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H&S Walkaround Electric Current Hazards

H&S Walkaround - Electric Current Hazards Overview



This H&S Walkaround scenario focuses on the electric current hazards around a PBF-LB machine. Things to check and look out for when operating a PBF-LB machine.

This scenario focuses on EOS M400 PBF-LB machine. However, the general principles outlined in this storyboard are applicable to all PBF-LB machines.

EOS M400 PBF-LB machine H&S walkaround training will focus on:

- PPE Required to carry out the H&S walkaround;
- Introduction to EOS M400;
- Electric current hazard locations on EOS M400;
- Identification of Electric current hazard on EOS M400;
- Summary;



EOS M400-4

H&S Walkaround - Electric Current Hazards

Step 1 – Personal Protective Equipment (PPE)



PPE requirements for H&S walkaround are often different to PPE requirements when operating a PBF-LB machine, and can vary from Basic to Expanded.

In many cases, Basic personal protective equipment would be sufficient when carrying out a PBF-LB machine H&S walkaround.

However, PPE required to carry out different procedures and H&S walkarounds can vary, as such, an operator must always check and wear what is stated on a route card for a specific operation.

Basic personal protective equipment



Disposable protective gloves



Safety glasses with side protection

i Notice. The protective equipment shown is exemplary for corresponding products.



(Disposable) protective clothing (overall; flame retardant)



Safety shoes with functionality



Respirator (filter category P3)



Attention! Wear long-sleeved clothing, e.g. made of cotton, under the protective clothing!

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Expanded protective equipment



Protective clothing (flame retardant) or ...



Full-face respirator with face and head protection (flame retardant)



Heat protective gloves

For:
...work on the recirculating filter system (RFS)
...work in the process chamber
...cleaning the dispenser unit



...disposable protective clothing (overall; flame retardant)



Safety shoes with functionality

i Notice. The protective equipment shown is exemplary for corresponding products.



Attention! Wear long-sleeved clothing, made of cotton, under the protective clothing!

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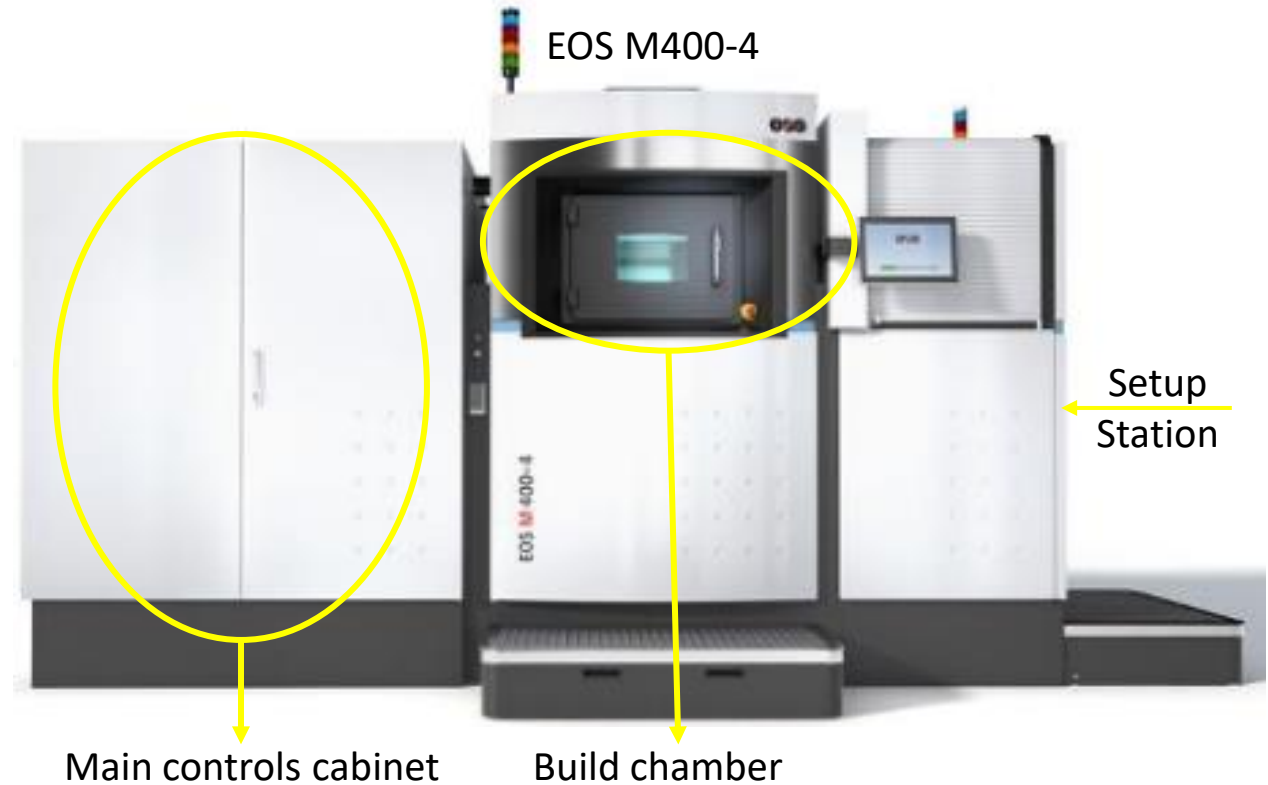
H&S Walkaround - Electric Current Hazards

