EXOV/ELD[®]

The exothermic welding process is a system designed and manufactured to be used together. Only use Lever moulds with Lever weldmetals and exothermic welding accessories. Mixing brands could cause field faults as there is not one international design standard for joints, and manufacturers will differ. This brochure relates to all types of connections.

1. Mould Inspections

Moulds will last, on average, for 50 connections. If the mould is well looked after, it may last longer and if not, the moulds may not last for any substantial amount of time.



ACCEPTABLE MOULD FACE

UNACCEPTABLE MOULD FACE

Before use, it is suggested the mould is inspected thoroughly to determine their acceptability for use. It is important to note the following:

- Crucible, Tap Hole and Weld Cavity: These should have no signs of wear and tear or chipping.
- Mould Face: There should be no erosion, wear and tear or chipping on the mould face.
- General Condition: The mould should be clean and dry before use.

2. Inspection of Connections

When inspecting connections, the key points that are to be taken into account are:

- Size: The connection needs to be large enough to cover the connectors completely. After the slag is removed, the joint should still not reveal any part of the conductors. The riser should also not be so high, as to cause blockages in the mould.
- Surface Finish: The surface finish should be smooth, and free from signs of pitting (indicative of porosity) and excessive slag.
- Colour: The colour should be uniform and a coppery/bronze, as shown in the images below.

UNACCEPTABLE CONNECTIONS



Too little weldmetal - not covering cables completely.



Too much weldmetal or incorrectly designed mould for powder volume. The riser is too high and will block the mould.

N.B: Excessive risers may also be the result of "Porosity", see next page.

ACCEPTABLE CONNECTIONS





This is a good joint, the riser is not too high, the cables are well covered, and the surface is uniform and a good copper colour.

UNACCEPTABLE CONNECTIONS



Weldmetal has leaked out of the mould, meaning the cable was not the right size for the mould or the mould was not properly closed. The handle clamp may not be adjusted correctly, to keep the mould properly shut.



This joint has signs of carbon on the surface, and has porosity, which causes air gaps in the joint, pushing the powder up the riser. Cables must be free from all oils and cleaned with a solvent.



This joint has signs of porosity, which causes air gaps in the joint, pushing the powder up the riser. This is a clear sign that the cables or mould are not properly dry.



This joint has clear porosity when cut in half. This is a clear sign that the cables or mould are not properly dry. This may also be due to weldmetal not being stored in a cool, dry place, with all the original packaging.



This is a good joint. When cut in half, it is clear the conductors have completely fused with the weldmetal. There are also no signs of porosity and the joint is solid and clean.

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