

MATERIAL SPECS

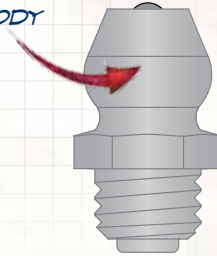
The Vanguard™ line sets the standard for corrosion-resistant fittings. Offered in stainless steel, Monel®, and brass, Vanguard™ fittings meet all of the quality assurance requirements that Heritage™ fittings meet, and then some. Offered in Imperial and Metric versions, the Vanguard™ line is the most comprehensive corrosion resistant line available anywhere.

STAINLESS STEEL

Stainless steel grease fittings use a body made from AISI 303 stainless steel, a ball check made from AISI 304 grade stainless steel and spring made from 302 stainless spring wire, such that all components are corrosion resistant. Stainless steel offers greater corrosion resistance than zinc plated steel parts, but not as great as Monel® fittings. These parts are rated to operate in temperatures up to 900° F.

Stainless steel fittings are commonly found in food service, meat packing and pharmaceutical applications where corrosion resistance is an important design consideration.

AISI 303
BODY



AISI 304
BALL CHECK



AISI 302
SPRING

STAINLESS STEEL FITTINGS HAVE A DARK AND DULL TONE AND ARE PASSIVATED, AS ARE SOME FASTENERS AND OTHER SMALL STAINLESS STEEL COMPONENTS.

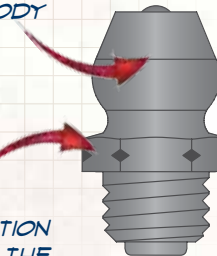
STAINLESS

MONEL®

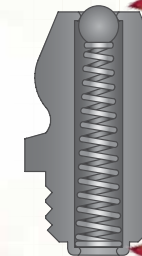
Monel® 400, a common grade, is a binary alloy composed primarily of nickel with varying amounts of copper and other material. Monel® is difficult to turn, and tends to work-harden easily. As a result, it is turned at very slow speeds, which explains in part why the parts are so expensive to produce. Vanguard™ fittings have Monel® 400 bodies, and Monel® ball checks and springs. They are rated to operate at temperatures up to approximately 900° F.

Monel® has superior corrosion resistance properties to stainless steel and is used in the harshest of environments. Marine and saltwater applications, piping and pump systems, and seawater valves are common uses.

MONEL® 400
BODY



ONE
IDENTIFICATION
NOTCH ON THE
HEX FOR EASY
RECOGNITION



MONEL®
BALL CHECK
AND SPRING

MONEL® FITTINGS ARE SOMEWHAT DIFFICULT TO DISCERN IN APPEARANCE FROM STAINLESS STEEL AND THEREFORE POSSESS ONE IDENTIFICATION NOTCH ON THE HEX FOR EASY RECOGNITION.

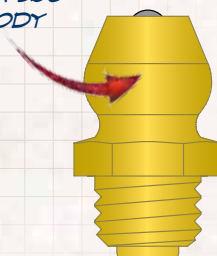
MONEL®

BRASS

Brass is a soft metal and will wear easily from repeated service. It is known as a "substitution alloy" consisting of copper and zinc. Our brass fittings are made from CDA 360 alloy bodies with 420 stainless steel ball checks and 301 stainless wire springs.

Brass is used in low spark environments, such as in pumps, valves, and bearings with the presence of explosive gases. Brass is also used in decorative applications.

CDA 360
BODY



AISI 420
BALL CHECK



AISI 301
SPRING

BRASS FITTINGS ARE GOLD IN COLOR AND ARE USED IN VERY SPECIAL CIRCUMSTANCES.

BRASS

PLATING STANDARDS

With the continued environmental and safety concerns regarding the restriction of hazardous substances and end of life vehicle directives, greater scrutiny is being placed on plating and plating standards for industrial parts. Because grease fittings have specific anti-corrosion requirements in their standards, it is important to understand the implications and complications of such standards.

ROHS AND WEEE

The Restriction of Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment (WEEE) Directives in Europe set standards that govern the chemical content of a variety of components. The directive stipulates that such goods not contain a host of chemicals, including hexavalent chromium, which is used in zinc plating to prevent corrosion.

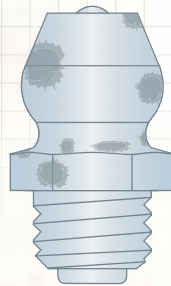
Usually original equipment manufacturers will stipulate such standards. In such cases, special efforts are made to apply trivalent chromium, an accepted alternate, to the parts. We can provide trivalent chromium as a special order.



THE ROHS AND WEEE DIRECTIVES APPLY TO HOUSEHOLD APPLIANCES, INFORMATION TECHNOLOGY EQUIPMENT, TELECOMMUNICATIONS EQUIPMENT, CONSUMER EQUIPMENT, LIGHTING, ELECTRONIC AND ELECTRICAL TOOLS, TOYS, LEISURE EQUIPMENT, MEDICAL DEVICES AND AUTOMATIC DISPENSERS.

TRIVALENT CHROMIUM

Trivalent chromium is not as hardy and not as reliable for corrosion prevention as hexavalent chromium. Some scientists have suggested that the RoHS and WEEE directives are detrimental to green environmental initiatives because they result in faster end-of-life decisions for the parts involved, thereby accelerating adverse environmental impacts from scrapped goods.



TRIVALENT CHROMIUM IS SUSCEPTIBLE TO BRUISING. REMEMBER THAT GREASE FITTINGS ARE ASSEMBLED AFTER PLATING. THE PROCESS ITSELF CAN CAUSE BRUISING. IN TESTING, SUCH BRUISING CAN EASILY COMPROMISE THE CORROSION RESISTANCE OF THE PART.



PLATING

Yellow Versus Clear Plating

For most of our Heritage™ and Euro™ lines, a zinc hexavalent yellow chromate finish is specified because of superior salt spray resistance to zinc clear.

Other Finishes Available

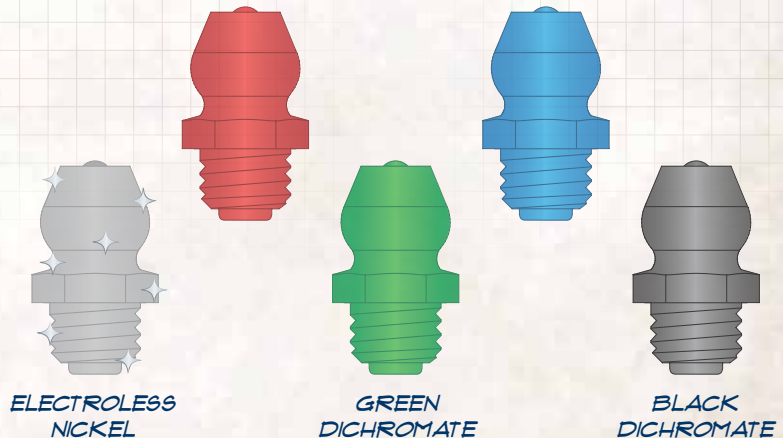
In addition to RoHS compliant trivalent chromium, a variety of other finishes are available by special order.

Electroless Nickel- offers a very high level of corrosion protection and is cosmetically appealing, with a bright and glossy finish.

Special Colors- such as red, green and blue dichromate finishes are available for color coding parts. A few years ago, we engineered a black dichromate part for use on Harley Davidson® motorcycles.

RED
DICHROMATE

BLUE
DICHROMATE



ELECTROLESS
NICKEL

GREEN
DICHROMATE

BLACK
DICHROMATE