

**Abrast**  
AM post-processing

# Abrast the alliance for integral solutions in AM post-processing

As additive manufactured applications expand from prototyping to mass production, post-processing gains importance and becomes a critical step in the value chain.

If we compare the rapidly growing and highly innovative AM sector with a race, the post-processing and finishing of AM parts would come as the final step before getting to the finish line. Quite often, the value of the parts is untapped at this stage and can determine the success or failure of all the prior steps.

**Abrast** is born to help you getting to your finish line, with confidence, revealing the real value of your parts. This is done through the joined efforts of a Group of Companies, each one of those experts in different post-processing technologies for more than 40 years, that allow **Abrast** to capitalize and provide sound Post-Processing Integral Solutions.



founding member of



INTERNATIONAL  
ADVANCED  
MANUFACTURING 3D HUB

IAM3DHUB members:



LEITAT  
managing technologies

RENISHAW  
apply innovation™

stratasys

BASF  
We create chemistry

Abrast  
AM SURFACE FINISHING

Fira Barcelona

3DFACTORY  
INCUBATOR

INDUSTRY  
FROM NEEDS TO SOLUTIONS



data courtesy of 3DFACTORY INCUBATOR

The IAM3DHUB is a unique Digital Innovation Hub strategically located in Barcelona with the aim to accelerate the adoption of additive manufacturing and 3D printing technologies in the European industry as an alternative way to design, develop and manufacture new competitive products and services.

**Abrast's** commitment and alignment with the IAM3DHUB mission since the early stages plays a key role in understanding the market needs and continue offering advice and state-of-the-art technical solutions to the market.

With fully fledged Laboratories and Testing facilities, the IAM3DHUB and **Abrast** are available to help you getting to the finish line.

**the road to adoption**

# post-processing steps

Parts that come out of the printers rarely comply nor satisfy with the end customer demands. Surface cleaning and preparation for additional finishing operations is a must. Getting **accurate**, **consistent** and **cost effective** results during such stages is key.



The added value of **Abrast** sits on the knowledge and expertise of its members that have more than 40 year of experience each in finishing applications for automotive, aeronautics, healthcare and dental industries amongst others.

**Abrast** goes beyond just providing optimal result but accompanies customers step by step all the way through to guarantee the best possible solution putting at your disposal a network of expert partners leaders on each area of focus.

# air blasting

CLEAN

SURFACE

FINISH

\*  
designed for powder bed  
applications like  
MJF and SLS



Air-blasting, sometimes referred to as "blasting", "sand-blasting" or "shot blasting", is the solution of choice when it comes to clean and prepare surfaces for final use or further post-processing operations like dyeing, painting, coating or varnishing.

The working principle consists of projecting or shooting an abrasive media against the parts. Choosing the right abrasive and process conditions understanding the target surface finishing requirements is of maximum importance.

**Abrast** value proposition delivers **precise, uniform** and **consistent** surface finishings through a wide range of manual, automated or custom made air-blasters and its associated process consultancy.

plug and play  
inert blowing "powder free"\*



**3D7**



**3D9B**



**3D11B**

# tumbling

CLEAN

SURFACE

FINISH

Tumbling, also referred as "rotary vibration" or "vibration" is the mechanical process consisting of submerging the pieces inside a container with selected abrasive media(s) to polish and finish the parts as required.

Abrast 40+ years of experience with all kind of tumbling solutions, allow us to advice and recommend the best possible process for every application.

Main benefits are: a **controlled reduction of the surface roughness** and **improved feel and aesthetics**.



**ecSHAKE**  
From small to medium parts

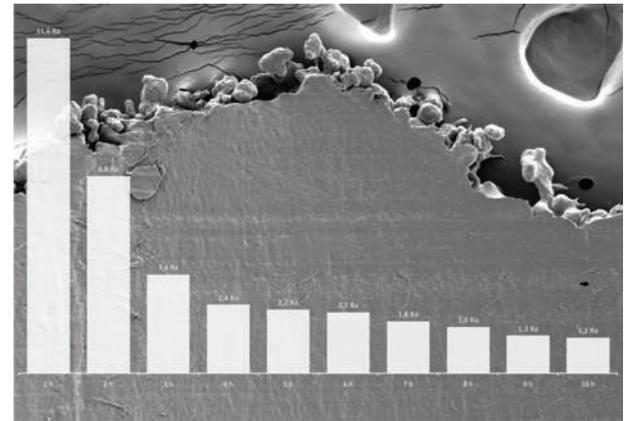
**erSHAKE**  
From medium to large parts



**etSHAKE**  
High speed turbo polishing



polishing of scalmalloy SLM satellite brackets



surface roughness reduction in PA12 of 90%



before and after Abrast Media Shot  
Courtesy of Footwork

# abrust media shot



**Abrast Media Shot** is a unique process that combines **3 steps in 1, cleaning, surfacing** and **finishing** the parts eventually avoiding dyeing. The process can process a full MJF printing job within 5 minutes.

The working principle consists of projecting abrasive media at high energy ranges and has a bespoke proprietary triple air /dust / media filtration system that completely eliminates the printing powder.

The benefits are mainly high production capacity, improved color uniformity, enhanced mechanical properties with minimum overall part costs. Also the equipment is prepared for full automation, with loading and unloading capabilities.

WHITE PAPER available upon demand

|                          |               |
|--------------------------|---------------|
| cycle time               | <b>5 min</b>  |
| color uniformity (dE*ab) | <b>&lt; 1</b> |
| surface roughness (Ra)   | <b>- 30 %</b> |
| hardness (shore D)       | <b>+ 20 %</b> |
| scratchability           | <b>low</b>    |





we help you getting to the finish line



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