Grade 8 Chain Slings for General Lifting Purposes to BS EN 818-4: 1997
Guidance for the Purchaser and User of Mechanically Assembled Slings

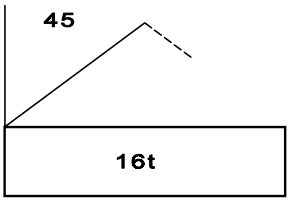
BS EN 818-4 is a harmonised European safety standard for grade 8 chain slings of both mechanically assembled and welded construction. Slings for general lifting service made to this standard meet the essential health and safety requirements of the European Machinery Directive. For slings assembled by mechanical joining devices, it makes some important changes that will affect the purchaser and user. This guidance has been prepared by the LEEA, in collaboration with leading manufacturers and suppliers of grade 8 chain sling systems, in order to explain those changes.

Rating and Marking

Size for size there are small changes to the working load limit (WLL) of some slings because of the way the calculated values are rounded. The main change the user will see is to the method of rating and marking multileg slings. In recent years, the normal method of rating has been the uniform load method by which the sling is given a WLL for a range of included angles between opposite legs. This is the only method permitted by BS EN 818-4 for general purpose chain slings but the range of angles is measured between the leg and the vertical instead of between opposite legs. Thus the typical marking for a two leg sling of say 16t WLL to BS EN 818-4 will be:

WLL 16t 0° - 45° instead of: WLL 16t 0° - 90°

Additionally or as an alternative, the range of angles and WLL may be shown by a pictograph on the identification tag, similar to that shown below:



There are good reasons for this change. The main ones are:

(1) To emphasise that the angle of each leg affects the share of the load it will carry.

(2) Three leg slings were an anomaly because they do not have an 'opposite' leg. Thus the 'included angle' was calculated as twice the angle to the vertical.

This may cause some confusion unless the slinger is made aware of the change. In the case of uniform load rated slings, this change does not affect the WLL of the sling, it just expresses it in a different way. The angle of the leg to the vertical, is half the previously used included angle.

Note: Although the uniform load method was introduced several years ago, some manufacturers continued to rate and mark multi-leg general purpose slings by the trigonometric method. Slings intended for general lifting service and marked this way will not comply with BS EN 818-4.

Existing Slings

This also raises the question of how a user, with existing slings rated by the uniform load method but marked with the 'included angle', will avoid confusion when he introduces new slings marked at the 'angle of inclination'. We recommend that the user should consider whether a programme of re-marking is worthwhile, bearing in mind the expected life of the slings. Irrespective of whether existing slings are re-marked, there will inevitably be a period when both systems are in use. It should also be noted that as Harmonised European Standards are introduced for slings made of other materials, eg wire rope and webbing, they will also adopt this method of rating and marking. We therefore further recommend that all slingers are made aware and trained to recognise the differences.

Documentation

Another noticeable change is to the documentation. In the past, legislation placed a duty on the user to obtain a test certificate before taking an item of lifting equipment into service. Although it was the user's responsibility to obtain this, it was the accepted practice for the manufacturer/supplier to issue a test certificate as a part of his service to the customer.

New legislation alters this requirement. The Supply of Machinery (Safety) Regulations 1992 require the manufacturer, or other responsible person, to issue an EC Declaration of Conformity and affix the CE mark to the item. In effect this is a statement by the manufacturer that he has taken all of the steps necessary and that the item complies fully with the requirements of the European Machinery Directive.

Mechanically assembled grade 8 chain slings, made in accordance with BS EN 818-4 do not have to be proof tested after assembly as all the components are verified to their respective standards. However the standard calls for the manufacturer to issue a 'Manufacturer's Certificate'. This has many similarities to the traditional test certificate, but does not contain details of any proof forces applied unless the complete sling is tested after assembly.

When the Supply of Machinery (Safety) Regulations were first introduced, most manufacturers adopted the practice of issuing the EC Declaration of Conformity and the Record of Test as a combined document. It is expected that manufacturers will now adopt the practice of issuing the Manufacturer's Certificate as a combined document with the EC Declaration of Conformity.

Obligations of Persons Purchasing Equipment for Others to Use at Work

The Provision and Use of Work equipment Regulations require that, when providing equipment for use at work, the purchaser obtains equipment complying with the relevant European Directives. In the case of grade 8 mechanically assembled chain slings, specifying BS EN 818-4 and requesting the EC Declaration of Conformity will ensure that the slings meet this requirement.

On receipt of the slings, check to ensure that the CE marking has been affixed by the manufacturer. If the CE marking has not been affixed, do not accept delivery of the sling. The EC Declaration of Conformity and the Manufacturer's Certificate, usually a combined single document, should be retained and treated in the same way that test certificates have been to date.

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