POWERTEX

AU Instruction for use

POWERTEX

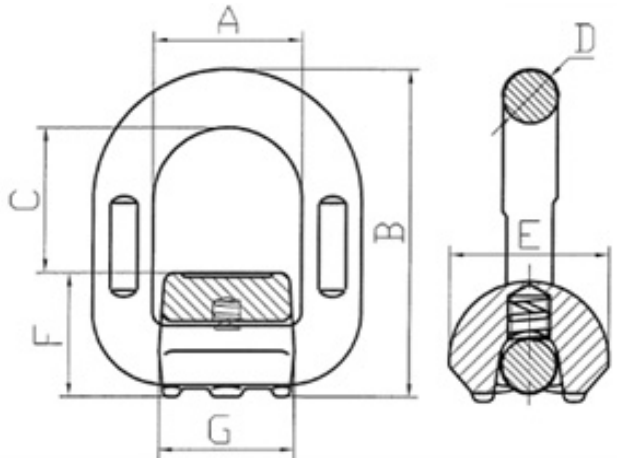
Lifting Point weldable LPW

User Manual

UMLPWAU20241126

POWERTEX Lifting point weldable LPW
Instruction for use (AU) (Original instructions)

Data and dimensions POWERTEX LPW



LPW 1t - LPW 15t

Dimensions 1t-15t

Model	A mm	B mm	C mm	D mm	E mm	F mm	G mm
LPW-1T	41	80	35	13	38	33	37
LPW-2T	42	90	41	14	40	36	38
LPW-3T	46	96	42	17	43	37	44
LPW-5T	55	121	48	22	61	50	50
LPW-8T	70	144	62	26	70	54	66
LPW-10T	85	168	78	28	76	62	78
LPW-15T	97	187	86	36	90	72	90

Load diagram LPW
Working temperature -40° up to +100°C without reduction of WLL.

Australia WLL - based on AS 3776 & AS 3775 (Included angle)								
Loading								
Load angle	0°	90°	0°	90°	60°	90°	120°	Asymmetric
Load factor	1	1	2	2	1.73	1.41	1	1
Model	Working Load Limit WLL (t)							
LPW-1T	1	1	2	2	1.7	1.4	1	1
LPW-2T	2	2	4	4	3.5	2.8	2	2
LPW-3T	3	3	6	6	5.2	4.2	3	3
LPW-5T	5	5	10	10	8.6	7	5	5
LPW-8T	8	8	16	16	13.8	11.3	8	8
LPW-10T	10	10	20	20	17.3	14.1	10	10
LPW-15T	15	15	30	30	26	21.1	15	15

WARNING
The work with lifting devices and equipment must be planned, organized, and executed to prevent hazardous situations. In accordance with national statutory regulations lifting devices and equipment must only be used by someone well familiar with the work and having theoretical and practical knowledge of safe use. Before the equipment is used, the instruction manual must be read. It contains important information about how the equipment will work in a safe and correct way. Failure to follow the regulations of this instruction may cause serious consequences such as risk of injury. Apart from the instruction manual we refer to existing national regulations that may supersede these instructions.

General description
Powertex LPW Lifting points are intended to be used as lifting equipment to be mounted directly to the load in order to lift it or used as parts of a lifting assembly like lifting beam etc. Powertex LPW lifting points meet all relevant requirements of the Machinery Directive 2006/42/EC and its latest amendments and relevant requirements of EN1677-1 and AS3776.

Use in adverse environments
Temperature's effect on working load limit (WLL): Account should be taken to the temperature that can be reached in service. Powertex LPW lifting points can be used in temperatures between -40°C and +100°C without reduction of the working load limits.
Acidic conditions: High strength lifting points should not be used either immersed in acidic solutions or exposed to acid fumes. For same reason they must not be hot dip galvanized or exposed to electrolytic finishing without permission from the manufacturer.
Chemical affects: Consult with your distributor in case the products are to be exposed to chemicals especially combined with high temperatures.
Hazardous conditions: In particularly hazardous conditions including offshore activities, lifting of a person, and lifting of potentially dangerous loads such as molten metals, corrosive materials or fissile materials, the degree of hazard should be assessed by a competent person and the working load limit adjusted accordingly.

