continuum

Feedstock Requirements

Guidance for current and prospective vendors and partners on Continuum Powders' feedstock requirements.

Overview

Continuum converts source material, such as recycled metals and alloys in various forms, into into high-quality metal powders used in additive manufacturing, hot isostatic pressing (HIP), metal injection molding (MIM), and related applications.

The standard requirements for the acceptable source material below cover identification, packaging, physical characteristics, and chemical composition/testing expectations. If you have any questions, please contact us for more information.

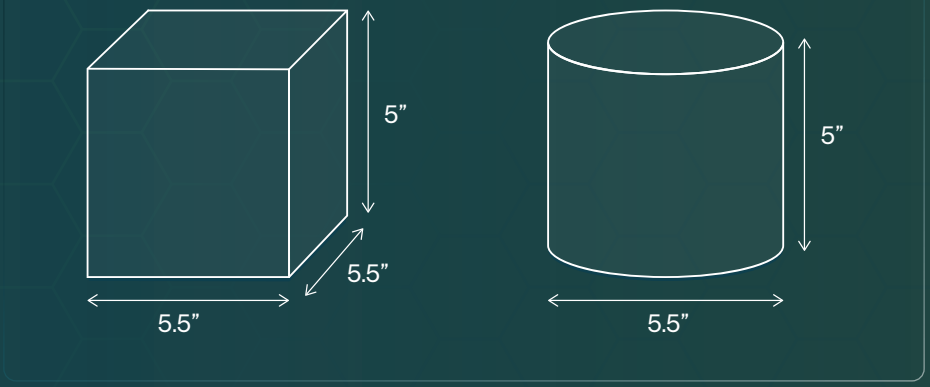
Physical Requirements (General)

Powder source material requirement: Any powder >with particles larger than ~30µm is acceptable for our process. For powders to be used as a source material in our process, particle sizes between 30µm and 400µm are ideal depending on the morphology. The powders to be upcycled shall be free of moisture, FOD and any contamination.

Form factor (size, shape, and weight): Preferred source material includes solid blocks, drops, and plates no larger than 5.5" × 5.5" × 5" (14 cm × 14 cm × 12 cm) with individual piece weight less than 8 kg (17–18 lbs). Plates must be at least 1" thick.

Feedstock Size & Weight Requirements

Maximum Weight Per Piece ~8kg (17lb - 18lb)



Other acceptable forms (approval required): Tubes, castings, gates, risers, flashings, turnings, chips, forge drops etc. may be accepted under certain conditions and require written approval from Continuum.

Quote submission requirements: Provide clear photos and actual chemistry including interstitials on the source material. with each quote for Continuum review. Material must be approved prior to shipment.

If you are unable to send photos due to ITAR restrictions, please contact our team for a secure FTP link.

Surface treatment/cleanliness: Source material must be cleaned or shot-blasted to remove paint, oil, coatings, and other major surface contaminants. Use cleaning methods that do not alter alloy chemistry.

Testing and Analysis Requirements

Chemical composition verification: Analyze chemical composition in accordance with applicable industry standards.

Minimum lot testing frequency: Provide at least one representative sample test per 500 kg lot using an appropriate method (e.g., ICP-MS, Spark-OES, ED/WD XRF, ONH).

Documentation: Submit a certificate of analysis (COA) for Continuum review and approval prior to acceptance.

Chemical Requirements

MarM247LC (Low-Carbon) Chemical Composition (wt%)

Element	Min	Max
Ni	Balance	Balance
Cr	8.00	8.50
Mo	0.40	0.60
Ti	0.60	0.90
Al	5.40	5.80
Co	9.00	9.50
W	9.30	9.70
Ta	3.10	3.30
Hf	1.20	1.60
Fe	-	0.15
Cu	-	0.01
C	0.04	0.08
Si	-	0.05
Mn	-	0.05
P	-	0.005
S	-	0.003
B	0.01	0.02
V	-	0.10
Zr	0.005	0.015

Element	Min	Max
AG	-	2 ppm
Pb	-	2 ppm
Se	-	2 ppm
Ti	-	0.2 ppm
O	-	200 ppm
Ga	-	25 ppm
Bi	-	0.2 ppm
N	-	75 ppm
Mg	-	0.005
Nb	-	0.1
Re	-	0.0005
Sn	-	20 ppm
Te	-	1 ppm
Zi	-	5 ppm
Sb	-	2 ppm
Cd	-	2 ppm
As	-	30 ppm
In	-	0.2 ppm

