

Volumetric Reference Capsule Worksheet

Calculate the volumetric reference capsule volume three times, then record the average of these calculations. When creating the penetrometer properties file, enter the average volume.

Penetrometer Number _____ Date: _____
By: _____

First Calibration of Reference Capsule Volume:

- | | | |
|--|------------------------------|------|
| 1. Mass of capsule filled with mercury | _____ | g |
| 2. Mass of sealed, empty capsule | _____ | g |
| 3. Mass of mercury (line 1 minus line 2) | _____ | g |
| Room Temp = _____ °C | Density of mercury * = _____ | g/ml |
| 4. Volume of capsule (line 3 ÷ density of mercury) | _____ | ml |

Second Calibration of Reference Capsule Volume:

- | | | |
|--|------------------------------|------|
| 1. Mass of capsule filled with mercury | _____ | g |
| 2. Mass of sealed, empty capsule | _____ | g |
| 3. Mass of mercury (line 1 minus line 2) | _____ | g |
| Room Temp = _____ °C | Density of mercury * = _____ | g/ml |
| 4. Volume of capsule (line 3 ÷ density of mercury) | _____ | ml |

Third Calibration of Reference Capsule Volume:

- | | | |
|--|------------------------------|------|
| 1. Mass of capsule filled with mercury | _____ | g |
| 2. Mass of sealed, empty capsule | _____ | g |
| 3. Mass of mercury (line 1 minus line 2) | _____ | g |
| Room Temp = _____ °C | Density of mercury * = _____ | g/ml |
| 4. Volume of capsule (line 3 ÷ density of mercury) | _____ | ml |

Average Reference Capsule Volume: ml

* See Density of Mercury table for values.

Density of Mercury Table

Density of Mercury Table

°C	g/ml	°C	g/ml	°C	g/ml	°C	g/ml
18.0	13.5512	23.2	13.5384	25.2	13.5335	27.2	13.5286
19.0	13.5487	23.4	13.5379	25.4	13.5330	27.4	13.5281
20.0	13.5462	23.6	13.5374	25.6	13.5325	27.6	13.5276
21.0	13.5438	23.8	13.5369	25.8	13.5320	27.8	13.5271
22.0	13.5413	24.0	13.5364	26.0	13.5315	28.0	13.5266
22.2	13.5408	24.2	13.5359	26.2	13.5310	29.0	13.5242
22.4	13.5403	24.4	13.5354	26.4	13.5305	30.0	13.5217
22.6	13.5399	24.6	13.5350	26.6	13.5301	31.0	13.5193
22.8	13.5394	24.8	13.5345	26.8	13.5296	32.0	13.5168
23.0	13.5389	25.0	13.5340	27.0	13.5291	33.0	13.5144