Steelwork fixings – Girder clamps

Components of a girder clamp

1. **Standard grade 8 hexagon nut**

2. **Standard hardened washer**

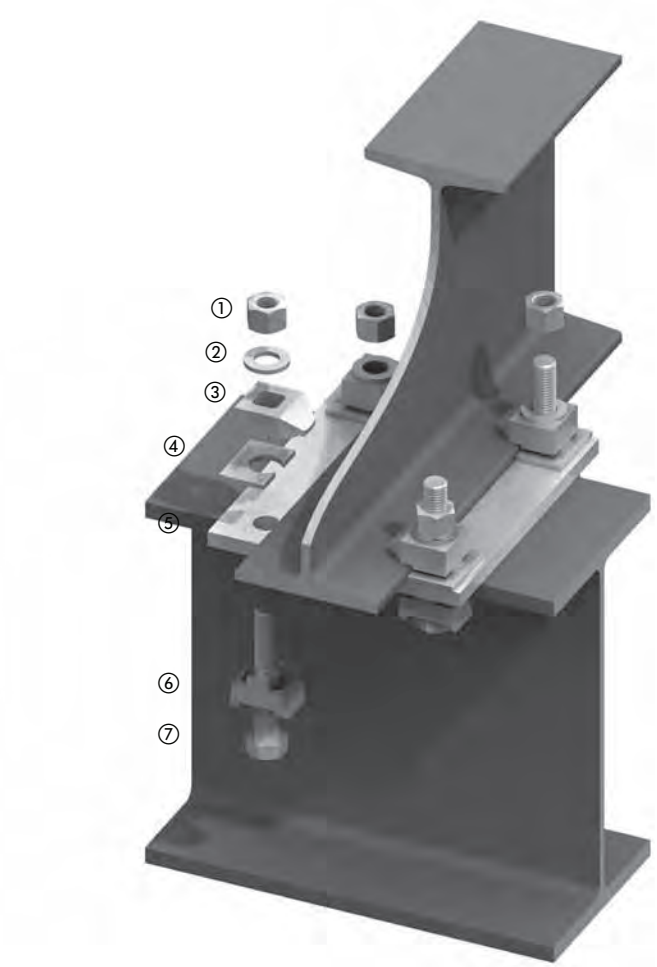
3. **Lindapter clamp**
   Dependent on the application different clamps could be used i.e. Types A, B, BR, AF, LR, LS, D2 or D3.

4. **Packing piece**
   In combination with the clamps mentioned above these parts increase the tail length to enable the product to sit correctly on the beam.

5. **Location plate (can be supplied if required)**
   This is an essential part of the girder clamp assembly that enables all the components to be located in the correct position. The hole centres and plate thickness are calculated to suit the individual application.

6. **Lindapter clamp**
   This can be of a similar type as 3 (above), although certain products are designed to specifically work together i.e. A + B.

7. **Standard grade 8.8 hexagon head bolt**



Loads

The table beneath shows tensile and frictional load capabilities for a standard four bolt girder clamp using 4 bolts and 8 clamps at a 90° crossover angle. Lindapter is only too pleased to carry out all design work for individual connections free of charge based on the following details:

- Load per connection
- Size and type of both beams
- Angle of crossover
- Distance between beams
- Inclination of beams

Clamps		Types A, B, LR				Type AF	
Screws Ø		M12	M16	M20	M24	M24	
Property class		8.8	8.8	8.8	8.8	8.8	10.9
Permitted pulling force for four screws	kN	18.2	33.9	52.9	76.2	160.0	250.0 [1]
Permitted shearing force for four screws	kN	1.8	3.4	5.3	7.6	60.0 [2]	70.0 [2]
Tightening torque	Nm	69	147	285	491	800	1000

1) factor of safety 3.2:1 /
2) factor of safety 2:1

Note:
All loads are based on actual test data having a factor of safety for friction against slip and for tensile against ultimate failure (typically 5:1). Use of lower safety factor is not recommended.

Approvals

All approvals apply to girder clamps using types A and B only, in sizes from M12 to M24, further information is available upon request.

You can find more detailed information in the Lindapter catalogue.
This can be requested directly from Maryland Metrics or downloaded from www.lindapter.de.