# User Instructions & Safety Manual

COBRA GRADE 80


# Weld on D-Ring

## Capacities from 1.12 through to 20 tonne

**Note: Operator must read and fully understand the operating instructions before using this product.**

Products supplied comply with the essential health & safety requirements of the Machinery Directive 2006/42/EC, the Supply of Machinery (Safety) Regulations 2008 and the Health & Safety at Work etc Act 1974 section 6.

George Taylor & Company maintain a policy of progressive development of products and reserve the right to alter, without notice, the specifications shown within this manual.

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# Safety Information

## DESCRIPTION

The weld-on D-ring is a lifting point designed for fixed attachment to a suitable support surface by welding. It is available in various load capacities ranging from 1 tonne to 15 tonnes. Proper installation and use are essential to ensure safety and performance. The permissible working load limits (WLL) depend on the lifting configuration and the angle of force applied.

Always refer to the Working Load Limit chart to determine the maximum allowable load for the intended lifting arrangement.

## INSPECTION CRITERIA

Before each use and at regular intervals, the welded D-ring must be visually inspected to ensure it is in safe working condition and functions correctly. While it may not always be possible to inspect the device in a controlled environment, inspections should be carried out under the best lighting and visibility conditions available at the worksite.

Operators must examine all visible parts of the D-ring and weld area, checking for:

- Cracks, deformation, or distortion.
- Excessive wear (more than 5% of original material thickness).
- Signs of corrosion, abrasion, or cutting.
- Malfunction or irregularities in the ring's movement.
- Legibility of markings and identification.

If any of the above defects are found, the D-ring must not be used. If wear exceeds 5% of the original dimensions, the product must be taken out of service immediately. Under no circumstances should deformed or damaged components be repaired or reshaped.

**⚠ WARNING**

**Note:** Damage, distortion, cracks, or advanced corrosion can significantly reduce the load-carrying capacity and may result in failure during lifting, posing a serious risk of injury or death. All affected parts must be removed from service without delay.

In case of any doubts as to the condition and usage of this device. Do not put into service and consult GT.

## SAFETY STANDARD

**⚠ WARNING**

These warnings highlight potential hazards. Failure to follow safety guidelines may result in serious injury or death.

## GENERAL SAFETY

- Only trained and competent personnel should operate lifting systems using this device. Improper use may result in load failure or accidents
- This device is intended exclusively for lifting applications. Do not use it for towing, pulling, or any application it is not specifically designed for.
- Never use this device to lift or lower personnel.
- Do not lift or lower loads over areas where people are present.
- Always check that the load is stable and secure before lifting. All lifting points must be engaged individually — never force or pry the ring into place.
- Do not use hammers or tools to adjust or reposition the ring.
- Ensure the working load limit (WLL) appropriate to the configuration and angle of lift is never exceeded.
- If the D-ring shows signs of damage, wear, deformation, or if the markings are unreadable, remove it from service immediately.
- Modifying, welding on, or replacing parts of the D-ring is not permitted. Unauthorised repair or modification voids all warranty and safety certification.

Operator should be a competent person.
**DO NOT ALLOW PERSONS TO OPERATE OR ASSEMBLE THIS UNIT UNTIL THEY HAVE DEVELOPED A THOROUGH UNDERSTANDING OF SAFETY PRECAUTIONS AND HOW IT WORKS.**

**DO NOT CHANGE, REPAIR OR REPLACE ANY ELEMENTS OF THIS DEVICE.**
GT holds no responsibility for the change of mechanical properties which are caused directly or indirectly from maintenance by a third party, without written permission from GT.

## MAINTENANCE AND STORAGE

While in service, care must be taken to avoid mechanical, chemical, or thermal damage to the weld-on D-ring. Operators should:

- Never use a damaged, worn, or malfunctioning D-ring.
- Clean dirty D-rings with a damp cloth. Do not use chemical cleaning agents, as these may cause mechanical or material degradation.
- If the D-ring is exposed to corrosive environments or becomes contaminated with hazardous materials, it must be washed with clean water, dried thoroughly, and inspected by a competent person before reuse.
- If a D-ring shows signs of cracks, breaks, serious corrosion, deformation, or wear exceeding the permissible limit, it must be immediately removed from service and not reused.
- Even though the D-ring is welded in place, any unused units or spares must be stored indoors, in a dry area, away from direct contact with water or moisture, and protected from dirt and impact damage.

