add that elegance in your choice of bright, satin or antique finishes – without time-consuming and environmentally challenging post-finishing operations.

American Nickeloid pre-plated brass finish is available with an economical steel base or in solid brass.

Coatings and protective coverings are described on page 14.

BRASS WITH BAKEKOTE®

BASE METAL	STAMPING		SPOT WELDING	SOLDER/ BRAZE	BENDING FORMING	RIVETING SEAMING	HEAT RESISTANCE (°F)		PERFORMANCE			MAX. SHEET SIZE (INCHES)			MAX. COIL SIZE (INCHES)	
	BLANKING	DRAWING					CONT. DUTY	INTER. DUTY	SALT AIR	OUTDOOR	INDOOR	WIDTH	LENGTH	GAUGES	WIDTH	GAUGES
Steel	Excellent	Good	Fair (a)	Poor (a)	Excellent	Excellent	180 (b)	225	Fair	Poor	Exc.	36 (c) 24 (d)	144	.050 .062 (g)	36 (c) 24 (d)	.050 .062 (g)
Solid Brass	Excellent	Good	Poor	Poor (a)	Excellent	Excellent	180 (b)	225	Good	Fair - Good	Exc.	32 (c) 24 (d) 12 (e)	144	.050 (f)	32 (c) 24 (d) 12 (e)	.050 (f)

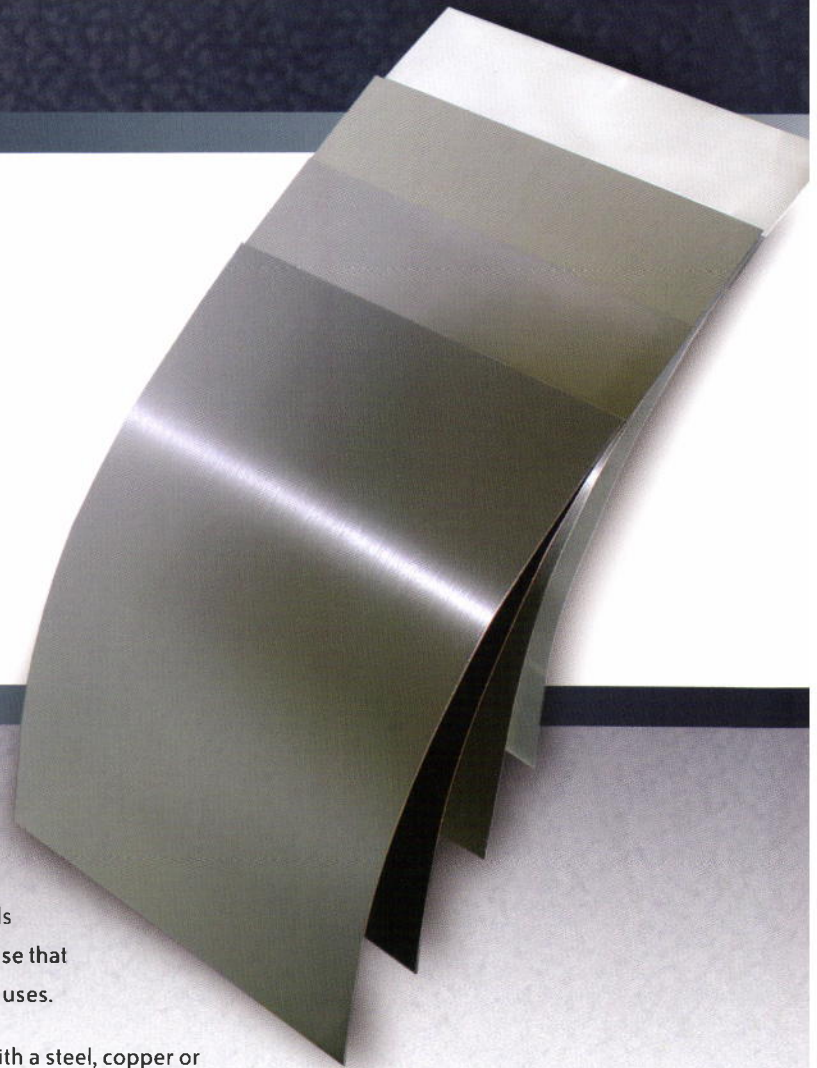
This table is for general guideline purposes. Contact American Nickeloid Company to ensure that we meet your specific requirements.