Use temperature range
-40 up to +100°C without reduction in WLL
+100 up to +200°C allowed with 15% reduction in WLL
+200 up to +250°C allowed with 20% reduction in WLL
+250 up to 350°C allowed with 35% reduction in WLL

Marking
Powertex LPW lifting points are generally marked with:
- Working Load Limit (WLL) e.g. WLL 1t
- Manufacturer's symbol e.g. POWERTEX or PX.
- Model name – Size e.g. LPW-1T
- Traceability code e.g. F2 (indicating a particular batch).
- Conformity marks CE + UKCA

Material and finish
Powertex LPW lifting points are forged from high strength alloy steel and parts are electro-static powder painted. Material of housing to be welded is Q355B. All load bearing parts are crack detection tested and samples proof load tested 2,5 x WLL.

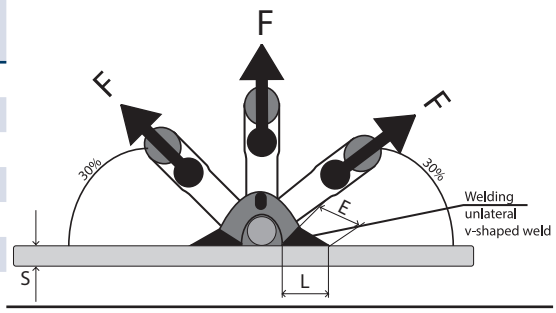
Selection
Select type of lifting point, size and working load limit suitable for the particular application. If extreme circumstances, vibrations or shock loading may occur, this must be well taken into account when selecting the correct lifting point.

Before first use
Ensure that the lifting points delivered corresponds to the order and that certificate and Declaration of Conformity is made available. Keep a register of all lifting equipment and make sure they are regularly checked to be fit for use.

Assembly and use
If any of these check points is not met the lifting point should not be used:
- Check that all markings are legible.
- Check there are no defects such as wear, deformation, cuts, nicks, gauges, cracks, corrosion or other visible defects that could affect the safety.

Ensure that the WLL of the lifting point is sufficient for the load to be lifted, see WLL chart. Ensure that the material is suitable for welding by checking with the designer (carbon content max 0,42%) and that the structure is dimensioned to support the load. Ensure that the placement of the lifting point is suitable so that the loading will be in the allowed load plane only. Side loading is not allowed. The welding surfaces needs to be flat and cleaned from paint, oxide, lubricants etc. that may affect weld quality. Avoid as much as possible to heat the D-ring. The welding should be carried out by a qualified welder acc to EN ISO 9606-1. Recommended electrodes and weld data below:
Minimum thickness of the support wall and size of the weld bead

Code No.	(S) Min. thickness of baseplate	(E) welding bead width	L (Min)
1t	6	12	10
2t	8	15	12
3t	10	15	12
5t	12	22	18
8t	14	24	20
10t	16	26	22
15t	18	28	25

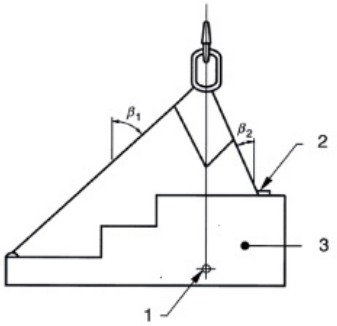


Recommended electrodes:
- E515B110 26 H (ISO 2560).
- E5153B10 (DIN 1913).

Make at least two superimposed beads of welding to guarantee correct penetration. Check that the thickness of the welding bead is adequate for the load to be applied. The welding bead must at least fill the space that is formed between the support wall and the bevelling at 45° of the plane to be welded. Avoid forced cooling of the weld. Clean the weld and examine the integrity of the welding using weld check spray if necessary. Paint the parts to prevent corrosion. Ensure after mounting that the lifting point can rotate and pivot freely without any obstructions in the intended angles of use. The contact surface needs to be plane and dimensioned to accommodate the lifting point.
When mounted position the link so it can be connected directly to the lifting machine or to intermediate lifting equipment to perform the lifting operation.

