

HSE(M) Approval No. EAWR 20 (SP) 5

HSE(M) File Ref. L11.5/28

HEALTH AND SAFETY AT WORK ETC ACT 1974¹**ELECTRICITY AT WORK REGULATIONS 1989²****TIME LIMITED APPROVAL OF ELECTRICAL EQUIPMENT FOR THE PURPOSES OF
REGULATION 20 OF THE ELECTRICITY AT WORK REGULATIONS 1989² TO ALLOW THE
TAKING OF PERSONAL DUST EXPOSURE SAMPLES IN PARTS OF A MINE WHERE
FIREDAMP CONCENTRATION MAY REACH 2% BY VOLUME**

1 I approve, pursuant to regulation 20(1) of the Electricity at Work Regulations 1989² (the 1989 Regulations) and subject to the conditions specified in paragraph 3 below, the equipment specified in paragraph 2 below for the purposes of remaining energised in circumstances where a person at a mine detects firedamp in a concentration exceeding 1.25% by volume in the general body of the air.

2 The equipment referred to in paragraph 1 of this approval comprises the sampling pump known as Bomba/Pump ESCORT ELF which is:-

- i. manufactured by Mine Safety Appliances Co, Pittsburgh, USA; and
- ii. supplied by TES Bretby, Burton upon Trent, DE15 0XD; and
- iii. specified in LOM EC Type Examination Certificate No LOM 04ATEX2132 dated 30 March 2005.

3 The manager of any safety lamp mine where a sampling pump is to be used pursuant to this approval shall satisfy himself that such use is necessary to comply with the dust sampling requirements of relevant statutory provisions and he shall make and give effect to suitable arrangements for its use, including arrangements to ensure:

- i. the sampling pump is systematically inspected, examined, tested and maintained and is not taken into the mine unless it has been examined by a competent person since it was last used and found to be in good repair; and
- ii. the sampling pump is part of personal dust sampling equipment worn by a person while it is below ground and that person shall take the pump out of the mine at or before the end of their period of duty; and
- iii. where any person at the mine detects firedamp in a concentration exceeding 2.0% by volume in the general body of the air where the air sampling pump is being used, the pump is taken out of the mine or is withdrawn to a place where the firedamp concentration is less than 2.0%.

4 This approval, unless sooner revoked, shall expire on 30 September 2012.

Dated 2 July 2007

D Mitchell

Signed

D. Mitchell, the holder of a post designated HM Chief Inspector of Mines, a person duly authorised by the Health and Safety Executive to act in that behalf.

1	1974 C.37
2	S.I. 1989 No 635.

HSE(M) Approval No. EAWR 20 (SP) 5 - Explanatory Notes

This approval has been issued to allow the personal dust sampling envisaged in the proposed Coal Mines (Control of Inhalable Dust) Regulations and so allow these regulations to come into force without further delay as the Mining Industry Committee wishes.

The MSA Escort Elf pump is widely used in Coal Mines in the United States for dust sampling. Its European certification is to M2 ib, which means that it will not ignite an explosive mixture of firedamp in air, either in normal operating condition or with one fault. It does not meet the M1 or ia standards for remaining energised in explosive atmospheres which requires it not to ignite an explosive mixture with two faults.

The pump is already covered by the general HSE(M) approval, EAWR 19 & 20 (ATEX) 1 dated 27 October 1999, so it is suitable for use in potentially explosive atmospheres and the majority of situations where people may have to be sampled for the new dust regulations.

This approval allows sampling of those people, such as some firedamp drainage borers or return gate transport workers, who may continue to work in general body firedamp concentrations up to 2% even though the pump would otherwise have to be switched off at 1.25% along with all other electrical equipment.

The approval allows the pump to remain energised in general body firedamp concentrations above 1.25%, the level set in UK legislation to provide a safety margin below the lower explosive limit of methane in air, 4.4%. To compensate for this reduction in the safety margin, the approval is subject to certain conditions. Firstly, the manager has to satisfy himself that use of the pump in firedamp concentrations above 1.25% is necessary. This means that if his assessment shows a representative dust sample can be taken without exposing the pump to firedamp concentrations above 1.25%, he must arrange for that to be done. He must also make rules to make sure the pump is in good order before it goes below ground and that the pump is constantly with someone and not left behind.

The approval expires five years after the new dust regulations are expected to come into force, though it can be revoked earlier if appropriate. The intention is to review the approval if a higher integrity pump, one with M1 or M2 ia certification, is placed on the market or in good time to renew the approval if not. Without the approval, MSA Escort Elf pumps can be used for dust sampling in the majority of situations in coal mines where firedamp concentrations do not normally exceed 1.25%.