CHEMETAL USA is a New York-based sales office of a refractory metal manufacturer from China. We are a subsidiary company established with the goal of providing the easiest and most efficient services to our North American customers. As a family company, we are proud of our excellent track record of providing trustworthy service and developing long-lasting relationships with all of our clients for over a decade. Our parent company, Chemetal Co., Ltd. has been successfully serving many highly reputable and demanding companies both in China and America for 15 years.

CHEMETAL USA specializes in parts for vacuum or atmosphere high temperature furnace, vapor deposition and radiation shielding applications. Tungsten and molybdenum mill products make up a major part of our portfolio. These includes tungsten and molybdenum plate, sheet, foil and tungsten and molybdenum rod, bar, wire, to name a few. CHEMETAL USA also manufactures electrode, high temperature forming dies and machining tools, tungsten-based alloys and molybdenum-based alloys.

We are aiming to pursue and apply new technologies to improve and expand applications of W and Mo for various high-tech industries. We have been granted a number of patents and obtained abundant research achievements since our R & D center was founded in 2011. Over the past 8 years, we have collaborated with relevant professionals in the public and private sectors. Our refractory metal laboratory, which is supported by Henan University of Science and Technology, contributes to the Research and Development of W and Mo high-end products. We are also an authorized research base of Shanghai Ceramics Institute, aka CAS, which is dedicated to researching high-temperature furnaces and hot zones. Furthermore, we invented the sapphire crystal growing furnace by working cooperatively with Shenyang Scientific Instruments Center, aka CAS.

At the same time, our technical consultant team is pouring effort into a mutually beneficial communication with the China Nuclear Industry, 4th Chinese Aerospace Institutes and Northeastern Polytechnical University, aiming for cooperatively innovating and developing W and Mo applications.
What We Can Offer You

Tungsten and Molybdenum Semi-finished Products
Plate, Sheet, Rod, Bar, Wire, Foil, Tube, Round, Machined Part
Vacuum Or Atmosphere High Temperature Furnace
Heating Element, Shielding, Boat, Charge Carrier, Fastener, Crucible
Complete Hot Zone, Heating Chamber Assembly
Vapor Deposition
Magnetron Sputtering Target, Resistance Evaporation Source
Electron Beam Evaporation Source, Metal Organic Chemical Vapor Deposition
Electronics And Semiconductor
Ion Source Of Ion Implantation Equipment, Waveguide Components
LED & Electronic Packaging Heat Sink
Radiation Shielding
Medical Equipment, Industry
Quartz, Glass and Rare Earth Smelting
Electrodes
TIG & ERW, Melting Electrode, EDM Electrode, High Pressure Discharge Tube Electrode
High Temperature Forming Dies and Tool Materials
Tungsten Based Alloy
Tungsten Heavy Alloy-Balance Weights, Tungsten Heavy Alloy-Shielding Material
Bucking Bars, Fish Pendant, Darts Tungsten copper, Tungsten Silver, WLa, WTi, WC, WMoNiFe
Molybdenum Based Alloy
MoLa(ML), MoZrTi(TZM), MoTa, MoNb, MoCu, MoW
Quality Certification
ISO 9001: 2015, SGS, AVIS, CNAS, IAF, etc.

Contact us and we guarantee you will receive quality and cost-effective products. You can be confident when you do business with CHEMETAL USA. Our enthusiastic and dependable service will be worthy of your trust.
1.1 Tungsten and Molybdenum Semi-finished Products

Plates

- Ground molybdenum plate
  - Max: 300mm x 1200mm; 3mm < d < 30mm

- Mo-La sheet
  - Max: 700mm x 2500mm; 0.2mm < d < 3mm

- Molybdenum foil
  - Max: 100mm x L; 0.05mm < d < 0.2mm

- Molybdenum strip
  - Max: 500mm x 1200mm / 800mm x 600mm; 3mm < d < 15mm

- Hot rolled molybdenum plate
  - Max: 500mm x 1200mm / 800mm x 600mm; 3mm < d < 15mm

