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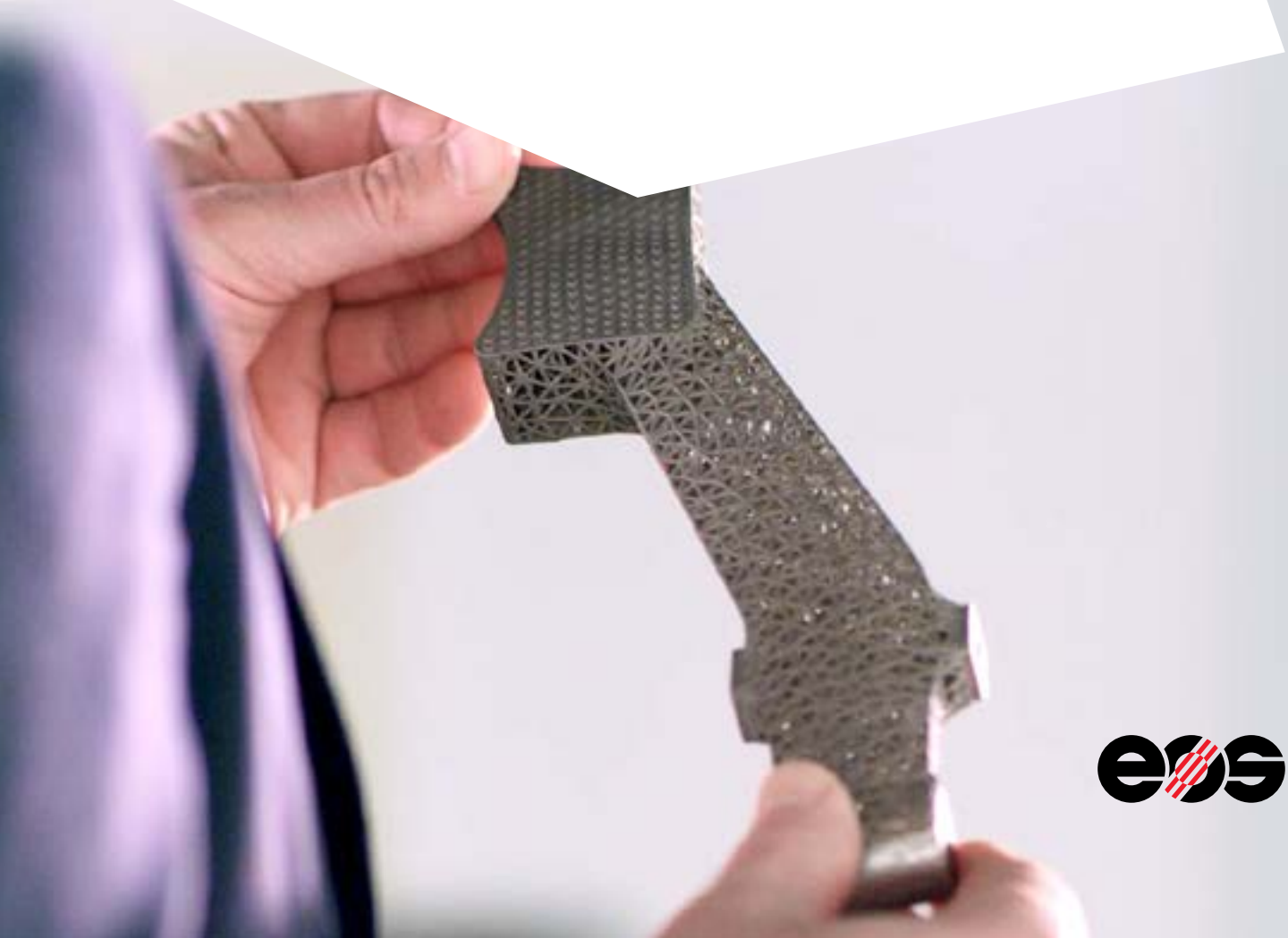
Learning Path
Additive Manufacturing Application Specialist – Metal



Additive Manufacturing Application Specialist - Metal

Article N°: 500003174
Venue: Online and self-study
Study Time: 67 hours
Ideal length: 1 – 1,5 months
Language: English

Hardware & Software prerequisits
EOSPRINT 2.7 or 2.8
EOSPRINT 2 License Key
EOSPRINT Premium Licence
Materialise Magics
SG+ (Materialise EOS Build Processor)

In cooperation with

materialise
innovators you can count on

additiveworks

Learning Method

- E-Learning
- Webinar
- Video
- Live Event
- Practice Task
- Certificate
- Q&A Session

Realize your full potential and become an expert in your Additive Manufacturing (AM) field, as a certified EOS AM Application Specialist in Metal

Gain skills in

- → Handling the EOS System and software
- → Appling material specification in regard to data preparation
- → Monitoring quality along the process chain
- → Calculating cost per parts

Additive Manufacturing
Application Specialist - Metal

67 h

Phase 1
Master an EOS System and Software

Be able to handle an EOS System, and master data and build job preparations with Materialise Magics software

Phase 2
Build Up Your Know-How

Explore the world of parameter editing, materials, and post processing

Phase 3
Deepen Your Quality Knowledge

Lift the full potential of AM to meet high-quality standards and learn more about Additive Works Amphyon

Phase 4
Demonstrate What You Have Learned

Bring everything together and excel your personal skills

Phase 1
Master an EOS System and Software

1. Welcome

Video (0,5h)

Receive an understanding of your learning path and methods used, and the skills you will develop, such as:

- Understand EOS Metal machines
- Apply advanced data preparation to real cases
- Understand and apply exposure parameter
- Understand EOS Monitoring tools
- Differentiate different surface finishing procedures
- Learn the basic of Materialise Magics as well as Additive Works-Amphyon software

2. Handover Between Different Stakeholders

E-Learning (1h)

In this training you get an overview of your job role as Application Specialist to understand your main tasks as well as your main stakeholders.

