

Dear Reader,

Welcome to our Easy Guide Blast. In a few words we would like to introduce the content of our Beryllium-containing materials guide on **ELECTRICAL DISCHARGE MACHINING (EDM) EXPOSURE CONTROL GUIDE**. This is the sixth of nine guides on specific processes provided by the Be Responsible Programme.

## CONTEXT OF THE BE RESPONSIBLE PROGRAMME



Beryllium Science & Technology Association

The **Be Responsible Programme**, launched by the Beryllium Industry, aims to advance the science of beryllium health and safety as well as protect beryllium workers and their close entourage.

The Beryllium Science and Technology Association (BeST), representative association of the beryllium industry, and its members stress that substantial uncontrolled workplace exposure to beryllium airborne particles can present a potential health and safety risk to employees.

### What to achieve

The inhalation of beryllium-containing dust, mist or fume can cause a serious lung condition in some individuals. The use of engineering and work practice controls are the preferred methods of controlling exposure to beryllium-containing particulate reliably below the national occupational exposure limit (OEL) applicable in your country for airborne beryllium.

### Exposure during the EDM process

The EDM process generates fine particulates and fumes that must be controlled. The machining action takes place in a dielectric fluid which serves to control the spark, cool the work and flush the particulate from the spark area.

### Important to know

The dielectric fluid should be filtered to minimise particulate build-up in the solution. Ventilation must be provided above the fluid to ensure the capture of the fume and particulate when visible fuming and surface agitation occurs.

**EDM FLUID:** Actions to contain fluid and prevent splashing should be implemented.

**EDM WIRE:** The collection of used wire from the EDM machining centre directly into disposal/recycle containers will reduce exposure during handling.

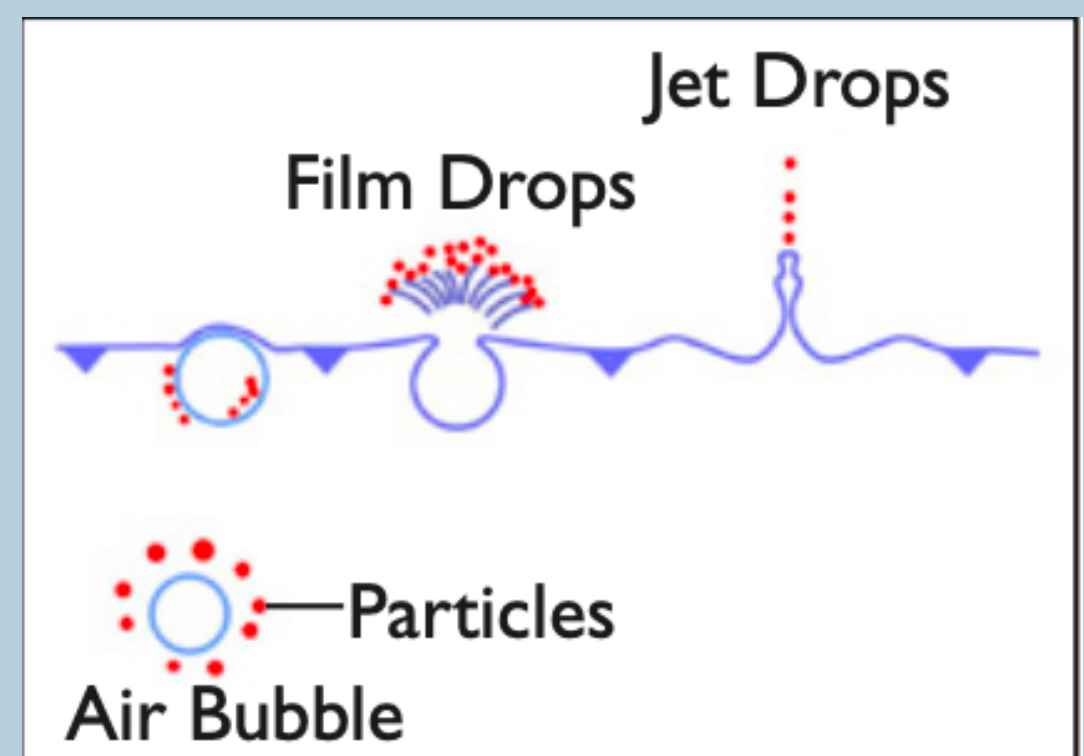
***Good to know:*** Keeping the wire wet will suppress potential airborne generation of particulate during handling.

## What else to consider

### **BUBBLE-BURSTING**

Particles suspended in dielectric fluid can be released into the air when the surface of the solution is agitated. This can generate aerosols.

Wet machining can reduce aerosol production but will not eliminate it completely.



### **Golden rule 1**

As always, personal protective equipment, maintenance, housekeeping, local exhaust ventilation and workplace exposure characterisation must be implemented.

### **Golden rule 2**

BeST recommends that quantitative and qualitative exposure assessments be conducted by a qualified industrial hygienist or occupational health professional.

### **Golden rule 3**

In case of doubt, always reach out to your supplier for additional guidance.

Check out the full EDM exposure control guide [here](#).

## **WANT TO KNOW MORE?**

Check out our dedicated website [www.berylliumssafety.eu](http://www.berylliumssafety.eu) in all European languages or get in contact with us at [info@beryllium.eu](mailto:info@beryllium.eu)