

Materials for Critical Response Medical Applications



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**CAPABILITY
WHITEPAPER**

Trusted and relied upon by OEMs in the medical space, Ulbrich has been on the forefront of innovative prototyping and reliable crafting of a wide range of medical products for decades. At Ulbrich, our precision metals enable manufacturing of equipment needed to support COVID-19 patients and protect healthcare workers. With our stringent specifications, state-of-the-art machinery, and commitment to buy only from the highest quality suppliers further enhances our material quality for all the critical markets we proudly serve. With our expertise in material selection and production of your stainless steel or special metals products, we can aid you in your medical device requirements.



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CAPABILITY SHEET

COVID-19 Critical Response Materials for Medical

ULBRICH IS YOUR MISSION-CRITICAL PRECISION METAL SUPPLIER

With over 20 Metallurgists and Medical Manufacturing Experts on hand, we are ready to work with you to meet the exact specifications your application demands. You can count on Ulbrich to supply the metals you need in order to produce the essential pieces of medical equipment that provide medical support to patients, and protect our heroic healthcare workers.



With the Coronavirus (COVID-19) stressing our global healthcare system to its limits, Ulbrich remains a fully operational medical metal manufacturer, able to meet your alloy needs related to medical equipment and critical response applications. Ulbrich has been a key player in supplying stainless steel and special metal alloys to the medical market for decades. This virus has shaken our world to the core and it is going to take all of us working together to overcome and defeat this disease. If you are a manufacturer of critical applications and in need of metal, please contact us about your requirements.

Aluminum Flat Wires for N95/FFP2 Mask Production

More than a year has gone by since the COVID-19 coronavirus has stressed our global healthcare system to its limits. According to WHO (World Health Organization), masks are still a key measure to suppress transmission of the deadly virus and save lives. Masks should be used as part of a comprehensive ‘Do it all!’ approach including physical social distancing, avoiding crowded, closed & close-contact settings, good ventilation, cleaning hands, covering sneezes & coughs, etc. Depending on the type, masks can be used for either protection of healthy persons or to prevent onward transmission.



WHAT IS THE DIFFERENCE BETWEEN MEDICAL MASKS AND RESPIRATORS?

Medical (also known as surgical) masks are:

- composed of 3 layers of synthetic nonwoven materials
- configured to have filtration layers sandwiched in the middle
- available in different thicknesses
- have various levels of fluid-resistance and filtration
- have a Nose Clamp to ensure the tight fit

Respirators (or filtering facepiece respirators – FFP) are available at different performance levels such as FFP2, FFP3, N95, and N99.

Medical masks and respirator masks are similar in their protection value. However, respirators are specific for certain procedures and instances because they have a tightly fitted component to them. Respirator masks are designed to protect healthcare workers who provide care to COVID-19 patients in settings and areas where aerosol generating procedures are undertaken. Healthcare workers should be fit tested before using a respirator to ensure that they are wearing the correct size. Wearing a loose-fitting respirator will not offer the same protection to the wearer and may allow small particles to get inside the mask through the sides.

For more information and guidance on the importance of masks, continue reading on www.who.int.

METAL NOSE CLAMPS, FILTERS & GASKETS

Ulbrich supports manufacturers for all types of masks using Nose Clamps or "Nose Bridges". The Metal Nose Clamps are critical components of the masks allowing end users to bend the mask around the nose bridge for the tight fit that keeps virulent droplets away from caregiver's mucus membranes & other vectors of infection. Depending on the individual manufacturer's design, the metal flat wire nose bridge can either be inserted between two layers of fabric, or applied on the outside of the fabric mask.

An ill-fitting mask not only poses the threat of allowing large-particle droplets, splashes, sprays, or splatter that may contain germs (viruses and bacteria), from reaching your mouth and nose, but also brings the annoyance of fogging for eyeglass wearers. This is especially important for medical professionals and frontline workers who wear glasses and need to see clearly at all times. To remedy this while providing invisible comfort, manufacturers can use a fine nickel containing stainless steel strip which will keep masks fitting snugly and prevent glasses from steaming up. In addition to its ease of sourcing and the absence of any allergic reactions, the stainless steel strip can be recycled along with the other materials that constitute the mask.



Ulbrich is your local supplier for critical metal alloy raw materials for medical and respirator masks, ensuring short lead-time and high-quality materials according to your specifications. Contact us today and connect with our technical sales team to talk about your upcoming medical project details.



Typically, we supply Aluminum Flat Wire for this application as this is a lightweight material and offers excellent formability characteristics to perfectly fit our individual facial outline. The Aluminum Flat Wire is made by flattening round wire which brings the advantage of naturally round and burr-free edges, with extremely long continuous lengths. The round edges make sure the clamp is not tearing the synthetic materials while ensuring the safety of high-quality masks.

Our in-house coating capabilities assure that our aluminum flat wire is coated on one side with a hot melt adhesive according to customers' requirements. For manufacturers with high automated processes, the length per wire on each spool is also a crucial benefit to keep downtimes as low as possible.

Aluminum Flat Wires for N95/FFP2 Mask Nose Clamps according to customer's specification are available through Ulbrich Specialty Wire Products' manufacturing locations in SC, USA, as well as in Austria, Europe. We support mask manufacturers with their approach to source their materials regionally to be independent from overseas transportation. Besides lower lead-time, we also help by reducing the carbon footprint for our customers. The mission is to get protective equipment (PPE) into the hands of those who need it.