- Hot rolled tungsten plate
  - Max: 400mm x 1000mm / 500mm x 500mm; 3mm < d < 15mm

- Ground tungsten plate
  - Max: 400mm x 800mm; 2mm < d < 30mm

- Electrolytic polished tungsten sheet
  - Max: 300mm x 800mm; 0.3mm < d < 2mm

- Tungsten foil
  - Max: 180mm x 800mm; 0.05mm < d < 0.3mm
1.2 Tungsten and Molybdenum Semi-finished Products

Rods

- Polished molybdenum rods
- W-La cylinder
- Swaged Mo-La rod 8x20m
- Tungsten rods
- Tungsten block
- T2M bar
- Molybdenum block
- Tungsten wire
- Molybdenum wire
1.3 Tungsten and Molybdenum Semi-finished Product Simply Fabricated

- Tungsten thermocouple protection tube
- Tungsten disc
- Tungsten round
- Tungsten rings
- Molybdenum ring
- Molybdenum tube
- Molybdenum round
- Molybdenum plate embossing

2.1 Vacuum Or Atmosphere High Temperature Furnace Crucibles

- Sintered tungsten crucible
- Spun molybdenum crucibles
- Sintered molybdenum crucibles
- Welded molybdenum crucibles
- Forged W&Mo crucibles
- Plate worked Mo crucible
2.2 Vacuum Or Atmosphere High Temperature Furnace Heating Elements

- Strip heater
- Tungsten induction heating element
- Rod type tungsten heating element
- Tungsten mesh heater
- Tungsten planar heating element

2.3 Vacuum Or Atmosphere High Temperature Furnace Shieldings

- Tungsten shielding
- Mo-La shielding
- Molybdenum shielding
- HP cylinder
- Tungsten shielding
- W & Mo composite shielding
2.4 Vacuum Or Atmosphere High Temperature Furnace Charge Carriers, Boats

- Tungsten rack
- Mo carter
- Molybdenum frame
- Mo-La shaft
- Molybdenum annealing boats
- TZM boat
- Molybdenum tray
- Mo-La sintering tray

2.5 Vacuum Or Atmosphere High Temperature Furnace Fasteners

- Tungsten screws
- Molybdenum washers
- Molybdenum nut
- TZM screws
- Tungsten fasteners

Contact us to get started
Email: sales@chemetalusa.com
Website: www.chemetalusa.com
2.6 Vacuum Or Atmosphere High Temperature Furnace
Silicon Furnace

Mo flow guiding cylinder
Tungsten counter weight
Molybdenum hook

2.7 Complete Hot Zone For Sapphire Crystal Growth
KY

Crucible
Cover shielding
Bottom shielding
Side shielding
columns
Seed holder
Upper shielding
Heater
Bottom
Cover
2.8 Complete Hot Zone For Sapphire Crystal Growth
ESG,CZ,HEM,BS

2.9 Heating Chamber Assembly
3.1 Vapor Deposition Magnetron Sputtering Target

3.2 Vapor Deposition-Vacuum Coating Resistance Evaporation Source
3.3 Vapor Deposition-Vacuum Coating
Electron Beam Evaporation Source

3.4 Vapor Deposition
Metal Organic Chemical Vapor Deposition
4.1 Electronics And Semiconductor
Ion Source Of Ion Implantation Equipment

4.2 Electronics And Semiconductor
Waveguide Components
4.3 Electronics and Semiconductor
LED & Electronic Packaging Heat Sink

- Molybdenum wafer substrate for LED chip
- WCu composite electronic packaging heat sink
- CMC laminate heat sink
- MoCu heat spreader
- WCu heat sink

5.1 Radiation Shielding
Medical Equipment

- Multileaf collimator
- Moyleydenum collimator leaf of CT machine
- Radiotherapy container
- Tungsten collimator leaves of CT machine

Contact us to get started
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Website: www.chemetalusa.com

New York Office / Deer Park, NY / Ph. 516-640-6947/Fax. 516-640-6686
5.2 Radiation Shielding Industry