Step 2 - Introduction to EOS M400



Before starting a PBF-LB machine H&S walkaround, general introduction to a specific PBF-LB machine should be given. In this case, for EOS M400 it could include:

- General Introduction;
- Specification, e.g. four laser PBF-LB system with a maximum build volume of 400 x 400 x 400 mm;
- Key components relevant to electric current hazards e.g. Main control cabinet;



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Step 3 - Hazard Observation



It is important to be aware of the electric current hazards around a PBF-LB machine, as there is a risk of electric shock from live parts.

This H&S walkaround will focus on hazard observation relating to electric current on EOS M400.

4.5 Possible hazards due to electric current



Attention!

Risk of electric shock from live parts.

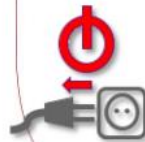
Work on the electrical system may only be carried out by qualified electricians with the power plug disconnected (if possible).



How to avoid



Opening of the control cabinet only by qualified electricians



Maintenance / replacement of components only when the main switch is switched off



Do not damage electrical cables by running over them, crushing them or pulling them.



Carry out maintenance work (visual inspections)

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Step 4 - Hazard Observation



Hazards due to electric current are clearly labeled on EOS M400 with electric hazard warning sign.



All electric current hazards should be clearly labeled on PBF-LB machine and checked for during every H&S walkaround.

H&S walkaround should focus on things to look out for in each location and what not to do.

4.5 Possible hazards due to electric current

Warning signs at the machine



Main control cabinet



Control cabinet of SES



Control cabinet of RFS



Cooler



Do not damage electrical cables by running over them, crushing them or pulling them.

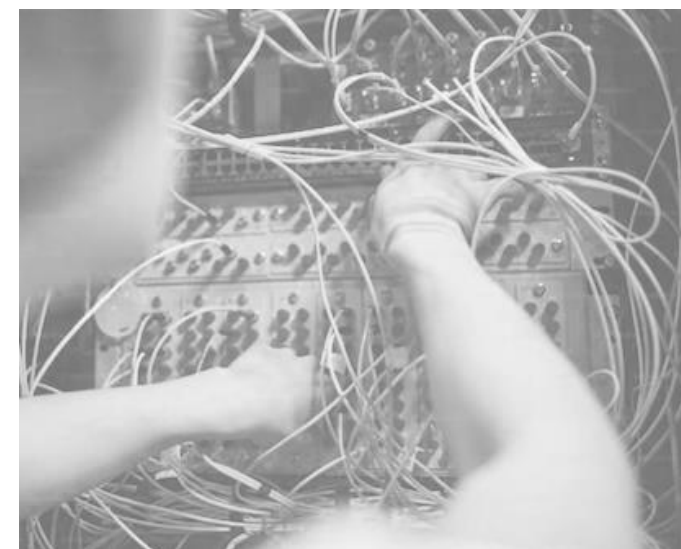
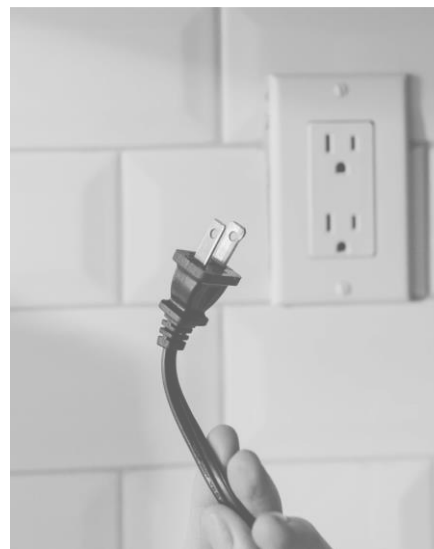
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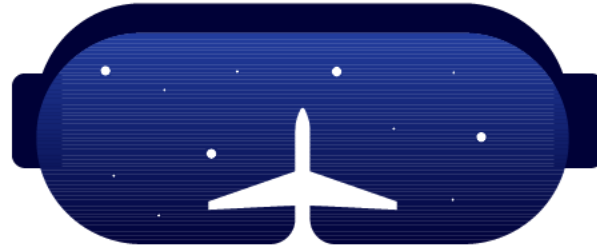
Step 5 – Summary



Work on the electric system may only be carried out by qualified and trained electricians with the power plug disconnected (if possible). In general:

- Avoid opening control cabinets;
- Look out for electric cables, regularly check for damage and avoid crushing or pulling them;
- Carry out maintenance work only when the main switch is switched off;





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Any questions?

Thank you!

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