

**INVITATION OF BIDS FOR SUPPLY OF CAST IRON RAILWAY SHOULDERS FOR SLEEPERS
YARD –DEMATGODA,SRI LANKA**

TENDER NO : SDSQ /2019/S-2/01

Product Specifications – Cast Iron Shoulders

01. Scope

This specification covers the minimum manufacturing and testing requirements of cast shoulders manufactured in spheroidal graphite cast iron. The shoulder provides a rail bearing face to maintain track gauge and a housing for the installation of the Rail Fastening Clips.

02. Material Specification

National Standards

EN 1563	grade EN-GJS-500-7
ASTM A536	grade 80/55/06
AS 1831	grade 500/7

03. Quality Assurance Testing

Based on the shoulder manufacturer demonstrating that the production process and associated tests are so controlled that conformity to visual and dimensional requirements are assured.

03.01. Visual (Surface Irregularities)

Only minor surface irregularities, protrusions or cavities are permitted on the complete shoulders.

Note : Surface oxidation of cast shoulders is a normal condition of supply. Surface oxidation is not detrimental to the performance of the shoulder or the Rail Fastening assembly.

03.02. Dimensional Accuracy

All dimensions of ‘as made shoulders’ (before the addition of any coating) must be in accordance with the appropriate drawing (Annexure I).

03.03. Hardness

Cast shoulder hardness shall be 170 to 240 Brinell.

The method of hardness testing shall be in accordance with BS EN ISO 6506-1, ASTM E 10 or AS 1816.1.

03.04. Micro Structure

Following parameters should be within the given limit.

Nodularity	: 90% to 95%
Pearlite	: 35% to 45%
Form	: V&VI
Ferrite	: 40% to 45%
Cementite	: Nil

04. Coating

Where specified, shoulders shall be coated with an approved zinc based corrosion preventive coating.

05. Mass

Estimated mass of one shoulder is not less than 1.0 kg.

06. Responsibility for Tests

All tests detailed in paragraph 3 are the responsibility of the manufacturer and shall be carried out by the manufacturer or a mutually acceptable independent testing authority.

07. Certification

The manufacturer will submit with each batch of shoulders (or order if agreed) a certificate of conformity and associated test results confirming that the shoulders supplied have met the requirements of this specification and conform to the appropriate drawing.