BDJSN 800

BDJSN Geomembrane Welding Machine User Manual

Model: 800

1. Product Overview

The BDJSN Geomembrane Welding Machine is a high-efficiency hot wedge welding machine designed for sealing various thermoplastic materials. It is ideal for anti-seepage engineering applications, offering precise control and strong, uniform welds.

Image 1.1: BDJSN Geomembrane Welding Machine, showcasing its compact and robust design.

Key features include:

- **Strong Power and High Efficiency:** Capable of welding various thermoplastic materials like PP, PVC, HDPE, ECB, EVA, PE, ABS.
- **Intelligent Control System:** Features automatic climbing welding technology and feedback control for precise operation and extended equipment life.
- **High-Quality Welding:** Equipped with a high-temperature resistant double pressure wheel device, ensuring flat, uniform, and strong seals.
- **Versatile Application:** Suitable for welding materials with thicknesses from 0.2mm to 1.5mm.

Image 1.2: Overview of the welding machine's intelligent control, power, temperature regulation, and compatible materials like HDPE, PVC, EVA, and geotextiles.

2. Safety Instructions

Always observe the following safety precautions to prevent injury or damage to the equipment.

- Ensure the power supply matches the machine's requirements.
- Do not operate the machine in wet conditions or near flammable materials.
- Wear appropriate personal protective equipment (PPE), including heat-resistant gloves and eye protection.
- **Important:** It is forbidden to press and idle the two pressure wheels at the same time. This can cause damage to the machine.
- Allow the machine to cool down before storage or maintenance.
- Keep children and unauthorized personnel away from the operating area.

Image 2.1: The machine features multiple protections including digital circuit control, a quick adjusting handle, a special alloy wedge knife, and double security fuses for enhanced safety and reliability.

3. Components and Controls

Familiarize yourself with the main components and controls of the welding machine.

Image 3.1: Diagram illustrating the main components: shell, control box, temperature control knob, speed control knob, power switch, power cord, clamp plate, pinch wheel, main chain shield, flexible throat, and heating support.

Key components include:

- **Control Box:** Houses the temperature and speed control knobs, and the power switch.
- **Temperature Control Knob:** Adjusts the heating temperature from 0 to 450°C.
- **Speed Control Knob:** Adjusts the welding speed from 0.5 to 5m/min.
- **Pressure Rollers:** High-temperature resistant double pressure wheels for optimal welding.

Image 3.2: Close-up of the imported silicone pressure roller, highlighting its good elasticity and high temperature resistance, suitable for welding 0.2-1.5mm materials.

4. Setup

1. **Unpacking:** Carefully remove the welding machine and all accessories from the packaging. Inspect for any signs of damage.
2. **Placement:** Place the machine on a stable, level surface in a well-ventilated area.
3. **Power Connection:** Connect the power cord to a suitable power outlet. Ensure the power switch is in the OFF position before connecting.
4. **Material Preparation:** Prepare the geomembrane material to be welded. Ensure the surfaces are clean and free of debris.

5. Operating Instructions

1. **Power On:** Turn the power switch to the ON position.

2. **Set Temperature:** Adjust the temperature control knob to the desired heating temperature (0-450°C) based on the material type and thickness. Allow the machine to reach the set temperature.
3. **Set Speed:** Adjust the speed control knob to the desired welding speed (0.5-5m/min).
4. **Adjust Pressure:** The pressure can be adjusted by rotating the corresponding mechanism. Rotating clockwise increases pressure, while counter-clockwise decreases it. Ensure appropriate pressure for the material thickness (0.2mm-1.5mm).
5. **Start Welding:** Position the machine over the geomembrane sheets, ensuring the overlap width is correct (100mm/100mm/150mm/200mm depending on model/configuration). The machine will automatically begin to climb and weld.
6. **Monitor Welding:** Observe the welding process to ensure a consistent and strong seam. The intelligent control system will help maintain precise operation.
7. **Finish Welding:** Once the weld is complete, turn off the power switch and allow the machine to cool down.

This machine is suitable for a wide range of applications:

