AMCELL 8300 ®

The first and only platform in the market able to mass-produce 3D Printed parts in metals and polymers.

AMCELL 8300® makes additive manufacturing a viable solution for high-volume manufacturing.
An automated Industrial 3D Printer for 24/7 production of functional parts

Additive Manufacturing Solutions

Mass production Cost-Effective in metal and polymers

Accurate and functional parts

- Polymers
- Composites
- Metals
- High tolerance (ISO 2768)
- Mass production

EVAM Software®

- Centralized control and monitoring
- Feedstock smart control
- Production optimization
- Printer integration
- Build simulation
- Scheduling
- Shopfloor connectivity
- Quality and process monitoring
- Traceability

TRIDITIVE
ADDITIVE MANUFACTURING

How it works

AMCELL 8300® is an automated additive manufacturing cell for the mass production of high complexity and precise final parts, controlled by EVAM Software® to manage production orders, in-process control, and reduce machine downtimes.

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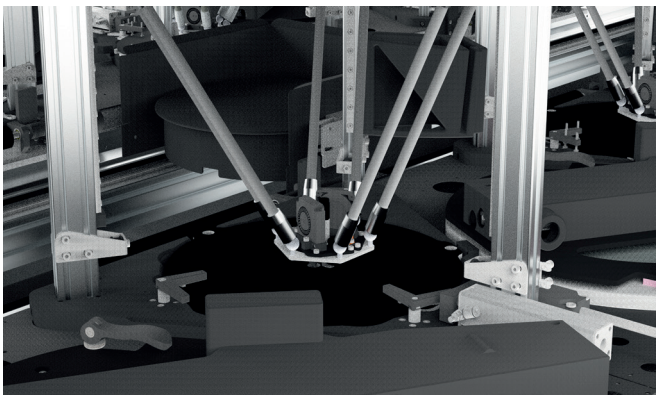
Manufacturing orders, process monitoring, feedstock control, smart environmental control, are just some of the features that make AMCELL 8300® a real platform for mass production.

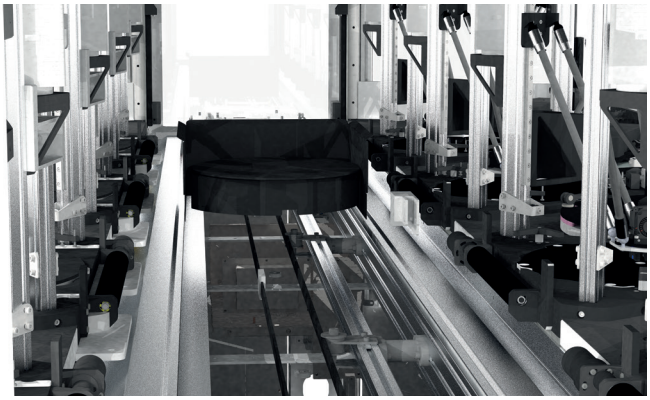
Software-controlled workflow and process monitoring

AMCELL 8300® includes EVAM Software®, the most advanced production control and remote monitoring solution.



Automatic calibration

Each printhead is automatically calibrated before each printing job to ensure the highest quality of the final part.



Automatic ejection of printed parts

The printed part is ejected to the automatic storage module and a new platform is loaded to ensure 24/7 production.

Automatic storage

Traceability and automatic storage of printed parts.

TRIDITIVE
ADDITIVE MANUFACTURING

AMCELL 8300 ®

Technical information

AM technology	Automated Multimaterial Deposition (AMD Technology®)
Build rate	8 tons metal/year - 2 tons polymer/year
Maximum printing height	350 mm
Maximum printing area	300 mm
Extruder system	Titanium
Nozzle diameter	0.4 - 0.8 mm
Manufacturing materials	Polymers: ABS, ASA, CPE, HIPS, IGLIDUR I150, PA, PC, PETG, PLA, PP, TPU, VINYL. Composites: PA+ARAMIDE, PA+CF, PC+ABS, PC+PBT. Metals: SS 316, SS 17-4 PH, Inconel, Titanium.
Minimum layer height	30 µm
Number of robots	8 (customizable)
Build chamber	Heated with temperature control, Filter system
External and weight dimensions	3,4 x 2 x 2 m. Unladen weight: 1300 kg. Loaded weight: 1700 kg

Manufacturing platforms

Platform change system	Automatic
Ejection system	STEP System
Build platform	Heated, up to 150°C
Build platform material	Tempered glass (customizable)
Build platform calibration	Automatic
Final parts storage	Automatic TRAC3D

AMD Technology ®

Automated Multimaterial Deposition
Automated Multimaterial Deposition® (AMD) is an additive manufacturing process. The main innovation that incorporates our technology is automation and its capability to manufacture parts in polymers, composites, and metals, even at the same time.

