PLASTIC WELDING PRODUCTS | INDUSTRIAL HEATING & LASER SYSTEMS

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Welding of slopes inclusive vertical welding.

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Leister produces Geomembrane welding machines for all different types of applications

This involves welding in the flat, slopes of all degrees, vertical welding and even overhead welding as is the case in tunnels. All Leister Geo welding machines have a clamping system which allows us to produce the high welding pressure which is necessary for HDPE geomembranes to be successfully welded. This combined with the stability of the HDPE material allows us to weld slopes and even vertical inclines.

For all welding of Geomembranes, the following 3 welding parameters must be carefully set and constantly maintained throughout the welding process:

- **Heat**
- **Speed**
- **Pressure**

By using the correct setting and constantly maintain these 3 welding parameters, we can ensure an optimal fusion weld of our Geomembranes.

The Geomembrane welding machine uses the welding pressure rollers, to drive the machine forward at a constant speed during the welding process. So, when choosing a welding machine for suitability, for welding HDPE on slopes the following must be considered:

- **Welding machines must show the correct welding pressure during the welding process.**
- **The welding process must be controlled by a closed loop control system to maintain constant speed.**
- **The correct drive/pressure rollers should be used according to the Membrane being used. These must also be in good condition to ensure good traction.**

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These are reasons why we recommend our **Leister Quality System short LQS**, for such applications as it allows the exact setting for such pressure systems. If the pressure is not exactly set, then it can cause problems with traction in giving greater tolerances in the end speed.

In addition, it also provides Quality documentation of all the 3 welding parameters to verify that welding parameters were within the set range during the welding operation. As you may be aware the LQS or even the older Leister USB system always incorporate a calibrated load cell within the system which shows the pressure is in a range which we consider to be very accurate (+/- 50N).

By the way all such machines also have a controlled **close loop drive system** which furthermore helps to increase the accuracy of such a system.

Contact
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This product note is aimed at helping those that experience difficulties when attempting to weld HDPE on mild to extreme slopes. This article will deal primarily on the welding aspect and challenges faced by those wishing to weld on any type of slope. It does not attempt to address the Engineering demands that are required, on the subgrade when dealing with slopes. Safety aspects of welding on slopes are also not addressed by this product note. Safety immediately becomes a major concern when working on slopes and all local safety rules and regulations must always be adhered to.