



Product information: Lifting eye bolts and lifting eye nuts

Taking into account a high safety factor in relation to the minimum breaking strength, the ring bolts according to DIN 580 and the ring nuts according to DIN 582 have the load-bearing capacities as indicated in table 1. The load-bearing values apply for steel C15 E and stainless steel A2/A4 without restriction in a temperature range of -20 °C to +200 °C.

Ring bolts and ring nuts are valid according to the 2006/42/EC Machinery Directive as load-carrying equipment and are subject to CE labelling. Furthermore, they must show a specification of the minimum carrying force (WLL) as well as the specification of the material if required for safe usage. The version of DIN 580-2010 and DIN 582-2010 not yet published at the time of printing of this catalogue also prescribes that a marking of an arrow be present in the direction of the axis (picture 1) so that the user can tell that the WLL specified on the product only applies in the direction of the axis. Subsequent colour-coded marking of ring bolts and nuts (especially in red) is to be avoided so that they do not get mistaken for high-strength suspension points.

Table 1

Thread (d1)		M 8	M 10	M 12	M 16	M 20	M 24	M 30	M 36	M 42	M 48	M 56	M 64	M 72x6	M 80x6	M 100x6
capacity axial (WLL) for each eye bolt/nut kg		140	230	340	700	1200	1800	3200	4600	6300	8600	11500	16000	20000	28000	40000
capacity up to max. 45° for each eye bolt/nut kg		100	170	240	500	860	1290	2300	3300	4500	6100	8200	11000	14000	20000	29000
capacity under max. 90° for each eye bolt/nut kg		70	115	170	350	600	900	1600	2300	3150	4300	5750	8000	10000	14000	20000

User information for lifting eye bolts DIN 580

Eye bolts conforming to this standard are primarily intended as permanent attachments on equipment such as motors, control cabinets, gear boxes, etc. When used as temporary attachments on larger objects such as large tools for transportation only, the next largest thread size should be used.

The safe working load values given in table 1 are based on the following assumptions:

- the eye bolt is firmly screwed down
- the collar sits evenly on the contact surface
- the material of the equipment is capable of accommodating the stresses induced without any deformation liable to impair safety
- tapped holes have a threaded length sufficient to ensure that the eye bolt shank is fully engaged and the collar fully seated

The capacity specified in the second line of table 1 applies up to an inclination angle of 45°. The capacity specified in the third line applies for laterally inserted eye bolts applies up to an inclination angle of 45° in all directions in regard to the ring level. Lateral pull should not be applied (see picture 2). Before being used, eye bolts should be checked for correct seating and apparent damage (e.g. corrosion, deformation). Deformed eye bolts should be discarded. In eye bolt assemblies with clearance hole, a washer and nut (not thin nut) should be used.

User information for lifting eye nuts DIN 582

Eye nuts conforming to this standard are primarily intended as permanent attachments on equipment such as motors, control cabinets, gear boxes, etc. When used as temporary attachments on larger objects such as large tools for transportation only, the next largest thread size should be used.

The safe working load values given in table 1 are based on the following assumptions:

- the eye nut is firmly screwed down and the collar sits evenly on the contact surface
- the length of the bolt thread is sufficient to ensure that the eye nut is fully engaged
- the material of the bolt on which the eye nut is to be screwed is of adequate strength

In eye nut assemblies with clearance hole, a washer should be used.

The capacity specified in the second line of table 1 applies up to an inclination angle of 45°. The capacity specified in the third line applies for laterally inserted eye nuts applies up to an inclination angle of 45° in all directions in regard to the ring level. Lateral pull should not be applied (see picture 3). Before being used, eye nuts should be checked for correct seating and apparent damage (e.g. corrosion, deformation). Deformed eye nuts should be discarded.