How it works. AMD Technology in Metals

1. Green part

The green part is manufactured layer by layer extruding Metal Feedstock.

2. Debinding

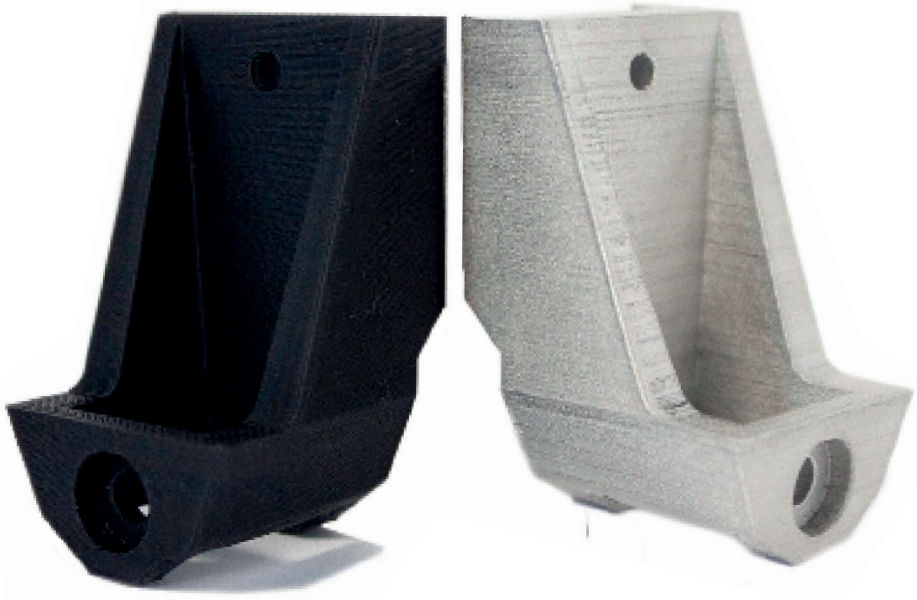
During the debinding process. The binder is removed through a catalytic debinding process.

3. Sintering

During the sintering process, the part is heated, the metal particles are redistributed and bonded.

4. Final part

Once the process is finished, a 100% metallic part is obtained with a density higher than 99%.



Pulley support produced with AMCELL® using PLA and Stainless Steel 316L without surface finish.

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Metals

STAINLESS STEEL 316L

Metal polymer composite filament to produce metal components in an austentic stainless steel type 316L.

Standards DIN 1.4404, X 2 CrNiMo 17 13 2, AISI 316L; UNS S31603

MECHANICAL PROPERTIES	Typical Value	Standard
Material density	7,83 g/cm^3	ISO 1183-1
Yield Strength, Rp 0.2	174 MPa	DIN EN ISO 6892-1
Tensile strength	561 MPa	DIN EN ISO 6892-1
Vickers Hardness	128 HV10	DIN EN ISO 6507-1

17-4 PH

MECHANICAL PROPERTIES	Typical Value	Standard
Material density	TBD	ISO 1183-1
Yield Strength, Rp 0.2	TBD	DIN EN ISO 6892-1
Tensile strength	TBD	DIN EN ISO 6892-1
Vickers Hardness	TBD	DIN EN ISO 6507-1

TITANIUM

Fused Filament Fabrication (FFF) of Titanium offers the possibility to produce complex shaped parts net shape or near net shape quality at low investment costs

MECHANICAL PROPERTIES	Typical Value
Material density	4,43 g/cm^3
Yield Strength, Rp 0.2	920 MPa
Tensile strength Rm	1005 MPa
Elongaton A	14%

COMING SOON: INCONEL AND M4

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Polymers

CPE
- Excellent mechanical & chemical properties
- Excellent surface finish
- High printability
- Food contact approved

PA
- Chemical & wear resistance
- Used in electrical and electronic components
- Good functionality under temperature
- Food contact approved

ASA
- Excellent outdoor resistance
- Excellent surface finish
- Good dimensional stability
- Production of functional parts

TPU
- Elastic material
- Good tear strength in all directions
- Chemical & abrasion resistance
- Used in electrical and electronic components

HIPS
- High impact resistance
- Excellent surface quality
- High printability
- Food contact approved

PP
- Electrical insulator & thermal resistance
- High dimensional stability
- Easily recycled
- Food contact approved

IGLDUR I150
- Excellent mechanical properties
- Used in parts subjected to wear
- Food contact approved