Notes: Temper, hard to soft. The abbreviation "Exc." stands throughout for "Excellent." (a) best results require removal of Bakekote®. (b) special coatings available offering heat resistance to 350°F, continuous and 450°F, intermittent (c) to and including .036" thickness. (d) over .036" thickness up to .050". (e) to and including .062" thickness. (f) to and including 24". (g) to and including 12".

Ask about C.Q.P. (custom quality plate), heavier platings than normal for special problems of corrosion and abrasion.



Nickel



In its polished form, nickel is lustrous. In satin, it's subtle. When nickel is unpolished, it meets the needs of a variety of functional requirements. It's no surprise that versatile nickel finds so many economical, beautiful uses.

American Nickeloid pre-plated nickel is available with a steel, copper or brass base. See the design and fabrication data below for specifics in terms of fabrication standards, durability, sizes and other characteristics.

Coatings and protective coverings are described on page 14.



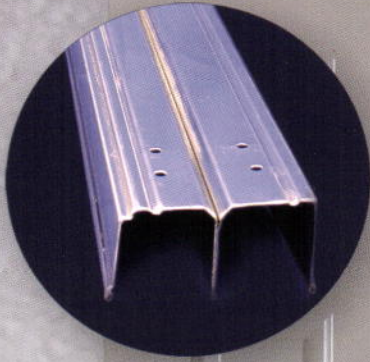
NICKEL

BASE METAL	STAMPING		SPOT WELDING	SOLDER/BRAZE	BENDING FORMING	RIVETING SEAMING	HEAT RESISTANCE (°F) CONTINUOUS DUTY	PERFORMANCE			MAX. SHEET SIZE (INCHES) GAUGES			MAX. COIL SIZE (INCHES) GAUGES	
	BLANKING	DRAWING						SALT AIR	OUTDOOR	INDOOR	WIDTH	LENGTH		WIDTH	
Steel	Excellent	Good	Excellent	Good	Excellent	Excellent	350	Poor	Poor	Exc.	36 (a) 24 (b)	144	.050	36 (a) 24 (b)	.050
Brass	Excellent	Excellent	Poor	Good	Excellent	Excellent	350	Fair	Poor	Exc.	24 (b) 12 (c)	144	.050 (d) .062 (e)	24 (b) 12 (c)	.050 (d) .062 (e)
Copper	Excellent	Excellent	Poor	Good	Excellent	Excellent	350	Fair	Poor	Exc.	24 (b) 12 (c)	144	.050	24 (b) 12 (c)	.050

This table is for general guideline purposes. Contact American Nickeloid Company to ensure that we meet your specific requirements.

Notes: Temper, hard to soft. The abbreviation "Exc." stands throughout for "Excellent." (a) to and including .036" thickness. (b) over .036" thickness up to .050". (c) to and including .062" thickness. (d) to and including 24". (e) to and including 12".

Ask about C.Q.P. (custom quality plate), heavier platings than normal for special problems of corrosion and abrasion.



Kotenol® Pre-Painted Metal

THE BEAUTY OF A PAINT FINISH WITH A HIGHER LEVEL OF CONSISTENCY AND CONTROL.

Kotenol® is Nickeloid's family of custom-made coil coated products, aimed at industries' most demanding applications. With applications ranging from automotive and appliance to building products and office furniture, Kotenol® offers the user economy and performance superior to a post-painted alternative.

American Nickeloid works with all major paint suppliers and has perfected pretreating, coating, and curing processes to ensure a finish among the best in the industry. Our primary coating line is 60" wide and incorporates multiple independent coaters and oven systems that allow us to apply unique multi-component coatings in a single pass.

Online production testing for color, cure, thickness and adhesion is supported by our laboratory where we regularly perform long-term weathering and other performance tests. Our Kotenol® products are used in some of the most demanding applications on a regular basis with outstanding results.

To complement the product, we offer a variety of protective coatings or coverings to ensure that our material looks as good when it leaves your line as it does when it leaves ours.

The table below depicts dimensional limitations for Kotenol® production. For other technical capabilities such as formability and corrosion resistance, please consult our Technical Services personnel. The wide variety of available paint and pre-treatment systems allow us to develop a product for most performance requirements.



