



ENGINEERING MATERIAL SPECIFICATION

GASOLINE, UNLEADED, REGULAR GRADE, GENERAL PURPOSE

ESE-M4C90-A

**GASOLINE, UNLEADED, REGULAR GRADE, DYNAMOMETER AND
ENGINE PLANT HOT TESTING**

ESE-M4C91-A

1. SCOPE

The materials defined by these specifications are well-refined unleaded gasolines blended to conform to industry, state and Federal requirements.

2. APPLICATION

ESE-M4C90-A: This specification was released originally for gasoline used as a general purpose fuel where unleaded regular grade fuel is required.

ESE-M4C91-A: This specification was released originally for gasoline used for engine dynamometer testing and engine plant hot test year around where unleaded regular grade fuel is required.

3. REQUIREMENTS

These materials must meet the requirements of ASTM D 4814 Standard Specification for Automotive Spark-Ignition Engine Fuel, plus the following:

3.0 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 ANTIKNOCK INDEX, (RON + MON)/2, min 87
(ASTM D 2699, ASTM D 2700)

3.6 SULPHUR CONTENT, max 80 ppm
(ASTM D 3120)

3.7 CORROSION

3.7.1 Copper Strip Corrosion, max 1b (dark orange)
(ASTM D 130)

3.7.2 Silver Strip Corrosion, max 1
(ASTM D 4814 Annex A1)

Date	Action	Revisions
2008 12 03	Revised	Revised 1, 3.2, 3.6, 3.7, 3.9.1, 3.14, 3.14, 5.2 & chart on page 4; Inserted 3.7.1 & 3.7.2; Deleted 3.3, 3.4, 3.5, 3.9.2, 3.9.3 & 3.11 C E Richardson
2004 06 21	Revised	Para 3.0 inserted; para 3.1, 3.16 & 4 deleted
1973 07 15	Released	E30556686



**3.8 OXIDATION STABILITY, min**
(ASTM D 525)ESE-M4C90-A
ESE-M4C91-A240 minutes
600 minutes**3.9 FUEL VOLATILITY****3.9.1 Seasonal Geographical Volatility**

Fuel shall meet the requirements of the latest ASTM D 4814 Standard Specification for Spark Ignition Engine Fuel plus the requirements of any Federal, state, or local regulations.

3.10 OXYGENATES

Gasolines containing oxygenated compounds may be used at those Ford facilities located in carbon monoxide or ozone non-attainment areas required by the Clean Air Act Amendments to meet ambient air quality standards.

3.12 WATER AND SEDIMENT, max
(ASTM D 2709)

0.01%

3.13 COLOR

May include a dye in accordance with standard practice for purpose of vendor and user identification.

3.14 ADDITIVES

Shall contain normal commercial additives, e.g., detergents, at concentrations representative of good commercial practice in the receiving locale (unless otherwise specified). Additive compounds, including lead, manganese and phosphorus are not allowed.

3.15 CERTIFICATION

Supplier shall certify that the gasoline is a formula that has been tested and meets Ford Motor Company requirements as stated in these specifications. Technical evidence of these data and manufacturing limits must be tabulated on the attached form. This certification shall be by the supplier's director of research or other authorized official and submitted to the responsible Ford purchasing activity. This information will then be forwarded to the Materials Activity of the Engine Product Engineering Office or to the product engineering office responsible for source approval.