

# Certificate of Analysis & Certificate of Conformity



1555 Main Street, Indianapolis, IN 46224

Product Name: NI-202-3 / 1278F

Customer:

Ship Date: 20.01.20

Praxair Spec: 036135-BK

Shipping Order #:

Printed Date:

Item Number 036135-15

Customer PO #:

Lot Number: 208

Quantity:

UM: LBS

All elements measured in weight percent unless otherwise specified. Sampling Method per ASTM B215.

Apparent Density	Test Method	Test Lab	Min	Max	Result	OK
Apparent Density (g/cm3)	ASTM B212	Praxair	3		4.173	Yes
Chemistry	Test Method	Test Lab	Min	Max	Result	OK
Aluminum	XRF	Praxair	0.30	0.70	0.48	Yes
Boron	ICP-MS	NSL Analytical Services**		0.0060	0.0010	Yes
Bismuth	ICP-MS	NSL Analytical Services**		0.00005	<0.00005	Yes
Calcium	XRF	Praxair		0.01	0.00	Yes
Carbon (total)	Leco	Praxair	0.02	0.08	0.04	Yes
Cobalt	XRF	Praxair		1.00	0.13	Yes
Chromium	XRF	Praxair	17.00	21.00	19.32	Yes
Copper	XRF	Praxair		0.30	0.02	Yes
Iron	XRF	Praxair	15.00	21.00	17.66	Yes
Magnesium	XRF	Praxair		0.01	0.00	Yes
Manganese	XRF	Praxair		0.35	<0.10	Yes
Molybdenum	XRF	Praxair	2.80	3.30	3.07	Yes
Nitrogen	Leco	Praxair		0.03	0.01	Yes
Nb (Cb)	XRF	Praxair	4.75	5.50	5.12	Yes
Nb (Cb) + Ta	Calculation	Praxair	4.75	5.50	5.12	Yes
Nickel	By Difference	Praxair	50.00	55.00	52.98	Yes
Oxygen	Leco	Praxair		0.0200	0.0131	Yes
Phosphorus	XRF	Praxair		0.0150	<0.0050	Yes
Lead	ICP-MS	NSL Analytical Services**		0.0010	<0.0010	Yes
Sulfur	Leco	Praxair		0.0030	0.0020	Yes
Selenium	XRF	Praxair		0.005	<0.005	Yes
Silicon	XRF	Praxair		0.35	0.07	Yes

PST: 200772

C-135388

Spec ranges shown above in italics are target or nominal specifications only.

\* indicates test is not required for routine acceptance.

\*\* Denotes third-party materials testing laboratory accredited by Nadcap.

(317) 240-2650  
Telefax (317) 240-2225  
Toll-Free Telefax 1-800-234-6738 U.S.A

AS9100 Registered  
Quality System

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Estimated uncertainty of measurement is available upon request.

# Certificate of Analysis & Certificate of Conformity



1555 Main Street, Indianapolis, IN 46224

Product Name: NI-202-3 / 1278F

Customer:

Ship Date: 1/17/2020

Praxair Spec: 036135-BK

Shipping Order #:

Printed Date: 17/JAN/2020

Item Number 036135-15

Customer PO #:

Lot Number: 208

Quantity:

UM: LBS

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Chemistry						
	Test Method	Test Lab	Min	Max	Result	OK
Tantalum	XRF	Praxair		0.05	0.01	Yes
Titanium	XRF	Praxair	0.75	1.15	0.96	Yes
Hall Flow per ASTM B213						
	Test Method	Test Lab	Min	Max	Result	OK
Hall Flow (sec)	ASTM B213	Praxair	12	300	18	Yes
Microtrac per ASTM B822						
	Test Method	Test Lab	Min	Max	Result	OK
-15	ASTM B822	Praxair		0.5	0.0	Yes
-16	ASTM B822	Praxair		0.5	0.0	Yes
-20	ASTM B822	Praxair		0.0	0.0	Yes
-31/+16	ASTM B822	Praxair	10	25	17	Yes
-44/+31	ASTM B822	Praxair	30	60	44	Yes
d10 (µm)	ASTM B822	Praxair		Report	28.5	Yes
d50 (µm)	ASTM B822	Praxair	35	45	40	Yes
d90 (µm)	ASTM B822	Praxair		Report	59.5	Yes
SEM (Scanning Electron Microscope) - Particle Shape Analysis						
	Test Method	Test Lab	Min	Max	Result	OK
200X	SEM	Praxair			1	Yes
400X	SEM	Praxair			1	Yes
Sieve per ASTM B214						
	Test Method	Test Lab	Min	Max	Result	OK
+230	ASTM B214	Praxair		0.0	0.0	Yes
+270	ASTM B214	Praxair		0.0	0.0	Yes
-270/+325	ASTM B214	Praxair		5.0	3.5	Yes
-325	ASTM B214	Praxair	95		100	Yes

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## PLI INFORMATION:

The materials meets the following requirements: B50TF202 CL D S4, CS 36-135 Rev Orig, MTS 1604 Issue 2010-06, MS 2025 Rev 03, AMS 5832 Rev H (Chem Only), HMS 1001 Type 1 Rev B (PST MC IN718), B50A917 Rev A, V.AC: PM 819-65 Issue 6 (except 7.2), UNS N07718 (chem only),

## CERT COMMENTS:

## LOT COMMENTS:

PRAXAIR SURFACE TECH VENDOR #90506  
NSL ANALYTICAL SERVICES VENDOR#-T5375

## COMMENTS:

## DAR Date:

Approved for GE S-400 codes D, F, G, H, I, J, K, XD  
The material test report has been generated by a certified S400 laboratory.

Marina Berezhev  
Chemist

## Statement of Conformity

Praxair Surface Technology certifies that processing, product testing, and inspection control of raw material and formulating procedures are in conformance with all applicable specifications, drawings, and/or standards. Complete test reports as required are on file. Powders do not have a shelf life & the expiration date of slurries is listed in the header above. Certificate is according to EN 10204-3.1 and validated per electronic signature.

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