

## SPECIFIC GRAVITY TEST SETS / SURFACE MOISTURE

The **C9305S** is used for determining bulk and apparent specific gravity of absorption of coarse aggregate and for use in determining volume of aggregate in concrete (ASTM C-88, C-127, AASHTO T-85, T-104). Samples are dried to constant weight, immersed in water, dried by an absorbent cloth and weighed in air and water. The sample is again dried to constant weight and weighed. The **G8831** sample splitter is for 2" maximum but other sizes may be substituted depending on the maximum size of the aggregate.

The **C9405S** & **C9406S** sets are used for specific gravity and absorption of fine aggregates (ASTM C-128, AASHTO T-84). The **C9461S** set is used for field determination of surface moisture in fine aggregate by displacement in water (ASTM C-70, AASHTO T-142). It can be determined by the weight method by weighing a known volume of water and comparing it with the same volume of fine aggregate and water mixture or by determining the change in volume of water by addition of a weighed sample of fine aggregate. The **C9403** Absorption Cone is constructed from brass and is 1-1/2" (40mm) ID at the top, 3-1/3" (90mm) at the bottom, and 2-7/8" (75mm) high. The **C9404** Tamper has a 1" dia. (25mm) face. The **C9421** Chapman Specific Gravity Flask is used to determine the approximate percentage of surface moisture and voids in fine aggregates. The flask has a lower bulb of 200 ml and an upper bulb of 175 ml. The stem is graduated above the bulbs from 375 to 450 ml. The LeChatelier Specific Gravity Flask **C3301** is used to obtain specific gravity of hydraulic cement, dust, sand, and other fine materials (ASTM C-188, AASHTO T-133). The body holds about 250 ml, small oval bulb in neck holds 17 ml. Below this bulb are graduations from 0 to 1.0 ml. Above the bulb, the neck is graduated from 18 to 24 ml. The flask is furnished with a stopper. The **C9455** Pycnometer Top with jar is spun brass with 3/8" hole and is threaded to fit a one quart Mason jar.

The **C9305S** and **C9406S** are used in conjunction for the SHRP test method Voids in Mineral Aggregate (VMA). Please refer to the set section for a complete listing of set contents.

MODELS	DESCRIPTION	STANDARDS
<b>C9305S</b>	SPECIFIC GRAVITY COARSE AGGREGATE SET	ASTM C-70, C-88 C-127, C-128, C-188 AASHTO T-84, T-85 T-104, T-133, T-142
<b>C9405S</b>	SPECIFIC GRAVITY FINE AGGREGATE SET I	
<b>C9406S</b>	SPECIFIC GRAVITY FINE AGGREGATE SET II	
<b>C9461S</b>	SPECIFIC GRAVITY FINE AGGREGATE SET III	

ACCESSORIES	DESCRIPTION
<b>C3301</b>	LeCHATelier FLASK, SPECIFIC GRAVITY
<b>C9301</b>	#8 DENSITY BASKET
<b>C9301A</b>	DENSITY BASKET W/ HANDLE #16 MESH
<b>C9303</b>	SPECIFIC GRAVITY CRADLE
<b>C9304</b>	W/ UNDERHOOK
<b>C9305</b>	HYDROMETER FOR SODIUM SULFATE SOLUTION
<b>C9403</b>	ABSORPTION CONE
<b>C9404</b>	TAMPER
<b>C9421</b>	CHAPMAN SPECIFIC GRAVITY FLASK
<b>C9455</b>	PYCNOMETER TOP W/ JAR
<b>G4774</b>	DIGITAL SCALE, 6100 X 0.1 G
<b>G4181</b>	TRIPLE BEAM BALANCE, 2610 X 0.1 G
<b>G8831</b>	SAMPLE SPLITTER, 2"
<b>L2557</b>	VOLUMETRIC FLASK, 500 ML
<b>L3156</b>	HEAVY STEEL BUCKET, 14 QT



## VOID CONTENT APPARATUS



The **C9458** Void Content Apparatus determines the loose uncompacted void content of a sample of fine aggregate. Measuring the aggregates void content provides the angularity, sphericity, and surface texture. This method has been approved by SHRP to indicate the effect of the aggregate on the workability of a mixture in which it may be used. Samples of aggregate are mixed with water and then placed into the glass jar. When a proper sample is achieved it is allowed to flow through the funnel into the 100ml copper cylindrical measure. The measure has a centering hole which ensures the accuracy and the repeatability of the test. A spatula is used to strike off the excess aggregate and the results are then recorded. The apparatus consists of a funnel, funnel stand, glass jar, 100ml cylindrical measure, and a glass plate for calibration.

MODELS	DESCRIPTION	STANDARDS
<b>C9458</b>	VOID CONTENT APPARATUS	ASTM C-1252 / AASHTO TP-33 SHRP / NAA METHOD A

ACCESSORIES	DESCRIPTION
<b>C9459</b>	EXTRA GLASS JAR
<b>C9460</b>	EXTRA GLASS PLATE
<b>C9461</b>	EXTRA MEASURE, 100 ML
<b>L1255</b>	PAN, ST. STL., 14" DIA X 2" H
<b>L3514</b>	SPATULA, 6" BLADE