6 Quartz, Glass and Rare Earth Smelting
7.1 Electrodes
**TIG & ERW**

Electrical resistance welding tungsten electrodes

Electrode clamp

<table>
<thead>
<tr>
<th>Label</th>
<th>Diameter</th>
<th>Impedance reactance</th>
<th>Other damping</th>
<th>Electrode work function</th>
<th>Color at end head</th>
</tr>
</thead>
<tbody>
<tr>
<td>W120</td>
<td>5x0.03</td>
<td>0.08-1.2 MΩ</td>
<td>-0.0%</td>
<td>2.6-2.1</td>
<td>black</td>
</tr>
<tr>
<td>W125</td>
<td>5x0.03</td>
<td>1.30-1.3 MΩ</td>
<td>-0.0%</td>
<td>2.6-3.0</td>
<td>golden yellow</td>
</tr>
<tr>
<td>W130</td>
<td>5x0.03</td>
<td>1.00-1.3 MΩ</td>
<td>-0.0%</td>
<td>2.6-3.2</td>
<td>silver blue</td>
</tr>
</tbody>
</table>

7.2 Electrodes
**Melting Electrode, EDM Electrode, High Pressure Discharge Tube Electrode**

Electrodes

**WO<sub>4</sub>** electrodes

High pressure discharge tube electrode

EDM electrode

Glass melting electrode
8.1 High Temperature Forming Dies and Tool Materials

9.1 Tungsten Based Alloy
Tungsten Heavy Alloy-Balance Weights
9.2 Tungsten Based Alloy
Tungsten Heavy Alloy-Shielding Material, Bucking Bars, Fish Pendant, Darts

9.3 Tungsten Based Alloy
Tungsten copper, Tungsten Silver
9.4 Tungsten Based Alloy
WLa, WTi, WC, WMoNiFe

10. Molybdenum Based Alloy
MoLa(ML), MoZrTi(TZM)
10.2 Molybdenum Based Alloy
MoTa, MoNb, MoCu, MoW

MoNb sputtering target
MoW crucibles
MoCu heat sink
MoTa sputtering target
MoNb sputtering target
Contact us to get started
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Website: www.chemetalusa.com

Quality Certification

Test Report
No.: C201301001
Date: 05 Jun 2013
Page 1 of 2

CHANGXU FIRST OPTOELECTRONICS CO. LTD.
No. 1, XINCHENG 10TH ROAD, XIANGDAO COUNTY, SUZHOU, CHINA

The following sample(s) were submitted and identified on behalf of the client as: 'Mylaburn Sheet'

Sample No.: CPR1200501 - 02
Material No.: 1.1143
Supplier: MYLAR CHEMICAL
Date of Sample Received: 05 Jun 2013
Test Requested: Tensile Strength
Test Method: Per ISO 527-3
Test Results: Passed

Conclusion: Based on the performed tests on submitted samples, the results meet the requirements as per ISO 527-3. The sample meets the requirements as per ISO 527-3.

Signed for and on behalf of SGS

Merry

Approved Signatory

Test Report
No.: C201301002
Date: 06 Jun 2013
Page 1 of 2

CHANGXU FIRST OPTOELECTRONICS CO. LTD.
No. 1, XINCHENG 10TH ROAD, XIANGDAO COUNTY, SUZHOU, CHINA

The following sample(s) were submitted and identified on behalf of the client as: 'Tentation Sheet'

Sample No.: CPR1200502 - 02
Material No.: 1.1143
Supplier: TENTATION CHEMICAL
Date of Sample Received: 06 Jun 2013
Test Requested: Tensile Strength
Test Method: Per ISO 527-3
Test Results: Passed

Conclusion: Based on the performed tests on submitted samples, the results meet the requirements as per ISO 527-3. The sample meets the requirements as per ISO 527-3.

Signed for and on behalf of SGS

Merry

Approved Signatory

New York Office / Deer Park, NY / Ph. 516-640-6947 / Fax. 516-640-6686