BASE METAL	MAX. SHEET SIZE (INCHES)			MAX. COIL SIZE (INCHES)	
	WIDTH	LENGTH	GAUGES	WIDTH	GAUGES
Steel	60	144	.068	60	.068
Aluminum	60	144	.090	60	.090



Copper

American Nickeloid pre-plated copper gives you an incredible level of aesthetic appeal, with a look that's absolutely timeless. It's available in bright, satin or antique finish, and backed with a ductile, economical cold-rolled steel base, a brass base or in solid copper. American Nickeloid copper finish is also available in an even more economical unpolished state for utility uses.

Coatings and protective coverings are described on page 14.



COPPER WITH BAKEKOTE®

BASE METAL	STAMPING		SPOT WELDING	SOLDER/BRAZE	BENDING FORMING	RIVETING SEAMING	HEAT RESISTANCE (°F)		PERFORMANCE			MAX. SHEET SIZE (INCHES)			MAX. COIL SIZE (INCHES)	
	BLANKING	DRAWING					CONT. DUTY	INTER. DUTY	SALT AIR	OUTDOOR	INDOOR	WIDTH	LENGTH	GAUGES	WIDTH	GAUGES
Steel	Excellent	Good	Good	Poor (a)	Excellent	Excellent	150	175	Fair	Poor	Exc.	36 (b) 24 (c)	144	.050 .062 (f)	36 (b) 24 (c)	.050 .062 (f)
Solid Copper	Excellent	Good	Poor	Poor (a)	Excellent	Excellent	150	175	Good	Poor (g)	Exc.	32 (b) 24 (c) 12 (d)	144	.050 (e)	32 (b) 24 (c) 12 (d)	.050 (e)

This table is for general guideline purposes. Contact American Nickeloid Company to ensure that we meet your specific requirements.

Notes: Temper, hard to soft. The abbreviation "Exc." stands throughout for "Excellent." (a) best results require removal of Bakekote®. (b) to and including .036" thickness. (c) over .036" thickness up to .050". (d) to and including .062" thickness. (e) to and including 24". (f) to and including 12". (g) Bakekote® is not weatherable.

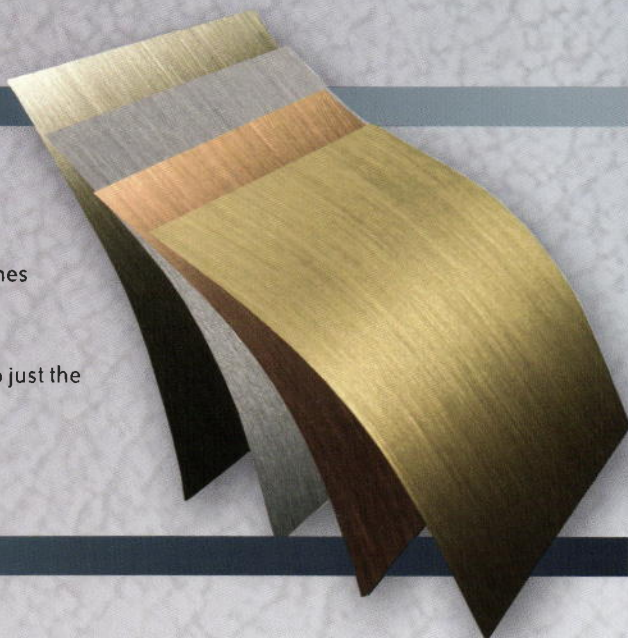
Ask about C.Q.P. (custom quality plate), heavier platings than normal for special problems of corrosion and abrasion.

CUSTOM FINISHES

Looking for something different? Consider the appearance that American Nickeloid custom finishes can give you. Red Gold, Dusky Nickel, Bronzestone and Antique finishes are all available with a strong, economical steel base.

Bring us the look you are after...and let our finishing experts recommend or develop just the right process to set your product apart.

Coatings and protective coverings are described on page 14.



Kote-Alume®

The ultimate in ready-to-use aluminum finishes. Kote-Alume® is available in Red Gold, Brass and natural Clear-Kote in either bright or satin finishes, with the lightness, durability and fabrication qualities of an aluminum base. Kote-Alume® is perfect for interior applications, such as light fixtures, panels and ceilings, hardware, appliances and housewares.



