

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)	NUMBER: MPAPS BT-27	
	Former Designation: CEMS BT-27	
TITLE: Ash Content Test	CURRENT REV No.: 1408	DATE: Aug 2014
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: CEMS BT-27 - August 2009
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<i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i>		
Change Notice: Updated to new MPAPS format; editorial changes.		

1.0 SCOPE

This method covers test procedures for determining the ash content and the ash content of the solid matter in engine cooling system stopleak compounds.

2.0 APPARATUS

- 2.1 Analytical balance capable of weighing 0.1 milligram
- 2.2 Mortar and pestle
- 2.3 Meker type burner or hot plate
- 2.4 Muffle furnace capable of maintaining 1500° F ± 15 (800° C ± 8).
- 2.5 Porcelain crucible

3.0 PROCEDURE FOR ASH OF COMPOUND, AS RECEIVED

- 3.1 Place approximately 10 grams of the well mixed combination liquid and solid compound or pellet previously crushed in a mortar and pestle and uniformly mixed, into a tared porcelain crucible and weigh crucible and contents to the nearest 0.1 gram.
- 3.2 Carefully heat the crucible and contents over the burner or on the hot plate until all fuming has ceased.
- 3.3 Place the crucible and contents into a muffle furnace maintained at 1500° F or 800° C until all carbonaceous matter has been removed (about one hour).
- 3.4 Cool to room temperature and weigh to the nearest 0.1 milligram.
- 3.5 Repeat heating to constant weight.

4.0 REPORT

Calculate the percent ash as follows:

$$\text{Percent ash} = 100 \frac{A-C}{S-C}$$

where

A = weight of the crucible and ash

S = weight of the crucible and sample

C = weight of the crucible

Report the ash content in percent.

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5.0 PROCEDURE FOR ASH OF SOLID MATTER

Repeat the procedure for ash of compound as received using 10 ± 0.1 grams of well mixed solid matter obtained from the test for solid matter, MPAPS Test Method BT-26.

6.0 REPORT

Calculate the percent ash of solid matter as follows:

$$\text{Percent ash} = 100 \frac{A-C}{M-C}$$

where

A = weight of the crucible and ash

M = weight of the crucible and solid matter

C = weight of the crucible

Report the ash content of solid matter in percent.

7.0 TECHNICAL INFORMATION

For further information related to the technical content of this specification, contact:	Suppliers may purchase controlled copies of this specification by contacting:
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