Nickel718 Chemical Composition (wt%)

Element	Min	Max
Al	0.4	0.6
Bi	-	0.00005
B	-	0.006
Ca	-	0.003
C	-	0.035
Cr	17	21
Co	-	1.00
Cu	-	0.23
Fe	Balance	Balance
Pb	-	0.001
Mg	-	0.006
Mg	-	0.35

Element	Min	Max
Mo	2.8	3.3
Ni	50	55
Ni + Co	50	55
Ni + Ta	4.9	5.2
N	-	0.03
O	-	0.01
Ph	-	0.01
Se	-	0.0005
Si	-	0.15
S	-	0.01
Ta	-	0.05
Ti	0.8	1.15

Nickel625 Chemical Composition (wt%)

Element	Min	Max
C	-	0.10
Mn	-	0.35
Si	-	0.50
P	-	0.015
S	-	0.015
Cr	20.00	23.00
Co	-	1.00

Element	Min	Max
Mo	8.00	10.00
Nb	3.15	4.15
Ti	-	0.40
Al	-	0.40
Fe	-	5.00
Ni	Balance	Balance

SS17-4PH Chemical Composition (wt%)

Element	Min	Max
Ni	3.00	5.00
Cr	15.00	17.00
Cu	3.00	5.00
Fe	Balance	Balance
Ni + Ta	0.15	0.45
Mo	-	0.50
Mn	-	1.00

Element	Min	Max
Si	-	1.00
Ti	-	0.40
Al	-	0.05
C	-	0.07
Ph	-	0.030
S	-	0.040
Co	-	0.4

Ti-6Al-4V – Grade 5 Chemical Composition (wt%)

Element	Min	Max
Al	6.00	6.75
V	3.50	4.50
Fe	-	0.40
O	0.13	0.15

Element	Min	Max
H	-	0.015
Ni	-	0.05
C	-	0.08
Ti	Remainder	Remainder

Ti-6Al-4V – Grade 23 Chemical Composition (wt%)

Element	Min	Max
Al	6.00	6.75
V	3.50	4.50
Fe	-	0.40
O	0.05	0.13

Element	Min	Max
H	-	0.0125
C	-	0.8
Ti	Remainder	Remainder

NiCu 400 Chemical Composition (wt%)

Element	Min	Max
Ni	63.0	70.0
Cu	Balance	Balance
Fe	-	2.5
Mn	-	2.0

Element	Min	Max
C	-	0.3
Si	-	0.5
S	-	0.024

CoCr F75 Chemical Composition (wt%)

Element	Min	Max
Co	Balance	Balance
Cr	27	30
Mo	5	7
N	-	<0.5
FE	-	<0.7

Element	Min	Max
C	-	<0.35
Mn	-	<1.0
S	-	<1.0
N	-	<0.25

CuNi C715 Chemical Composition (wt%)

Element	Min	Max
Cu	Balance	Balance
Ni	29.0	33.0
Fe	0.40	1.0
Hf	1.30	1.70

Element	Min	Max
Zn	-	1.0
Mn	-	1.0
Pb	-	0.05

CuNi C964 Chemical Composition (wt%)

Element	Min	Max
Cu	Balance	Balance
Ni	28.0	32.0
Fe	0.25	1.5
C	-	0.15
Mn	-	1.5

Element	Min	Max
Nb	0.50	1.5
Si	-	0.50
P	-	0.02
S	-	0.02
Pb	-	0.01

Additional Considerations / Exceptions

Non-standard forms & sizes: Tubes, castings, gates, risers, flashings, turnings, chips, oversized pieces, or other non-standard geometries may be acceptable under certain conditions and require approval from Continuum prior to shipment.

Size reduction / part destruction: If your material does not meet the size/weight limits, Continuum may be able to support size reduction (e.g., cutting, sectioning, crushing/shredding) or coordinate an approved pathway to make the material suitable for processing.

Alloys not listed: Continuum may be able to evaluate and accept alloys not currently listed depending on chemistry, cleanliness, and intended use.

If you have material that falls outside these standard requirements, or would like to discuss a new alloy, non-standard form factors, or size-reduction options, contact Continuum Powders to review your material and determine the best path forward. Please include representative photos, estimated quantity, and any available chemistry data/COA for review.