

KES

Standard Practice for Testing Engine Coolants in Vehicle Service

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1. Scope of application

This test shall evaluate gasoline and humus of the gasoline by real vehicle.

2. Outline of test

Install sample piece of standard metal humus to gasoline circulation of test vehicle. Test should be practiced till consistency of the gasoline reaches the highest and lowest. Each test needs 5 vehicle at least and the expected life span of the gasoline should be running distance or driving time as test period.

3. Definition of terms

3.1 Engine cooling water

Liquid, which has low temperature efficiency, can change heat, generated at engine block or extra parts by heat switcher. This includes standardized amount of water and restrainer for humus and bubble.

4. Test equipment

4.1 Testing vehicle.

Test vehicle is installed with mass-produced engine and radiator followed it. Vehicle should be new as possible as it can. be commercial vehicle, which has much driving distance at rapid time, is good for testing vehicle, however, non-commercial vehicle is not.

4.2 Standard, cleansing, measuring weight of specimens follows ASTM D 1384.(Reference figure 1). Each set of the specimens is to be equipped like figure 2 in fiber fortification phenol tube. Such test set and tube is equipped in cooler with being put in capsule. Two kinds of capsule is used- one is partial-flow capsule, which is equipped at the place where the gasoline circulation is not accomplished perfectly, and standard capsule.(Reference figure 3). Another is "full-Flow" type like figure 4 and selective. Partial-flow capsule is placed between pathway where heat is supplied and switched and consists of 2 or more specimen set. Full-flow capsule is installed at upper part of radiator and consists of 1 or more specimen set.