See the design and fabrication data below for specifics in terms of fabrication quality, durability, sizes and other characteristics.

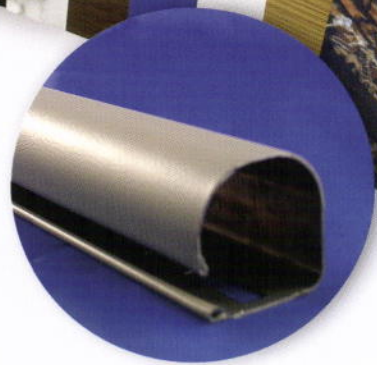
Coatings and protective coverings are described on page 14.

KOTE-ALUME®

BASE METAL	STAMPING		SPOT WELDING	SOLDER/BRAZE	BENDING FORMING	RIVETING SEAMING	HEAT RESISTANCE (°F)		PERFORMANCE		MAX. SHEET SIZE (INCHES)			MAX. COIL SIZE (INCHES)	
	BLANKING	DRAWING					CONT. DUTY	INTER. DUTY	OUTDOOR	INDOOR	WIDTH	LENGTH	GAUGES	WIDTH	GAUGES
Aluminum	Excellent	Fair	Poor	Poor	Excellent	Excellent	150	175	Poor	Excellent	32	144	.064	32	.064

This table is for general guideline purposes. Contact American Nickeloid Company to ensure that we meet your specific requirements.

Ask about C.Q.P. (custom quality plate), heavier platings than normal for special problems of corrosion and abrasion.



Laminol®

Laminol® is American Nickeloid's film/metal laminate, and is offered with decorative and functional films on one or both sides. Laminol® is also offered with films of other compositions to satisfy special requirements such as softness, abrasion resistance, electrical and thermal isolation or weatherability. Typical base metals are cold-rolled steel, galvanized steel, stainless steel and aluminum.

This intimate combination of metal and organic film will generally stand any forming that the metal will stand, combining the appearance and functionality of the film with the strength, stability, magnetic and electrical characteristics of the metal.

American Nickeloid's film laminates are available in wood grains, leather look-alikes, fabrics and smooth finishes in an endless array of colors. They are the right choice for many applications where a low-cost decorative alternative is necessary.

For superior performance, especially in automotive and other exterior applications, specify Fluorex®, our PVDF film laminate.



Fluorex® is a durable, versatile, fluoropolymer film that is available in a wide range of colors, including metallics, with color consistency held to extremely tight tolerances from part-to-part and run-to-run.

Since 1976, Fluorex® has been used on automotive parts to satisfy demanding protective and appearance requirements, and has passed the test of time in all types of climates and road conditions.

See the design and fabrication data below for specifics in terms of fabrication quality, durability, sizes and other characteristics.

Fluorex® is a registered Trademark of Soliant Corporation.

LAMINOL®

BASE METAL	STAMPING		SPOT WELDING	SOLDER/BRAZE	BENDING FORMING	RIVETING SEAMING	HEAT RESISTANCE (°F)		PERFORMANCE			MAX. SHEET SIZE (INCHES)			MAX. COIL SIZE (INCHES)	
	BLANKING	DRAWING					CONT. DUTY	INTER. DUTY	SALT AIR	OUTDOOR	INDOOR	WIDTH	LENGTH	GAUGES	WIDTH	GAUGES
Steel	Excellent	Exc.	Fair (b)	Poor	Excellent	Excellent	150	200	Exc.	Good	Exc.	60	144 (a)	.068	60	.068
Galvanized	Excellent	Good	Fair (b)	Poor	Excellent	Excellent	150	200	Exc.	Exc.	Exc.	60	144 (a)	.068	60	.068
Aluminum	Excellent	Good	Poor	Poor	Excellent	Excellent	150	200	Exc.	Exc.	Exc.	60	144 (a)	.090	60	.090

This table is for general guideline purposes. Contact American Nickeloid Company to ensure that we meet your specific requirements.

Notes: Temper, hard to soft. The abbreviation "Exc." stands throughout for "Excellent." (a) ask about larger size sheets, (b) requires removal of laminated film.

