

SPECIFICATION S016 - Supplemental			1 and 2 Tonne Cast Iron Buoy Mooring Sinkers	
2	March 2010	Roger Lewis	M.Yaxley	P. Dobson
1	7 Jan 2005	M. Yaxley	C. Martell	C. Martell
Issue	Date	Written by	Checked by	Approved by

1 Scope

Specifies the requirements for the manufacture and testing of cast iron buoy mooring sinkers.

2 Reference Drawings and Standards

The sinker shall be manufactured in accordance with THLS Drg. No. YBD/4.

Where called for, sinkers shall conform to the following International, European and British Standards:

BS EN 1561: Founding – Grey Cast Irons

BS EN ISO 6892: Metallic materials. Tensile testing. Method of test at ambient temperature.

BS EN 10083-1: Steels for quenching and tempering.

BS EN ISO 6506-1: Metallic materials. Brinell hardness test. Test method.

PD 970: Wrought steels for mechanical and allied engineering purposes.

Normative reference: EPA 1990 PG6/23(04)

BS 3416: Bitumen-based coatings for cold application.

3 Material Specification

The main sinker block is to be Grey Cast Iron GJL-150 to BS EN 1561: (also identified as EN-JL1020)

The sinker bows are to be supplied in a quenched and tempered condition formed from solid steel bar, grade 28Mn6 +QT, complying with BS EN 10083-1:1991. A3 to Lloyds Rules.

Chemical and mechanical properties must comply with the standards in finished condition.

4 Heat Treatment

To be in accordance with, and meet the requirements of BS EN 10083-1 or PD 970 as applicable, for quench and tempered condition.

A Thermal history report shall be produced for the batch.

5 Manufacture and Finish

All dimensions shall conform to Drg. No. YBD/4.

The sinker loop is to be heated to 200°C prior to casting integrally with the sinker block pour.

The sinker block shall be free from defects, and to the form of the drawing.

6 Testing – Cast Block and Loop

Test pieces for the sinker block and loop shall be tested by an independent approved test house.

A minimum of one test piece per batch relating to a Certificate of Conformity shall be tested.

Tensile tests shall comply with BS EN ISO 6892, and a Test Report being produced in accordance with section 17.

Brinell hardness tests shall comply with BS EN ISO 6506-1, and a Test Report being produced in accordance with section 9.

Finished items are to have a Brinell hardness number in the range 179 – 255.

Chemical and Mechanical properties must be reflected in the reports as applicable.

The weight of the sinker shall be established by the use of calibrated equipment.

Trinity House reserves the right to undertake a factory inspection of the sinkers upon completion of manufacture. The Inspector is to be given, where possible, two weeks notice prior to the commencement of any testing.

7 Marking

The nominal weight is to be cast in accordance with Drg. No. YBD/4, sheet 1.

The sinker loop shall be legibly stamped with 5mm lettering indicating the following:

Manufacturer's identification mark or symbol
Manufacturer's conformity certificate number
Date of conformity inspection
True Weight Kg

8 Finished Treatment

Each sinker shall be blast cleaned and coated with a pitch free underwater coating for steel (black) compliant with BS 3416.

9 Certificate of Conformity

The manufacturer is to confirm, by issue of a Certificate of Conformity, that all sinkers conform to this specification, drawings and standards.

The certificate shall also include the following original information:

Mill Certificate, for stock steel used (sinker loop only)
Heat Treatment Thermal History Report (sinker loop only)

Tensile Test Report / Certificate (sinker loop and casting)

Brinell Hardness Test Report / Certificate (sinker loop and casting)

Separate reports / certificates supplied must be traceable to the Certificate of Conformity.

A maximum of 25 sinkers of the same size, type and material may be covered by one certificate.

Upon delivery, a Trinity House Inspector shall inspect the sinkers; any sinker found not complying with the requirements of this specification may be subject to rejection.

10 Wood Patterns

Trinity House will supply the wooden patterns for the sinker blocks.

Arrangements for delivery and return will be by agreement, at the time of order.

The manufacturer is responsible for repairing any damage to the pattern whilst in their possession.