BALTIC INNOVATION HOLDING | MARIJAS 7, RĪGA LV-1050

Operation Manual (FIREPEN)

1. GENERAL INSTRUCTIONS

1.1. The specific nature of the product offered at your disposal requires you to study the manual carefully and ensure precise adherence to it.
1.2. Firepen is intended for welding and cutting horizontal, vertical and inclined welds in low-carbon steel details. The produced item allows cutting metal (pipes, angles, grates, steel wire ropes, etc.).

2. TECHNICAL DATA

2.1. Burning time – up to 20 s. Weight – no more than 100 g. Tensile strength of a weld – no less than 20 kg/mm2. 2.4. Burning temperature – 2800°C

3. WORKING ORDER

3.1. Unseal the welding pencil, take the thermite match out of the case.
3.2. Attach the lid of the body to the rear of the welding pencil as a handle.
3.3. Hold the welding pencil by the handle near the spot of cutting or welding (no further than 3- cm away) and take the alit match to its forepart. Ignite the match by pressing down the match and spinning it slightly.
3.4. Press the burning Firepen tightly against the spot where you wish to begin cutting. During cutting, the pencil must be held at an angle of 45 to 60 degrees and pressed tightly against the seam being welded all the time.
3.5. Press the burning firepen tightly against the spot where you wish to begin welding, wait for the metal to heat up (for 3-4 seconds) and carry out the welding procedure by moving the pencil helically along the weld. During cutting, the pencil must be held at an angle of 45 to 60 degrees and pressed tightly against the seam being welded all the time.
3.6. WARNING! Failure to maintain firm contact may cause the firepen to go out.
3.7. Firepen is a disposable device and therefore should not be extinguished.
3.8. After the work is complete and the weld has cooled down completely, remove any scale from the weld (with a hammer or a file).
3.9. The quality of a weld is improved by using welding wire as an additive.

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3.10. ATTENTION. The quality and durability of a welded seam depend, first of all, on the heating of metal (clause 3.4) rather than of the mass of metal melted onto it

4. PREPARATORY PROCEDURES

4.1. Before commencing the work, have the workplace prepared according to the safety requirements provided for by this manual.
4.2. Detail cutting
4.2.1. This pencil is used to cut ferrous and non-ferrous metals; this requires the operator to melt metal more slowly, without placing anything under the cutting spot and without obstructing the outflow of molten metal. This regards cutting in horizontal plane.
4.2.2. Cutting in vertical plane must be carried out from top downward; for further instructions, see clause
4.2.3. For cutting vertical structures horizontally, a shelf is applied according to the instructions provided in clause 4.5; in this case, the gap increases to 5-7 mm.
4.2.4. For more effective cutting, use two welding pencils bound together along the entire length thereof with adhesive tape or PVC tape. Remember, the burning temperature of the welding pencil is 2800°C!!!
4.3. Details being welded must be pressed tightly against each other.
4.4. Welding horizontal butt and lap welds.
4.4.1. When welding any details, remove chamfer from the edges at an angle of 45 degrees; when lap welding steel sheets, the overlap must be no less than 5-7 mm.
4.4.2. Put the two details to be welded together onto an asbestos sheet, a metal slab or brick, etc. Never use wood or other highly flammable materials as backing.
4.5. Welding vertical details:
4.5.1. The peculiarity of preparing vertical details for welding is that the welding procedure is carried out using the so-called shelf (e.g. a chip off an angle), which is fastened with a clamp along with the details to be welded together and prevents molten metal from flowing out of the welding site.
4.5.2. The shelf must be placed 2-3 mm below the seam being welded.
4.6. Welding up cracks and flaws.
4.6.1. Ream the flaw, insert a plug (a rivet, a nail head, etc.) into the resulting aperture, carry out the welding procedure.
4.6.2. Deepen the crack and smooth it out with a triangular file. The welding procedure is similar to butt welding.

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5. OCCUPATIONAL SAFETY REQUIREMENTS

5.1. The firepen operation site must be free of any highly flammable liquids and materials.
5.2. The work site must be equipped with standard fire extinguishing appliances.
5.3. Combustible structural elements must be reliably protected against combustion.
5.4. Cut off the power to any exposed electric wiring located nearby.
5.5. When working with the welding pencil, use gloves to protect your hands and clothes against sparks and darkened safety goggles for eye protection.
5.6. Having completed the cutting or welding procedure, make sure that no fire hazard is present.
5.7. It is STRICTLY PROHIBITED to allow children to operate the welding pencil or use it for purposes other than intended.
5.8. REMEMBER that improper operation of SK-1 may cause fire or burn injury.

6. STORAGE INSTRUCTIONS

6.1. The welding pencil must be stored in undamaged package away from any open fire sources, in a dry place that ensures that no mechanical damage is caused.

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