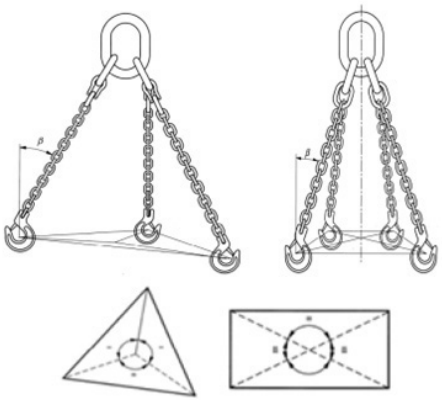
Safety when lifting
Working load limit of the lifting equipment must never be exceeded. Hands and other parts of the body should be kept away to prevent injury as the slack is taken up. The load should be raised slightly without shock and a check made that it is secure and assumes the position intended. Lifting personnel must be aware of the risks of swinging and tilting loads. Never allow persons or body parts under hanging load. Do not allow persons to ride on the load while the load is being lifted. The landing site should be well prepared. It should be ensured that the ground or floor is of adequate strength to take the load. It should also be ensured that there is adequate access to the landing site and that it is clear of any unnecessary obstacles and people. The load should be landed carefully ensuring that body parts are kept clear. Ensure the stability of the load when landed before removing the lifting equipment.

Center of gravity
To avoid swinging or rotation of the load it is important to position the lifting points symmetrically above the center of gravity of the load:
- For a 1-point lift the attachment point should be arranged vertically above the center of gravity.
- For a 2-points lift the attachment points should be arranged on each side of and above the center of gravity.
- For a 3- and 4-points lift the attachment points should be arranged symmetrically in a plane around and above the center of gravity. It is preferable that the distribution should be equal and that the attachment points are above the center of gravity.



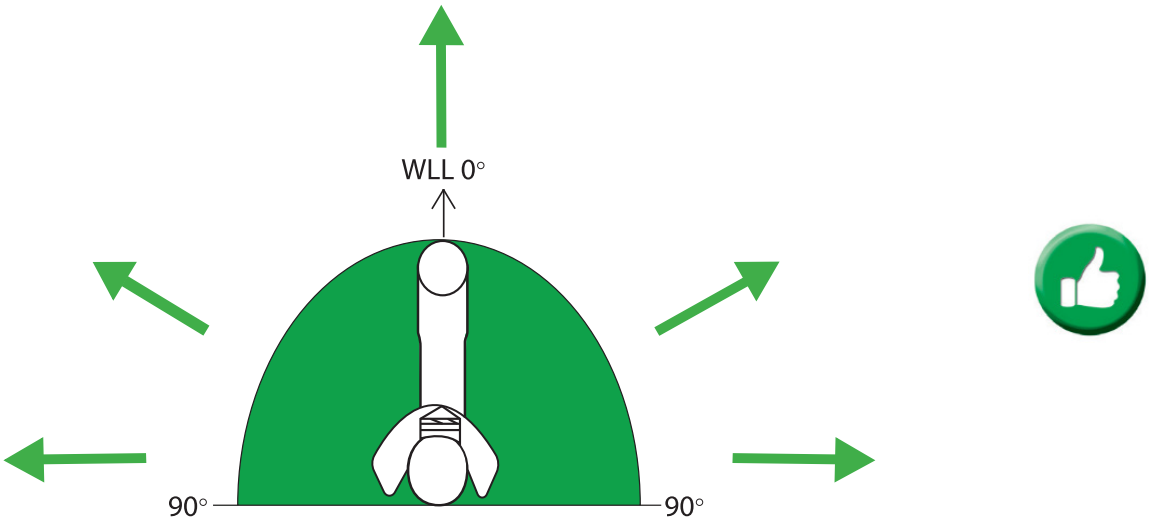
1. Centre of gravity
2. High tension in this leg
3. Load P

Load symmetry
Working load limits (WLL) for the different configurations have been determined on the basis that the loading is symmetrical. This means that when the load is lifted the lifting points are symmetrically disposed in a plane and subtend the same angles to the vertical.
In the case of 2-, 3- and 4- leg chain slings, if the legs subtend different angles to the vertical the greatest tension will be in the leg with the smallest angle to the vertical. In the extreme case, if one leg is vertical, it will carry the entire load.
When a sling is not symmetrically loaded each leg and lifting point shall be rated to the full load which is to be lifted, or it is considered as an engineered lift and a specialist to assess the lifting arrangement. Acc to AS3775 multileg slings shall be rated as two legs support the load and the other legs help to balance.

