

Electric Arc Welding Procedures

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When electric arc welding is to be carried out, Company safety procedures should be closely followed and the HOT WORK and PERMIT TO WORK checklists completed. The following safety points should be remembered:

- Before you start welding, ensure that you are familiar with the equipment to be used and that the welding machine and associated equipment are in good condition.
- The welding operator should wear the correct clothing, which should include non-conducting safety footwear, long sleeved natural fibre boiler suit, leather apron, welding goggles or face mask and dry leather welding gloves.
- Before beginning work, ensure that there are no combustible solids, liquids or gases at, below or adjacent to the area of the work, which might be ignited by heat or sparks from the work.
- An assistant should be in continuous attendance during welding operations. He should be alert to the risk of accidental shock to the welder, ready to cut off power instantly, raise the alarm and apply artificial respiration without delay.
- In restricted spaces, where the operator may be in close contact with the ships structure or is likely to make contact in the course of ordinary movements, protection should be provided by dry insulating mats or boards.
- There are increased risks of electric shock to the operator if welding is done in hot or humid conditions; body sweat and damp clothing greatly reduce body resistance. Under such conditions, the operation should be deferred until such time as an adequate level of safety can be achieved.
- The electrode holder should be isolated from the current supply before a used electrode is removed and a new electrode is inserted. This precaution is necessary because some electrode coatings have extremely low resistance. Even a flux coating which is normally insulating can become damp from sweating hands and thus potentially dangerous.
- In no circumstances should a welder work while standing in water or with any part of his body immersed.
- When the welding operation is suspended or completed, the electrode should be removed from the holder and the welding machine switched off. A fire watch should be maintained in and around the area for 1 to 6 hours after welding is completed. The portable fire fighting equipment should be kept on site until all risk of fire has been removed.