



COMPRESSED NATURAL GAS (CNG), VENEZUELA FIRST FILL

WSS-M17B20-A

1. SCOPE

The material defined by this specification is a compressed natural gas representing Venezuela market quality.

2. APPLICATION

This specification was released originally as a recommendation for minimum fuel requirements for CNG vehicles. Sections titled QUALITY SYSTEM REQUIREMENTS, SUPPLIER'S RESPONSIBILITY, and APPROVAL OF MATERIALS in specification WSS-M99P1111-A (see para 3.1) apply only to engine oils supplied directly to Ford Motor Company and its affiliates.

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 PERFORMANCE

3.2.1 Wobbe Index, MJ/m³ 44.0 – 55.0
(ISO 6976)

3.3 PHYSICAL/CHEMICAL PROPERTIES

3.3.1 Sulfur (including odorant), ppm max 70
(ASTM D 6326-3)

3.3.2 Composition

3.3.2.1 Hydrocarbons, vol.%
(ASTM D 1945)

Methane, min	80.0
Ethane, max	12.0
Propane, max.	3.0
C4 and higher, max.	1.5
C6 and higher	0.2

3.3.2.2 Carbon Dioxide, % max 8.5

3.3.2.3 Nitrogen, % max 1.0

3.3.2.4 Hydrogen, % max 0.1

Date	Action	Revisions
2009 11 11	Activated	



3.3.2.5	Oxygen, % max	0.1
3.3.2.6	Carbon Monoxide, % max	0.1
3.3.2.7	Water, mg/m ³ max	112
3.3.3	Contaminants	
3.3.3.1	CNG fuel delivered to the vehicle can not have visible solid or liquid particulate matter.	
3.3.4	Natural Gas Odorant	
	Natural gas introduced into any CNG fueling station or vehicle shall have a distinctive odor potent enough for its presence to be detected down to a concentration in air of not over 1/5 of the lower limit of flammability. This is approximately 1.0% gas in air by volume.	

3.4 QUALIFICATION

It is the supplier's responsibility to have the technical evidence and documentation certifying that a given formulation (base oil/additive combination) meets all requirements described in this specification.

The affected Ford Fuels and Lubricants Engineering activity reserves the right to request certification documentation from any company claiming to meet this specification.