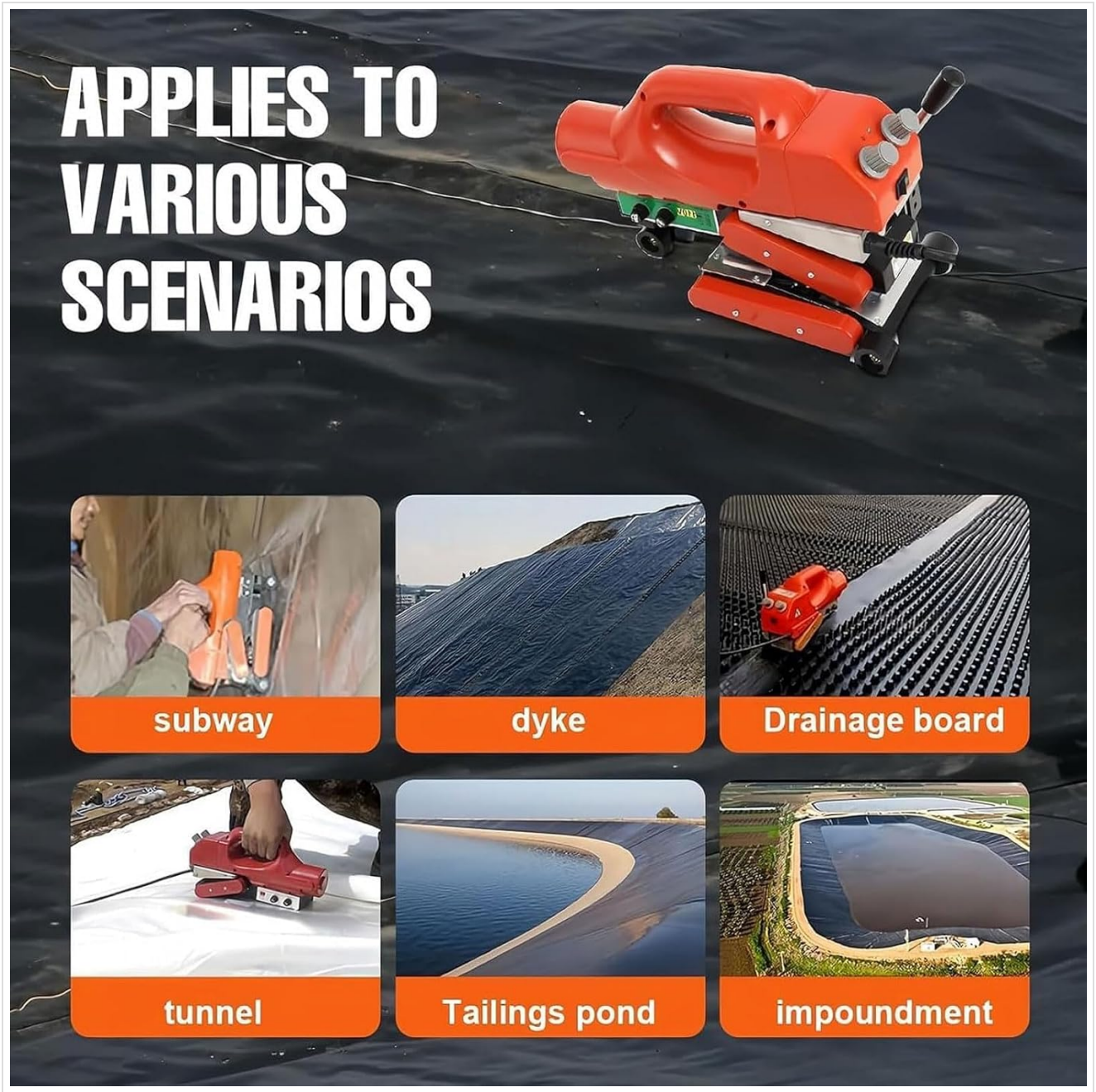

Image 5.1: The welding machine is applicable in various scenarios including subways, dykes, drainage boards, tunnels, tailings ponds, and impoundments.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your welding machine.

- **Cleaning:** After each use, clean any residue from the welding wedge and pressure rollers using a non-abrasive cloth. Ensure the machine is cool before cleaning.
- **Inspection:** Periodically inspect the power cord for damage, and check the pressure rollers and welding wedge for wear.
- **Storage:** Store the machine in a dry, clean environment, away from direct sunlight and extreme temperatures.

7. Troubleshooting

This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
Machine not powering on	No power supply; Power switch off; Blown fuse	Check power connection; Turn on power switch; Check and replace fuses.
Poor weld quality (uneven, weak)	Incorrect temperature; Incorrect speed; Insufficient pressure; Dirty material; Worn welding wedge/rollers	Adjust temperature and speed settings; Increase pressure; Clean material surfaces; Inspect and replace worn parts.
Machine not moving smoothly	Obstruction on welding path; Material not flat; Rollers dirty	Clear path; Ensure material is laid flat; Clean rollers.

8. Specifications

Detailed technical specifications for the Geomembrane Welding Machine (Model 800).

Model: 800/ 850 / 810/ 820
Power: 800W/1100W/1100W/1100W
Welding speed: 0.5~5m/min
Lap width: 100mm/100mm/150mm/200mm
Welding width: 12.5mm×2 bars/12.5mm×2 bars/15mm×2 bars/ 3 welds (15-15-15mm)
Overall weight: 5.0kg/5.0kg/5.5kg/ 5.5kg
Intermediate cavity: 12.5mm/12mm/13mm/ 13mm
Heating temperature: 0~450℃
Welding material thickness: 0.2mm~1.5mm

Image 8.1: Visual representation of the machine's dimensions and a summary of key specifications.

Parameter	Value
Model	800 (also 850, 810, 820 variants available)
Power	800W / 1100W
Welding Speed	0.5 ~ 5 m/min
Overlap Width	100mm / 100mm / 150mm / 200mm (varies by model/configuration)
Middle Cavity	12.5mm / 12mm / 13mm / 13mm (varies by model/configuration)
Heating Temperature	0 ~ 450°C
Welding Material Thickness	0.2mm ~ 1.5mm
Total Machine Weight	5.0 kg
Weld Strength	>85% of parent material (tensile strength in shear direction)

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided at the time of purchase or contact the seller directly. Keep your purchase receipt as proof of purchase.
Manufacturer: BDJSN
