

ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

STEEL, SUSPENSION STABILIZER BAR

WSS-M1A272-B

1. SCOPE

The materials described by this specification are plain carbon and low alloy steels for section sizes up to 65 mm diameter.

2. APPLICATION

These materials were released originally for use in the manufacture of front and rear suspension stabilizer bars.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 SYSTEMS APPROVAL

The materials described by this specification shall be subject to a source "Systems Approval" i.e. both the component supplier and steel supplier shall be approved in tandem.

3.3 GENERAL REQUIREMENTS

The bar or rod shall be rolled from billet feedstock which has been surface cleaned by a suitable method such as pickling and chipping, machining or shot blasting. The rolled bar or rod shall be turned and burnished, ground or drawn to the following surface finish requirements. Machined bar shall have a maximum CLA (center line average) of 0.8 micrometers and ground bar shall have a maximum CLA of 3.2 micrometers and drawn bar shall have a maximum CLA of 2.0 micrometers.

Date	Action	Revisions
2002 07 24	Revised	Updated and renumbered
1998 09 23	Activated	K.J. Thurgood (FAO)

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3.4 REQUIREMENTS FOR FINISHED STABILIZER BARS

3.4.1 General Restrictions

3.4.1.1 The component drawing may specify a restricted list of steel types together with other requirements such as hardness, surface condition, peening control, etc., which have been applied to stabilizer bars that have successfully met the rig and durability requirements.

3.4.1.2 No steel other than those proved to be acceptable by prototype testing may be used in production unless prior approval from Ford Product Development is obtained.

3.4.1.3 The component engineer must be supplied with the composition and properties of each batch of prototype stabilizer bars.

3.4.2 Chemical Composition

This shall form part of the Control Plan. General information is shown in para 4.2.

3.4.3 Grain Size

The steel shall have an austenitic grain size of 4 or finer.

3.4.4 Hardenability

The steel used shall be controlled to have adequate hardenability for the section size of the component. Its hardenability shall be ensured by progressing a pilot sample of the stock through the production heat treatment for individual component processing to conform to para 3.4.4.1.

Steels heat treated prior to stabilizer bar forming shall be controlled primarily by Jominy end quench tests or simulations. All treatments shall comply with paras. 3.4.4.2 and 3.4.5.

3.4.4.1 Hardness "As Quenched"

After removing any decarburized layer, the surface hardness must be:

HRC	56 minimum or
HB 2/120 or 5/750*	555 minimum or
HV/30	610 minimum

*Using Tungsten Carbide Ball or Cemented Alloy Carbide Ball. The surface must be free from cracks when examined immediately after quenching.