## ENVIRONMENTAL FACTORS

Weld-on D-rings must not be used in environments containing acidic or caustic substances, or exposed to vapours or immersion in such chemicals. They are also not suitable for:

- Pickling or hot-dip galvanising processes.
- Electroplating or any galvanising treatments
- Use in strong oxidising atmospheres
- Offshore or marine environments.

The high-strength alloy steel used in D-rings is susceptible to hydrogen embrittlement when exposed to aggressive chemicals or vapours. In such environments, the material's mechanical integrity can be severely compromised, increasing the risk of failure.

If a D-ring becomes contaminated by chemicals, immediately remove it from service, clean it with water, dry thoroughly, and have it inspected by a qualified professional.

## TRANSPORT

D-rings awaiting installation or kept as stock must be transported in appropriate packaging to prevent:

Mechanical damage (e.g. bending, chipping, or impact)

Exposure to water, humidity, or corrosive substances

Store and transport the product in such a way that protects the contact surfaces and weld prep areas until welding is performed.

**⚠ WARNING**

## WELDING SAFETY

Make sure that the chosen fixing point is adequate for the load to be lifted.

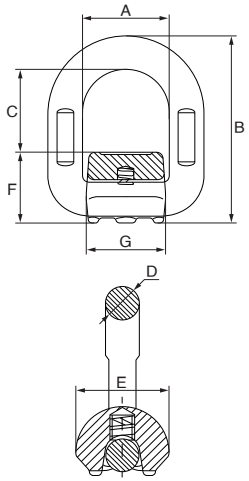
- Always check the integrity of the welding in the fixing point; in case of anomalies, replace and do not repair.
- Position the load so that it is always perpendicular to the main axis of the ring of the fixing point.
- The connection devices must be used at a temperature between -20°C and +200°C.

## NOT PERMITTED

- **DO NOT** use the fixing points in acidic environments or places with a high concentration of chemical substances.
- Pay close attention to reduction factor and **DO NOT** exceed the maximum temperature range above.
- During use, **DO NOT** stand in dangerous areas (dangerous areas are those exposed to or at risk of falling of the load being moved by the device).
- **DO NOT** exceed the capacities specified in the Working Load Limit chart.
- **DO NOT** stop with load suspended during use.

# Specifications

## DIMENSIONS

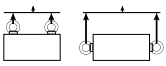
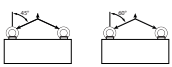
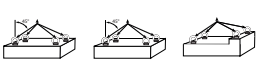



| Product Code | W.L.L t | A mm | B mm | C mm | D mm | E mm | F mm | G mm | Weight kgs |
|---|---|---|---|---|---|---|---|---|---|
| G80WDR1 | 1.12 | 41 | 80 | 35 | 13 | 38 | 33.5 | 37 | 0.47 |
| G80WDR2 | 2 | 42 | 90 | 41 | 14 | 40 | 36 | 38 | 0.51 |
| G80WDR3 | 3.15 | 46 | 96 | 42 | 17 | 43 | 37 | 44 | 0.69 |
| G80WDR5 | 5.3 | 55 | 121 | 48 | 22 | 61 | 50 | 50 | 1.46 |
| G80WDR8 | 8 | 70 | 144 | 62 | 26.5 | 70.5 | 54 | 66 | 2.52 |
| G80WDR10 | 10 | 85 | 168 | 78 | 28 | 76 | 62.5 | 78 | 3.59 |
| G80WDR15 | 15 | 97 | 187 | 86 | 34 | 90 | 72 | 90 | 5.79 |

## WORKING LOAD LIMITS (W.L.L.)

The Working Load Limit (WLL) is influenced by the direction and type of load applied. The values below apply to correctly welded and positioned D-rings under standard conditions. Ensure the lifting angle and number of legs used are in accordance with the chart. Improper angle or configuration may result in reduced load capacity and risk of failure.