COATINGS AND PROTECTIVE COVERINGS

Note: Although American Nickeloid Metals are generally available to you with the protective coatings, films and papers described below, they are not always intended for use in exterior applications or in areas of high humidity. Contact your American Nickeloid representative for more details on suggested applications.

BAKEKOTE®

Bakekote® is a baked epoxy resin that is applied to the metal and cured under intense heat to offer protection against oxidation, humidity, and abrasion during fabrication and actual use. American Nickeloid Metals protected with Bakekote® have often made it possible to perform fabricating operations with less lubricant.

Special Bakekote® formulations are available to improve specific performance parameters such as heat resistance, UV resistance, fingerprint resistance, etc.

Bakekote® is also used as part of the coloration process of American Nickeloid custom finishes.

CUSTOM-CUTTING SERVICES

American Nickeloid offers complete corrective leveling and slitting operations that enable us to supply your finished metals to your specifications; exact width coils, exact size blanks, or multiple size sheets or coils. All ready to fabricate, and with packaging to your specifications.

Contact us for additional information on specialized coatings and protective coverings.



MAR-NOT®

For protection of the finished surface during all forming operations, we recommend our Mar-Not® protection.

When the forming operations are complete, Mar-Not® can be easily peeled off, leaving an unblemished finish.

Mar-Not® is available in three main types: a pressure-sensitive, adhesive-coated, protective paper which is 5-1/2 to 6 mils thick; an adhesive-coated, pressure sensitive plastic film that is available in 2 to 4 mils thick; and a nonadhesive-coated plastic film, 1-1/2 to 2-1/2 mils thick.

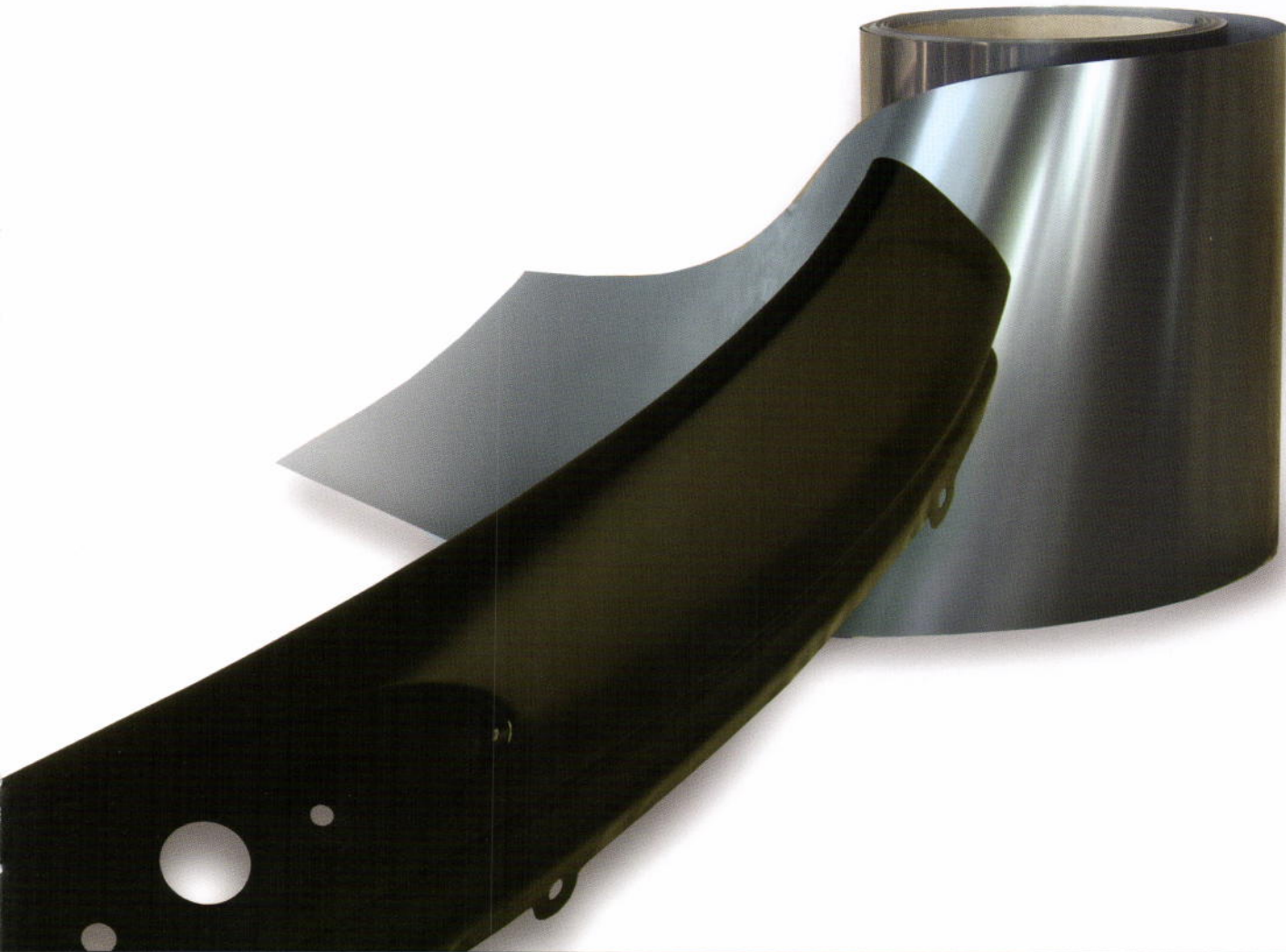
**Fingerprint
resistant coatings
available**