Metal for N95 Mask Nose Clamps, Filters & Gaskets



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Ulbrich is able to supply critical metal alloy raw materials for N95 Mask manufacturing that is in urgent need throughout the world during this pandemic. Our stainless steel and aluminum flat wire or strip can be manufactured to your precise manufacturing specifications. These metal strips are critical components of the masks allowing end users to bend the mask around the nose bridge for the tight fit that keeps virulent droplets away from caregivers' mucus membranes and other vectors of infection.

METALS WE OFTEN SUPPLY FOR THIS APPLICATION:

- Aluminum Flat Wire
- Spring Tempered Steel in Strip or Wire
- Special Metals in Strip or Wire



800-243-1676

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Metal Foil, Strip & Wire for Ventilator Manufacturing



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The Coronavirus (SARS-COV-2) and the resulting disease, COVID-19 are incredibly damaging to the lungs of infected patients. With extensive medical metal expertise and nearly 100 years of experience in stainless steel and precision special metals manufacturing, Ulbrich is able to step up to the plate during this challenging time to supply precision strip and wire alloys in the volumes you need for manufacturing medical ventilators, transistor outlines & other various ventilator parts.

METALS WE OFTEN SUPPLY FOR THIS APPLICATION:

- Kovar, Invar, and other Glass Sealing Alloys
- Stainless Steel Alloys in Strip or Wire
- Titanium Alloys in Strip or Wire
- Nickel Alloys in Strip or Wire



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Clinical Thermometer Thermometric Sensors & Probes



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Whether you're manufacturing consumer-use or more advanced medical thermometers for clinical use in a professional medical setting, Ulbrich is here to help. For decades, we have had the experience of supplying stainless steel and special metal alloys to medical manufacturers like yourself. With the Coronavirus putting extensive stress on our healthcare infrastructure, we understand the supply challenges your business is facing and are ready to lend a helping hand. Contact us today for a quote on materials for your medical thermometer applications!

METALS WE OFTEN SUPPLY FOR THIS APPLICATION:

- Stainless Steel Strip in various tempers



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Strip Coil for Hypodermic Components



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We produce stainless strip coil in multiple grades which can be roll formed and welded using the most precision needle manufacturing processes available today. Our material is produced to the tightest tolerances, making the cleanest, smallest weld spots and the smallest wall thicknesses possible for the finest medical applications. Ulbrich helps the largest medical suppliers keep their hypodermic production at the highest quality with consistent OD, ID, as well as physical & surface properties by starting with our market-leading precision strip coil. With hypodermics increasingly in demand as our collective global focus shifts to the production of the COVID-19 vaccine, source your stainless steel coil from a company you can trust to deliver precision in these critical times.



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Our Industry Leading Capabilities

DESIGNED WITH YOUR SUCCESS IN MIND



OVERVIEW OF MANUFACTURING

Our state-of-the-art equipment, technology, and staff make us the go-to stainless steel and special metals producer for numerous manufacturing markets, including the medical, aerospace and automotive industries.

ROLLING TOLERANCES

Our largest H-mill can handle incoming strip material up to .125" thick, while our smallest Z-mill can roll foil as light as .00039": an order of magnitude thinner than a human hair.

SLITTING & EDGING

From Round to Square edge, our slitters have the ability to separate a wide strip into "mults" or narrower strips to achieve your desired width with as much minimized burr as possible.

ANNEALING

Utilizing hydrogen, nitrogen, and argon controlled atmospheres, we properly anneal all the alloys we offer to satisfy the most demanding specifications of the aerospace, medical, and nuclear industries.

MATERIAL PROPERTIES

From Bright to Dull or Quarter Hard to Extra Full Hard, Ulbrich has the ability to control your desired surface finish and mechanical properties of your Precision Strip & Wire products.

COATING & PLATING

Based on your exact requirements, we expertly apply protective coatings with various thicknesses, adhesion properties, colors, and opacity to ensure your product is successfully brought to completion. Additionally, our multiple plating lines, first-rate production capabilities, and expert metallurgists can handle any plating needs you have.

PACKAGING

With production and shipping capabilities spanning the entire globe, we are able to accommodate steel and metal product packaging and transit to almost any international destination.

Alloys for Medical Manufacturing

STAINLESS:

Stainless Steel for Rapid Response Medical Manufacturers. Precision Strip & Wire offered in a wide variety of tempers and finishes.

- 304V Stainless Steel Strip & Wire
- 316L Stainless Steel Strip & Wire
- Many more Austenitic, Ferritic, Martensitic and PH Grades

NICKEL:

Nickel Alloys for producing Rapid Response medical equipment. Ulbrich is here to support our Medical Manufacturers seeking precision Strip & Wire for their application.

- Nickel 200 Strip & Wire
- Nitinol Wire
- Alloy 29-17 Kovar Strip & Wire

COBALT:

Ulbrich is able to produce Cobalt alloys for medical in many surface finishes, shapes, and gauges to meet your specifications.

- MP35N Strip & Wire
- Haynes 25 L-605 Strip & Wire
- Haynes 188 Strip

TITANIUM:

Commercially Pure Titanium & Titanium Alloys for Medical Manufacturers Available in both Precision Strip & Wire.

- Ti Grades 1, 2, 3, & 4
- Titanium Grade 9
- Titanium 15-3-3-3

ALUMINUM:

Aluminum is in high demand for N95 Mask production. We can help manufacturers needing flat and round wire.

- 1000 & 2000 Series Aluminum
- 3000 & 5000 Series Aluminum
- 6000 & 7000 Series Aluminum

**CONTACT US FOR YOUR
COVID-19 NEEDS!**

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