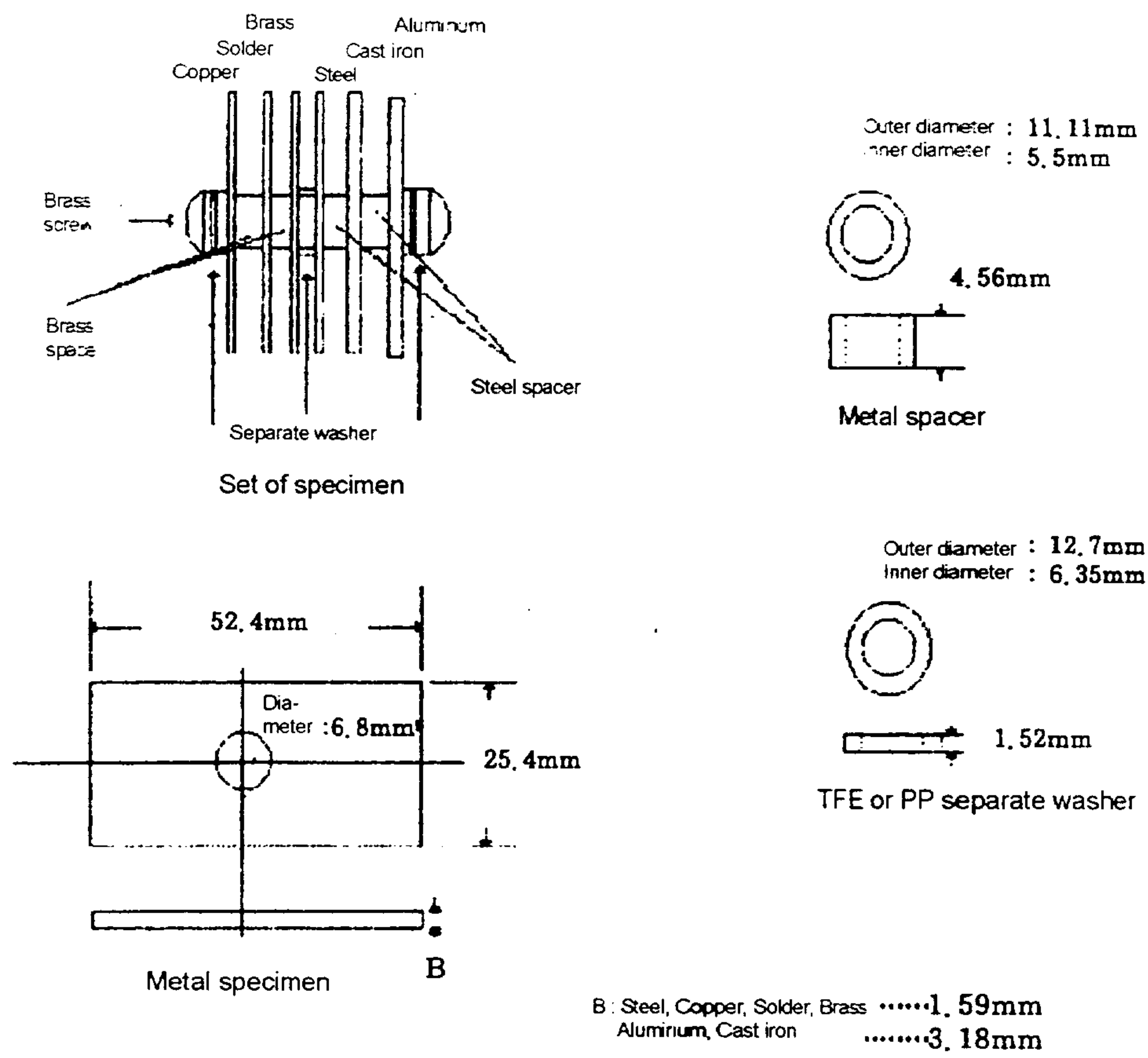


Figure 1 Humus specimen

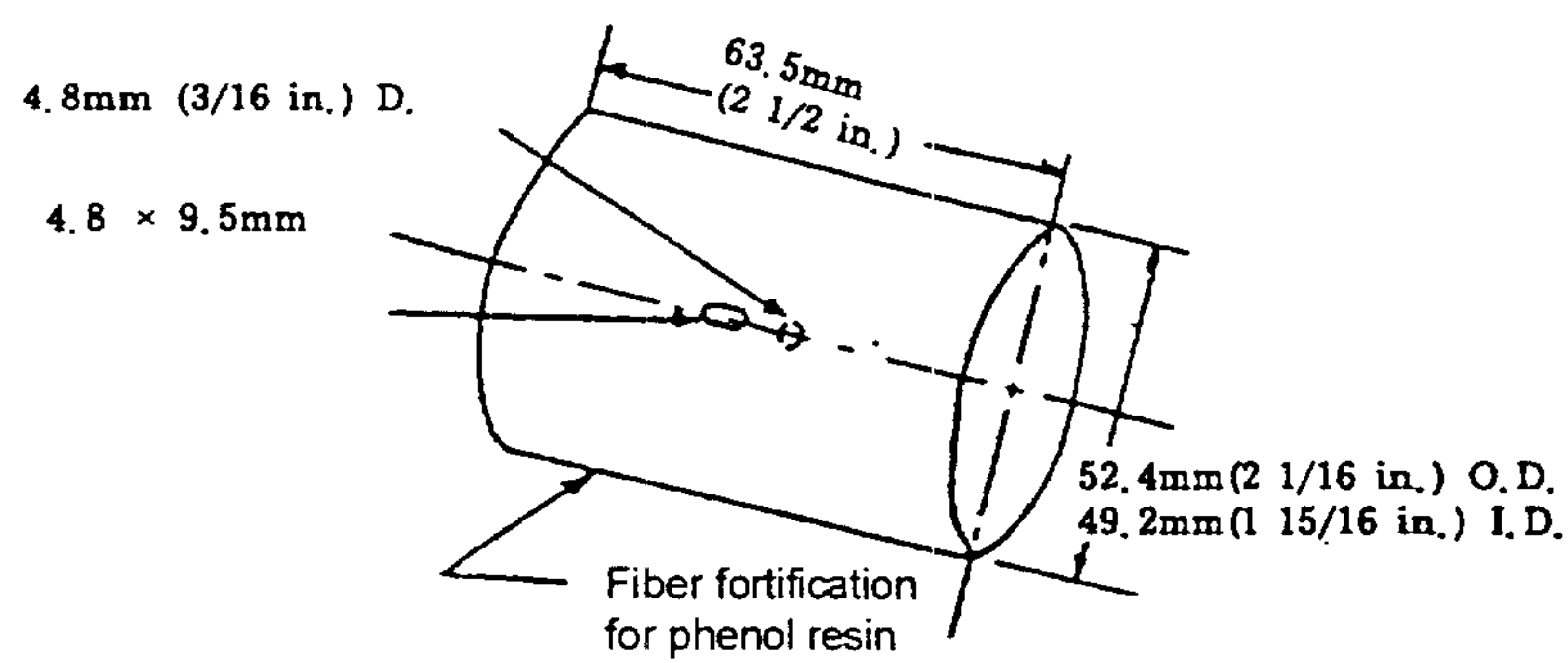


Figure 2 Fixed board for specimen