PVC
- Excellent surface finish
- Corrosion resistance
- High tensile strength and hardness
- Used in electrical and electronic components

PLA
- Excellent surface finish
- High printability
- Biodegradable by composting
- Food contact approved

ABS
- Good surface finish
- Production of functional parts

	Density	Tensile Strength	Tensile Modulus	Elogation at break	Izod impact strength	Vicat softening temperature	Heat distortion temperature
CPE	1,25 g/cm ASTM D792	47 MPa ASTM D638	-	150% ASTM D638	No breaK ASTM D256	-	80°C ASTM D648
ASA	1,07 g/cm ASTM D792	40 MPa ASTM D638	1726 MPa ASTM D638	35% ASTM D638	441 J/m ASTM D256	94°C ASTM D1525	86/96°C ASTM D648
HIPS	1,05 g/cm ISO 1183	26 MPa ISO 527	-	40% ISO 527	No breaK ISO 179eU	88,5/38V°C ISO 306	85/89°C ISO 75
IGLIDUR 150	1,3 g/cm	-	-	-	-	-	-
PLA	1,4 g/cm ASTM D792	60/32 MPa ASTM D882	3600 MPa ASTM D882	6% ASTM D882	16 J/m ASTM D256	-	55°C ASTM E2092
PA	1,4 g/cm ISO 1183	200 MPa ISO 527	-	-	-	-	240°C ISO 75
TPU	1,20 g/cm ISO 1183-1	49 MPa DIN 53504	7,5/16 MPa DIN 53504	600% DIN 53504	-	-	-
PP	0,96 g/cm ISO 1183A	23 MPa ISO 527	1400 MPa ISO 527	20% ISO 527	-	-	-
PVC	1,35 g/cm 10-LA 022	49 MPa 10-LA 049	-	13,1% 10-LA 049	-	71 °C ISO 306	-
ABS	1,04 g/cm ISO 1183	39/32 MPa ISO 527	-	20% ISO 527	24/10 kJ/m ISO 180+1A	103/96°C ISO 306	81°C ISO 75-A

Composites

PA+CF

- High strength, hardness and rigidity.
- High-technical durable long-life material.
- Good properties also at low temperatures.
- Easy to print.

PA+Aramid

- The reinforcement with aramid fibers gives it tribological. properties and wear resistance.
- Smooth surface.
- Properties kept in a wide range of temperatures.

PC+PBT

- Chemical resistance.
- Easy to print, glossy finish.
- PC gives it good impact resistance and PBT good lubrication.

PC+ABS

- Great mechanical properties such as impact resistance, flexural strength.
- Excellent temperature resistance.
- Smooth finish.
- Resistant to chemicals wear and long-term loads.

	Density	Tensile Strength	Tensile Modulus	Elogation at break	Izod impact strength	Vicat softening temperature	Heat distortion temperature
PA+CF	1,25 g/cm ASTM D792	54,5 MPa ISO 527	103% ISO 527	103% ISO 527	-	-	-
PC+ABS	1,07 g/cm ASTM D792	42 MPa ISO 527-1,2	7% ISO 527-1,2	7% ISO 527-1,2	55/41 J/m ISO 180-1A	113/115 °C ISO 306	-
PC+PBT	1,05 g/cm ISO 1183	2050 MPa ISO 257	-	-	-	155°C ISO 306	105°C ISO 75
ARAMID	1,3 g/cm	42 MPa ISO 527-1,2	7% ISO 527-1,2	7% ISO 527-1,2	55/41 J/m ISO 180-1A	113/115 °C ISO 306	-

EVAM Software ®

Additive manufacturing Execution System (MES) to control and monitor all your AM factories.

EVAM® organizes and manages the workflow to ensure repeatability, traceability and productivity.

EVAM® empowers manufacturers to create and manage digital warehouses and scale production on-demand.

EVAM® is the fastest sourcing platform to produce parts on demand, centralize orders and optimize production.

EVAM® empowers manufacturers to remotely control machines and factory floor.

Digital Warehouse

100 GB of Digital Warehouse

Project management

Quotation engine

Version control of designs

Production Planning and Scheduling

100 GB of Digital Warehouse

Project management

Quotation engine

Version control of designs

Build simulation and scheduling

Stock control of materials

Custom deployment

Enterprise

All digital warehouse features

All production planning and scheduling features

Machine and shopfloor connectivity

Data analytics and reporting system

Traceability of printed parts

TRIDITIVE
ADDITIVE MANUFACTURING

TRIDITIVE

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AMCELL® is an industrial 3D Printer for mass production of metals and polymers.
Triditive leads the automation of Additive Manufacturing.

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