Ford Motor Company

ENGINEERING MATERIAL SPECIFICATION

Material Name | Specification Number

STEEL, MEDIUM CARBON | **ESE-M1A280-A1**
ESE-M1A280-A2
ESE-M1A280-A3

1. SCOPE

The material defined by this specification is a carbon steel for machines structural components.

2. APPLICATION

This specification was released originally for a material used for an assembled camshaft front end piece and rear end piece (A1) and journal piece (A2/A3).

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 CHEMICAL COMPOSITION
(ASTM A 751)

	A1	A2	A3
Carbon	0.42 - 0.48	0.45 - 0.51	0.40 - 0.60
Manganese	0.60 - 0.90	0.60 - 0.90	1.35 - 1.65
Phosphorus	0.03 max	0.03 max	0.03 max
Sulfur	0.035 max	0.035 max	0.03 max
Silicon	0.15 - 0.35	0.15 - 0.35	0.15 - 0.35
Iron	Remainder	Remainder	Remainder

3.3 HARDNESS
(ASTM E 18)

Hardness after Sinter-bonding Process — See Engineering drawing

Date	Action	Revisions	
2002 07 29	Revised	Updated and Renumbered	
1991 01 29	NE01E10000474089	3.1 Added, Renumbered	J. Webster
1985 04 02	CE3PRD863100E149	Released	J. Webster

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3.4 MICROSTRUCTURE
(ASTM E 3)

After the sinter-bonding process, the microstructure shall consist of ferrite and pearlite.

4. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification.

4.1 TENSILE STRENGTH, min
(ASTM E 8)

After Sinter-bonding Process	560 N/mm^2

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