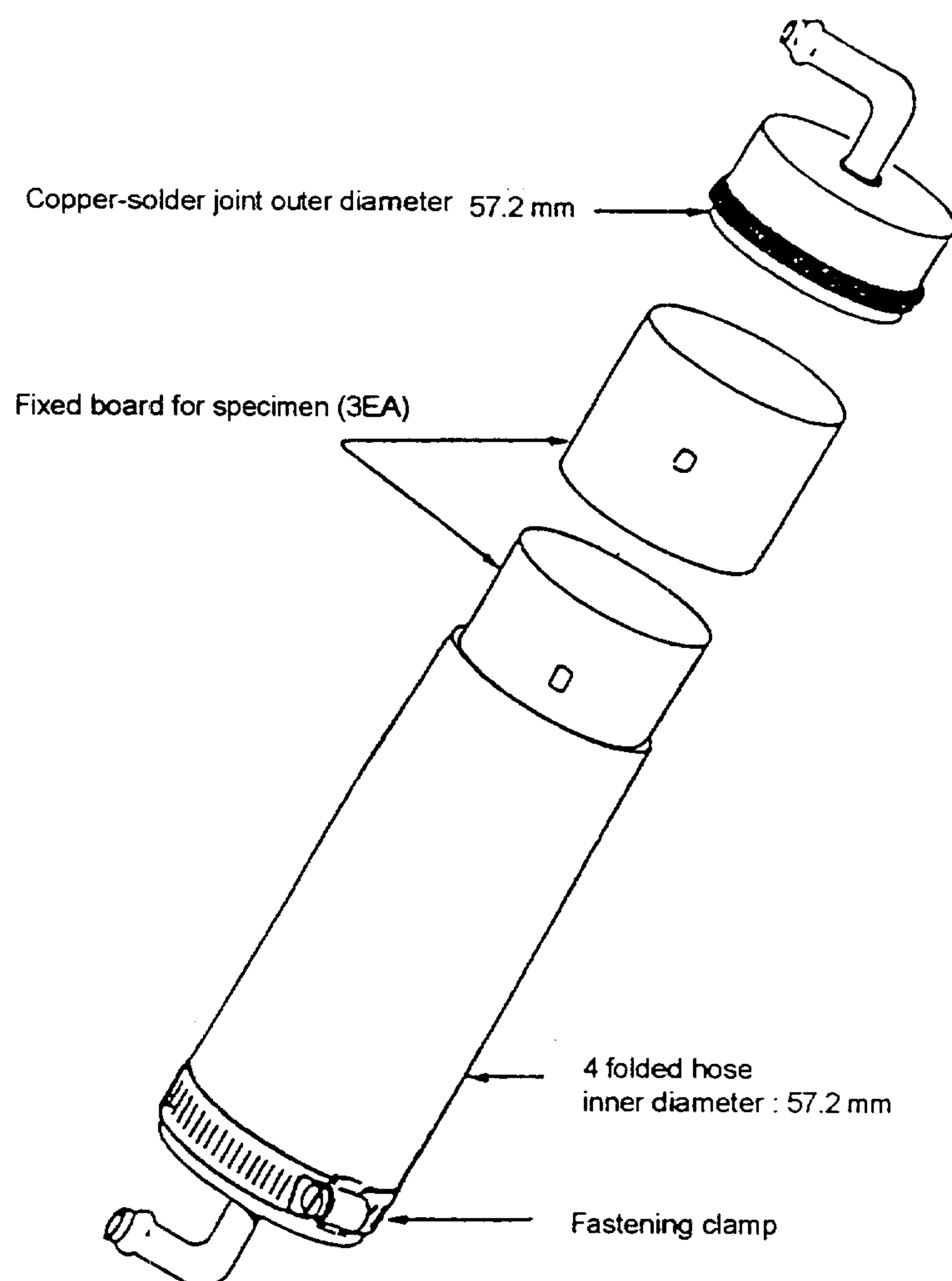


Figure 3 By-pass testing capsule

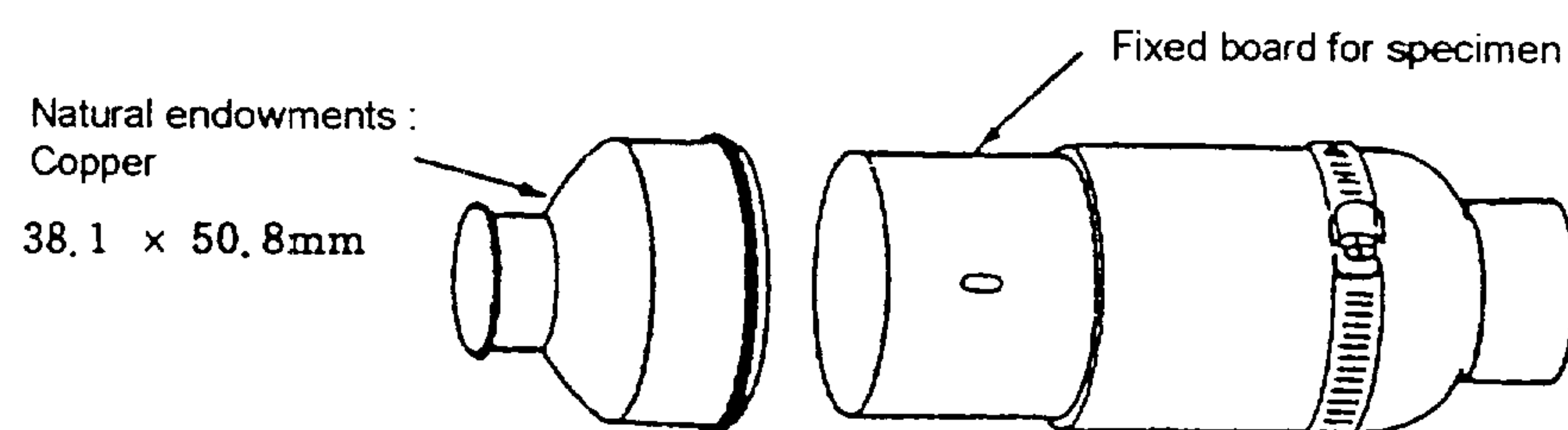


Figure 4 Upper specimen capsule.