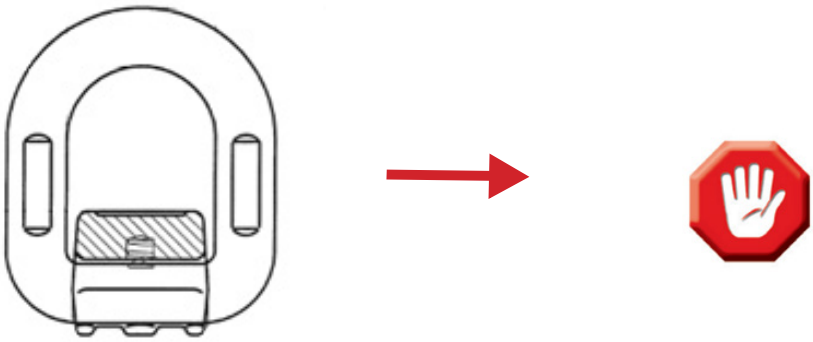


Symmetry of loading

Allowed use / Forbidden use



Picture showing allowed load directions



Inspection and maintenance

Daily inspection
During service the lifting points are subjected to conditions that may affect their safety. It is therefore necessary to daily check and ensure that the lifting points are safe for continued use. The lifting point should be withdrawn from service and referred to a competent person for thorough examination if any of the following is observed before each use:
- Check that all markings are legible.
- Check there are no defects such as wear, deformation, cuts, nicks, gauges, cracks, corrosion or other visible defects that could affect the safety.
- Check the integrity of the welding
- Check that the lifting point can pivot freely without any obstructions in the angles of use.
- Ensure that the WLL of the lifting point is sufficient for the load to be lifted.

Thorough examination
A thorough examination should be carried out of a competent person at intervals not exceeding twelve months. This interval should be less were deemed necessary in the light of service conditions. Records of such examinations should be maintained.
The products should be thoroughly cleaned to be free from oil, dirt and rust prior to examination. Any cleaning method which does not damage the parent metal is acceptable. Methods to avoid are those using acids, overheating, removal of metal or movement of metal which may cover cracks or surface defects.
Adequate lighting should be provided to detect any signs of wear, distortion or external damage.
Components that are worn, deformed, cracked, visibly distorted, severely corroded or have deposits which cannot be removed should be discarded and replaced. Minor damage such as nicks and gouges may be removed by careful grinding or filing. The surface should blend smoothly into the adjacent material without abrupt change of section. The complete removal of the damage should not reduce the thickness of the section at that point to less than the manufacturer's specified minimum dimensions or by more than 10% of nominal thickness of the section.
Examine the integrity of the welding.
Repair: Use only original spare parts.

End of use / Disposal
The lifting points shall be sorted / scrapped as general steel scrap.

Disclaimer
We reserve the right to modify product design, materials, specifications or instructions without prior notice and without obligation to others.
If the product is modified in any way, or if it is combined with a non-compatible product/component, we take no responsibility for the consequences regarding the safety of the product.

EC Declaration of conformity
SCM Citra OY
Asessorinkatu 3-7
20780 Kaarina, Finland
www.powertex-products.com
hereby declares that POWERTEX product as described above is in compliance with EC Machinery Directive 2006/42/EC.

UK Declaration of conformity
SCM Citra OY
Asessorinkatu 3-7
20780 Kaarina, Finland
www.powertex-products.com
hereby declares that the POWERTEX product as described above is in compliance with the Supply of Machinery (Safety) Regulations 2008.

Marking

The POWERTEX lifting points LPW are **CE** and **UKCA** marked.

User Manuals

You can always find the valid and updated User Manuals on the web.
The manual is updated continuously and valid only in the latest version.

NB! The English version is the Original instruction.

The manual is available as a download under the following link:
www.powertex-products.com/manuals

Product compliance and conformity

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POWERTEX

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