3. Cost Calculation

E-Learning (6h)

As an Application Specialist you are most likely in close contact with the customer, and you will need to be able to judge the economic value of a 3D printed part. This module will enable you to evaluate costs per part, understand cost distribution, as well as cost leverage potential for cost improvement based on industry and application. You will also be able to weigh up different machines for best fit for business case.

4. Safety Metal

E-Learning (1,5h)

Understand the EOS safety concept as well as important safety signs. Afterwards you will learn more about potential hazards and how you can avoid them. Finally you will learn more about how to protect yourself with personal protective equipment.

5. Basic System Operator

Webinar (8h)

Learn to operate an EOS system, such as the EOS M290 as well as its periphery. Understand work safety instructions and how to check and adjust machine settings.

6. Advanced Data Preparation – Materialise Magics

E-Learning (4h)

Learn more advanced options within the data preparation software, Materialise Magics and different options to repair parts such as manual fixing of holes, remesh, and smoothing. You will also learn about part offset and labelling, and hollow parts, and how to auto place and orientate parts as well as special options for support generation.

7. Task – Fixing of Parts

Practice Task (8h)

Apply the different methods to fix a part in Materialise Magics software.

7.a. Task – Fixing of Parts

E-Learning (4h)

Compare your work with the EOS solution.

8. Part Labeling

E-Learning (1h)

In this training you will learn more about part labelling on a real built test job. It focuses on label quality on the different types of surfaces like DownSkin, Standard Contour, and UpSkin.

Phase 2
Build up your process Know-How

9. Parameter Editor Training

E-Learning (4h), Q&A Session (2h)

In this module you will learn more about EOSPrint (2.8), and the main functions such as editor structure, beam offset, support, and part parameters. Here you will dig deeper into hatches, contours, and edges. Finally, you will learn more about exposure settings with the help of some application samples. After two modules you will get the chance to ask questions and discuss topics with our EOS expert in a Q&A session.

10. Material Specifications– Standard Materials

E-Learning (1h)

Each material has unique properties and will behave differently when processing. Some materials tend to have a bigger shrinkage and warpage, some less. By learning more about each material properties, you will understand its implication for data preparation.

11. Postprocessing Surface Finish

E-Learning (3h)

You will learn the different post processing steps and which aspects you need to consider. The main post processing categories are powder removal, part and support removal, and surface finish. You will also be able to differentiate between different methods to improve the surface of your 3D printed part.

12. Reflection

E-Learning (1h)

EOS Experts will guide you online, reflecting on your current learning progress as well as encouraging you to engage in online discussions. This will boost your motivation, as we know work and life can be challenging sometimes.

Phase 3
Deepen Your Quality Knowledge

13. Quality Measurements

E-Learning (2h)

Learn more about influences on part quality in additive manufacturing. This part will consider data preparation, machine, powder, process parameters as well as post processing. Dig deeper into quality criteria like dimensional accuracy, tensile strength, hardness, density, and electrical conductivity. Understand how different key figures are determined and what tools EOS offers to measure and monitor quality during the build process.

14. EOSTATE Exposure OT & MeltPool Monitoring

E-Learning (2h)

You will be able to explain the principles of AM process monitoring. You will also learn more about the main benefits of monitoring and how to implement and use it.

15. Additive Works – Amphyon

E-Learning (6h)

Get to know Amphyon, a software to analyse potential distortion and adjust your data preparation accordingly. You will learn how to compensate build distortion, how to generate optimized supports for heavy components, how to calibrate and validate the mechanical simulations, and how to predict and prevent overheating of parts.

16. Question & Answer "Prepare for Final Exam"

Q&A (2h)

Do you have any open questions before you start with your final exam? Now is the time to ask our experts.

Phase 4
Show / Demonstrate on what you have learned

17. Practical Test: Final Exam Part I

Practice Task (8h)

You will apply all your learnings to a more difficult build job. Choose between different orientations and judge its advantages and disadvantages.

18. Theoretical Test: Final Exam Part II

Practice Task (1h)

Show your expertise for data preparation in this theoretical test.

22. Farewell

Video (0,5h), Certificate, Live Event (8h)

Congratulations, you mastered the learning path and you are now an Application Specialist for Metal! Have a look into your new future and receive your certificate.

Additive Minds Academy
Making Additive Manufacturing Expertise Accessible

Additive Minds Academy is the training and knowledge transfer provider of EOS. Our portfolio caters to a wide range of roles, such as machine operators, application specialists and production managers. All of our trainers have years of experience with EOS solutions and are familiar with the specific challenges that you are facing.

Our certified learning paths combine online education with traditional classroom methods. This blended learning concept gives you much flexibility – you decide the instruction method that best suits your learning style. Each learning path is an ideal sequence of learning activities that help you reach your full potential for AM as quickly as possible.

Learning Path
Additive Manufacturing Application Specialist – Metal

Ready to learn?
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