



# NIAGARA

SPECIALTY METALS

## MATERIAL CERTIFICATION

12600 Clarence Center  
Road Akron, NY 14001

### NJSB Tag No. 562

**Description:** CPM 20-CV HRA GROUND-DCF SHEARED SHEET  
172/188 x 23/25" RW x 36.000" Ex.  
Heat# NR68821 - 11 Pieces  
Heat# NR68818 - 3 Pieces

#### Chemistry Analysis

|   |   |
|---|---|
| <b>NSM Heat Number:</b> NR68818   | <b>Hardness:</b> <input type="text"/>   |
| <b>Carbon:</b> <input type="text" value="1.920"/> <b>Manganese:</b> <input type="text" value="0.300"/>  | <b>Phosphorus:</b> <input type="text" value="0.022"/> <b>Copper:</b> <input type="text" value="0.070"/> |
| <b>Silicon:</b> <input type="text" value="0.690"/> <b>Chromium:</b> <input type="text" value="20.690"/> | <b>Vanadium:</b> <input type="text" value="4.050"/> <b>Niobium:</b> <input type="text"/>                |
| <b>Cobalt:</b> <input type="text" value="0.050"/> <b>Molybdenum:</b> <input type="text" value="0.990"/> | <b>Nickel:</b> <input type="text" value="0.240"/> <b>Nitrogen:</b> <input type="text"/>                 |
| <b>Sulphur:</b> <input type="text" value="0.009"/> <b>Tungsten:</b> <input type="text" value="0.590"/>  | <b>Titanium:</b> <input type="text"/> <b>Aluminum:</b> <input type="text"/>                             |

#### Remarks

Chemistry as per CI SPECIFICATION REV-1  
Country of origin: USA  
Material received date: August 12, 2020  
Original mill heat no: R68818

Federal ID #: 16-1179936

*Robert Shabala*

Robert Shabala

We provide material that is free from mercury contamination and radiation at the time of shipment. No weld repair is done. We are compliant with EU directive 2002/95/EC (ROHS), REACH, EN 10204 2004 3.1 and DFARS 252.225.7001,7002,7008,7009. Material is melted and manufactured in North America.

#### Chemistry Analysis

|   |   |
|---|---|
| <b>NSM Heat Number:</b> NR68821   | <b>Hardness:</b> <input type="text"/>   |
| <b>Carbon:</b> <input type="text" value="1.930"/> <b>Manganese:</b> <input type="text" value="0.290"/>  | <b>Phosphorus:</b> <input type="text" value="0.022"/> <b>Copper:</b> <input type="text" value="0.080"/> |
| <b>Silicon:</b> <input type="text" value="0.67"/> <b>Chromium:</b> <input type="text" value="20.610"/>  | <b>Vanadium:</b> <input type="text" value="4.040"/> <b>Niobium:</b> <input type="text"/>                |
| <b>Cobalt:</b> <input type="text" value="0.040"/> <b>Molybdenum:</b> <input type="text" value="1.000"/> | <b>Nickel:</b> <input type="text" value="0.230"/> <b>Nitrogen:</b> <input type="text"/>                 |
| <b>Sulphur:</b> <input type="text" value="0.010"/> <b>Tungsten:</b> <input type="text" value="0.620"/>  | <b>Titanium:</b> <input type="text"/> <b>Aluminum:</b> <input type="text"/>                             |

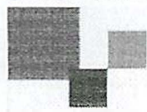
#### Remarks

Chemistry as per CI SPECIFICATION REV-1  
Country of origin: USA  
Material received date: August 18, 2020  
Original mill heat no: R68821

Federal ID #: 16-1179936

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