Fluorinol[®]

PVDF Paint

Fluorinol[®] is a fluoropolymer coating for the exterior application market and is available from American Nickeloid in colors, shades and gloss levels, on aluminum or stainless steel base metals, supplied to your specific needs.

Fluorinol[®] is ideal for many automotive and exterior applications, providing excellent weather resistance that has been proven in the field.



ACCEPTABLE FABRICATION METHODS

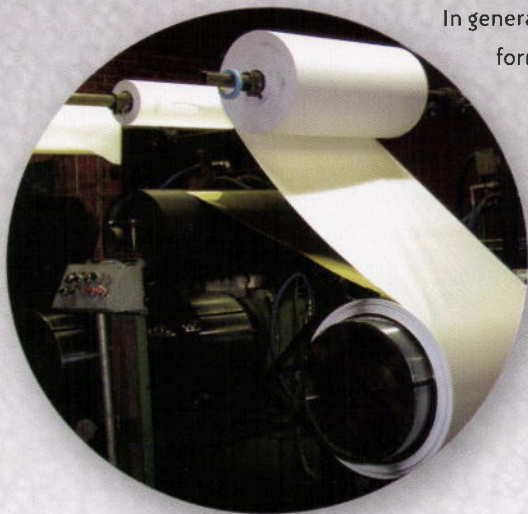
This section lists some of the fabrication techniques that have been employed on American Nickeloid Metals, and is intended only as a general guide:

- Hemming
- Bending
- Moderate Drawing
- Perforating
- Punching
- Crimping
- Shearing
- Folding
- Roll Forming
- Press Braking
- Beading
- Stamping
- Notching
- Blanking
- Embossing
- Stretch Bending

For specific production applications, contact your American Nickeloid representative.

Production Considerations in Forming

In general, the same rules that apply to forming regular materials apply to finished materials. Good forming practices will eliminate most problems. More generous radii are recommended. Forming of finished materials in vee-type dies is common and the following normally apply:



- ! Dies should be of a very good machined finish or highly polished. In the past, some manufacturers used chrome plating on dies to reduce friction in forming.
- ! Lean-in radii or the top two radii at the vee opening should be larger than normal in order to minimize the drag effect that occurs when metal is formed into the vee. Generally, a 3 or 4 times metal thickness radii that is carefully blended into the sides of the vee is required. This means the typical "stock die" does not always work.
- ! Coating the material with paper or plastic, or placing the plastic sheets over the dies during the forming operation often prevents the marking that might occur during the operation. It is also possible to use urethane tooling in order to minimize marring.
- ! Finished material should be run at room temperature or above to prevent cracking or fracturing.

FASTENING AND JOINING CONSIDERATIONS

A wide variety of fastening and joining methods are available to handle pre-finished materials.

Fasteners of many types are in widespread use. In most pre-finished work, the design and production considerations are basically the same as for joining other metals.

