



ALUMINUM ALLOY - SHEET (AA 2008)

WSB-M2A150-A

1. SCOPE

The material defined by this specification is a stampable, heat treatable aluminum sheet alloy.

2. APPLICATION

This specification was released originally for material used for stamped body panels, particularly where formability is an important criteria.

Although the material defined by this specification will usually not conform to welding requirements in the "as received" condition, it can meet the requirements of FLTM BB 113-07 after removal of mill formed oxide by mechanical abrasion or chemical cleaning. See para 5 for additional information.

Caution: To attain the mechanical properties for which this material was developed, baking of parts at a temperature of 205 °C for 30 minutes must be strictly adhered to. Baking at lower temperatures will reduce finished part yield strength as shown in para 5.3.

3. REQUIREMENTS

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 CHEMICAL COMPOSITION

The determination of the chemical composition can be made in accordance with chemical (Method ASTM E 34), spectrochemical (Methods ASTM E 101, E 227, E 607, or E 1251) or x-ray fluorescence. In case of dispute, the umpire method shall be ASTM E 34.

Silicon	0.50 - 0.8
Iron	0.40 max
Copper	0.7 - 1.1
Manganese	0.30 max
Magnesium	0.25 - 0.50
Chromium	0.10 max
Zinc	0.25 max
Titanium	0.10 max
Vanadium	0.05 max
Others, each	0.05 max
Others, total	0.15 max
Aluminum	Remainder

Date	Action	Revisions
2003 09 18	Revised	Para 3.0 inserted; para 3.1, 3.7 and 4 deleted
1991 08 09	NB00I10043054111	Released J. Nelson MAAO, K. Thurgood, EAO



3.3 MECHANICAL PROPERTIES, T4 TEMPER

(ASTM B 557, gages .59 - 1.50 mm)

As Received:

Yield Strength, min (.2% offset)	105 MPa
Yield Strength, typical (.2% offset)	125 MPa
Tensile Strength, typical	250 MPa
Elongation, typical	28%

After 2% Strain & Bake at 205 °C for 30 min:

Yield Strength, min	170 MPa
Yield Strength, typical	245 MPa

3.4 PAINTABILITY

Material supplied to this specification must have prior approval for paintability by the responsible Materials Engineering activity. This approval shall be based on samples prepared to the local process and resistance requirements appropriate to the country of Ford vehicle manufacture, or to the relevant Engineering Performance Specification.

Material supplied to European Automotive Operations (EAO) shall meet the requirements of WSK-M2P136-A.

Material supplied to North American Automotive Operations (NAAO) shall meet the following requirements:

- Material intended for Class 1 surface applications shall meet the requirements of ESB-M2P130.
- Material intended for Class 2 and 3 surface applications shall meet the requirements of ESB-M2P129.

A Class 1 surface shall be specified for parts of the body or front end sheet metal that are exposed after paint or trim.

A Class 2 surface shall be specified for parts of the body not covered by trim materials but exposed to view when the car doors or enclosure lids are in an open position.

Class 3 metal surface specifications are parts that are wholly or partially concealed during normal use of the vehicle. Parts such as fender aprons, floor pans and unexposed underbody structural members, typifying parts that would be specified as Class 3.

3.5 WELDABILITY

The weldability shall meet the requirements of FLTM BB 113-07 after removal of mill formed oxide by mechanical abrasion or chemical cleaning.