## WORKING LOAD LIMIT CHART

| Safety factor | 1 Leg | | 2 Legs | | 2 Legs | | 3 or 4 Legs | | |
|---|---|---|---|---|---|---|---|---|---|
| 4 |  | |  | |  | |  | | |
| Working Angles | 0° | 90° | 0° | 90° | 0°<ß<45° | 45°<ß<60° | 0°<ß<45° | 45°<ß<60° | Asimm |
| **Product Code** | **Working Load Limit t** | | | | | | | | |
| G80WDR1 | 1.12 | 2.24 | 1.12 | 2.24 | 1.57 | 1.12 | 2.35 | 1.68 | 1.12 |
| G80WDR2 | 2.00 | 4.00 | 2.00 | 4.00 | 2.80 | 2.00 | 4.20 | 3.00 | 2.00 |
| G80WDR3 | 3.15 | 6.30 | 3.15 | 6.30 | 4.41 | 3.15 | 6.62 | 4.73 | 3.15 |
| G80WDR5 | 5.30 | 10.60 | 5.30 | 10.60 | 7.42 | 5.30 | 11.13 | 7.95 | 5.30 |
| G80WDR8 | 8.00 | 16.00 | 8.00 | 16.00 | 11.20 | 8.00 | 16.80 | 12.00 | 8.00 |
| G80WDR10 | 10.00 | 20.00 | 10.00 | 20.00 | 14.00 | 10.00 | 21.00 | 15.00 | 10.00 |
| G80WDR15 | 15.00 | 30.00 | 15.00 | 30.00 | 21.00 | 15.00 | 31.50 | 22.50 | 15.00 |

## BASEPLATE REQUIREMENTS

Before installation, verify that the support wall (baseplate or structure) meets the following criteria:

- **Material suitability:** Use common structural steel such as St 52-3 (1.0570), with a maximum carbon content of 0.42%. Confirm the suitability with the constructor if needed.
- **Clean surface:** The support wall must be free from oil, dirt, paint, and surface defects such as cracks or rust.
- **Flatness:** The welding surface must be flat to ensure proper seating of the D-ring.
- **Wall thickness:** The support wall must meet the minimum thickness requirements based on the D-ring capacity.

## WELDING INSTRUCTIONS

**⚠ WARNING**

Welding must be carried out in strict compliance with the following guidelines:

**Qualified Welder Requirements**

Welding should be performed by a certified welder according to BS EN ISO 9606-1:2017 or equivalent standards such as DIN 1913.

Recommended electrodes:

- ISO 2560: E 515 B 110 26 H
- DIN 1913: E 51 53 B 10

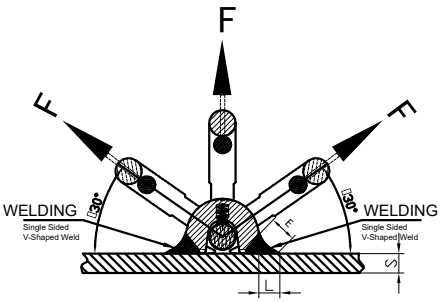
## WELDING PROCESS

- Apply two or more superimposed beads to ensure full penetration of the weld.
- Ensure the weld bead fills the entire space between the baseplate and the 45° bevelled edge of the ring mount.
- Do not weld on or near the painted or tempered lifting ring.
- Avoid continuous welding; allow controlled pauses to prevent excessive heat buildup.
- During welding, take care not to exceed 600°C locally at the fitting or 400°C overall on the D-ring.
- The weld location must ensure correct introduction of force—misalignment can cause improper load transfer.
- Welds should be continuous fillet welds, especially for outdoor or corrosive environments, in accordance with DIN 18800, which prescribes that for outdoor sites or areas with a special risk of corrosion, welds should be continuous fillet welds. The V-shaped weld at the D-ring guarantees a connection across the entire cross-section of the material, ensuring that no corrosion signs appear on the closed weld.
- Welds must create a fully enclosed joint to prevent water ingress and corrosion.

**Root Gap and Fitment**

A root gap of approximately 3 mm between the D-ring mounting base and the support plate is recommended.

Ensure that distance lugs on the D-ring are used to maintain the required root gap.




| W.L.L | S Min. Thickness of Baseplate | E Welding Bead Width | L (min) |
|---|---|---|---|
| t | mm | mm | mm |
| 1.12 | 6 | 12 | 10 |
| 2 | 8 | 15 | 12 |
| 3.15 | 10 | 15 | 12 |
| 5.3 | 12 | 22 | 18 |
| 8 | 14 | 24 | 20 |
| 10 | 16 | 26 | 23 |
| 15 | 18 | 28 | 25 |

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