Some methods, which not only suit pre-finished materials, but speed production as well, are:

- Lock seaming or crimping
- Riveting
- Tab locking
- Stapling and stitching
- Adhesive bonding
- Spot welding
- Other welding methods

See your American Nickeloid representative for more information.

CONSIDERATIONS IN ROLL FORMING

Nickeloid Metals are well suited for many roll-formed products. Equipment and material requirements include:

- Proven roll design
- Highly polished and/or chrome-plated rolls
- Clearance should be adjusted to compensate for additional thicknesses of films and coatings beyond metal thickness.
- Allow sufficient test material for machine and roller-die testing.
- Lubricants may be necessary.

Contact the tool design people early in the product development/design stage prior to final product design.

HANDLING RECOMMENDATIONS

Proper handling of Nickeloid finished metals can eliminate many headaches. Here are some general tips:

- Store coils eye-to-the-sky on skids until used.
- When moving uncrated coils and sheets, use protected forklifts and other protective handling devices. Carpet strips or similar materials work well in preventing dents and scratches.
- Pay attention to skid specifications when ordering sheets. The skid and not the material should support the load if stacked.
- Regularly issue clean gloves to personnel and make sure they are used.
- Convince personnel that the material should be handled as carefully as it would be when coming off your finishing line. The slam-bang handling technique used on bare metal in most plants is inappropriate with finished materials.
- Sheets should not be dragged off the stack, which is a normal practice when feeding bare metal. The sheared edge will cut and scratch the finish. Lift them straight up and then feed them.
- Coil feeds should use self-centering reels and not cradles. High-speed coil feeds should have a generous loop prior to the forming or shearing operation to prevent jerking, which can cause coil slippage and scratching.
- Anything that contacts the material - dies, rolls, guides - must be kept clean at all times. Carpeting or similar materials on press beds will eliminate scratches during feeding or removing material from a press. Be sure metal chips and dirt are removed periodically.
- Cardboard or plastic sheet interleafs will protect parts from scratching each other during forming and assembly handling.

LUBRICANTS FOR METALWORKING

The compatibility of various lubricants used in forming American Nickeloid finished metal is critical. Choice of a lubricant will depend upon compatibility with the finish or protective coating, as well as its effectiveness in promoting the metalworking operation.

Lubricants generally can be divided into four types – oil based, solvent based (evaporating), oil-based emulsions (water carrier) and chemical solutions (water carrier). All these types have been used successfully with Nickeloid finished material.

Once a lubricant has been chosen, it is suggested that some static tests be performed for surface compatibility, cleaning, welding (if required) and plant storage. Unusual plant environments should also be taken into account. The type and source of water should be checked if the lubricant requires mixing with water. These variables should be brought to the attention of your lubricant supplier.

Many surprisingly difficult jobs are being done with vanishing compounds. They include drawing, forming, punching, perforating and roll forming.

Often, application can be controlled so that parts come off the press dry. Normally, film can be expected to disappear in from 20 seconds to 10 minutes, depending on the compound used and the amount applied.

Generally, only small amounts of lubricant are required on materials with protective coatings.

● Based on tests, compatibility points for these metals are listed below:

CHROME-PLATED STEEL

Properly inhibited chlorine additives, fats and many phosphates cause no difficulty.

SATIN-CHROME PLATE

High levels of active sulfur or sulfurized fats may stain the plated finish.

BRASS AND BRASS-PLATED STEEL

Staining is more common, as is pitting, with many lubricants. High levels of active sulfur, sulfurized fats, or chlorides may cause discoloration problems.

COPPER AND COPPER-PLATED STEEL

A finish more chemically-sensitive than brass that can also be corroded by commonly used additives such as sulfur, chlorine and phosphates. Lubricant formulation is critical.

● Compatibility points also have been established for protective coatings.

PROTECTIVE PAPER

Generally, liquid-forming lubricants are not recommended for use with protective paper-covered materials.

PLASTIC FILM

Adhesive-coated plastic film - *Some oil-based forming lubricants can soften or react with the adhesives, causing them to stain or leave adhesive residue on the surface. It is recommended that tests be made for compatibility.*

Nonadhesive-coated plastic film - *Compatible with most lubricants. It is recommended that tests be made for compatibility.*

BAKEKOTE®

Compatible with most lubricants.



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