

# ASTM Concrete Specifications





Related Standards: ASTM C125, C127, C128, C138, C670; AASHTO T19, T19M

## Bulk Density ("Unit Weight") and Voids in Aggregate

Qty.	Model	Description
1	H-3660.1	Unit weight measure, 1/10 cu.ft. (2.8 liter)
1	H-3669.1P	Strike-off plate for 1/10 cu.ft. (2.8 liter) measure
1	H-3663.1	Unit weight measure, 1/3 cu.ft. (9.3 liter)
1	H-3669.4P	Strike-off plate for 1/3 cu.ft. (9.3 liter) measure
1	H-3661.1	Unit weight measure, 1/2 cu.ft. (14.1 liter)
1	H-3669.2P	Strike-off plate for 1/2 cu.ft. (14.1 liter) measure
1	H-3662.1	Unit weight measure, 1 cu.ft. (28.3 liter)
1	H-3669.3P	Strike-off plate for 1 cu.ft. (28.3 liter) measure
1	H-3650	Tamping rod, 5/8" (16mm) dia. x 24" (600mm) long
1	H-1702	Material handling scoop
1	HB-4771	Balance, 220 lb. (100 kg) x 0.1 lb. (0.05 kg) cap. 1

# ASTM C31

Related Standards: ASTM C138, C143, C172, C173, C192, C231

## Making and Curing Concrete Test Specimens in the Field

Qty.	Model	Description
1	H-3041	Plastic cylinder molds, 6" dia. x 12" long (carton of 36)
1	H-3041L	Domed plastic lids for use with cylinder molds
1	H-3041S	T-handle-style mold stripping tool
1	H-3015	Concrete beam form, 6" x 6" x 30" (152 x 152 x 762mm)
1	H-3650	Tamping rod, 5/8" (16mm) dia. x 24" (600mm) long
1	Choose one: H-2999A H-2999A.4F	Concrete vibrator, 115V 60Hz Concrete vibrator, 220V 50/60Hz
1	H-4976	Rubber mallet
1	H-4982	Shovel, round-point
1	H-3762	Trowel, rectangular
1	H-3729	Scoop, aluminum
1	H-3753	Vibration indicator, tachometer type
1	H-3637	Slump cone test set
1	H-3725	Moisture/mixing pan
1	H-2783	Concrete air meter
1	H-2633	Pocket-type dial thermometer, 25 to 125°F

Related Standards: ASTM C31, C42, C192, C617, C670, C873, C1077, C1231

## Compressive Strength of Cylindrical Concrete Specimens

### Option A

Qty.	Model	Description
1	Choose one:	Concrete compression machine, 250,000 lb (1,112 kN) cap., iD Digital Indicator, platens for testing 6" x 12" specimens
	HCM-2500iH	Concrete compression machine, 115V 60Hz
	HCM-2500iH.2F	Concrete compression machine, 230V 60Hz
	HCM-2500iH.5F	Concrete compression machine, 230V 50Hz
1	HCM-0200	Machine Mounting Stand

### Option B

Qty.	Model	Description
1	Choose one:	Concrete compression machine, 500,000 lb (2,224 kN) cap., iD Digital Indicator, platens for testing 6" x 12" specimens
	HCM-5000LXI	Concrete compression machine, 115V 60Hz
	HCM-5000LXI.2F	Concrete compression machine, 230V 60Hz
	HCM-5000LXI .5F	Concrete compression machine, 230V 50Hz

# ASTM C40

Related Standards: ASTM C33, C87, C125, C702, C1005, D75, D1544, AASHTO T21

## Organic Impurities in Fine Aggregates for Concrete

Qty.	Model	Description
1	H-3493A	Organic impurities test set
1	H-3491	Spare bottle of sodium hydroxide

Related Standards: ASTM C128, C566, C670. AASHTO T142

## Surface Moisture in Fine Aggregate

Qty.	Model	Description
1	H-3460	Specific gravity flask (Chapman)
1	Choose one: HB-4534A HB-4534A.4F	Adam core digital balance, 2600g x 0.1g, 120V 60Hz Adam core digital balance, 2600g x 0.1g, 220V 50/60Hz

# ASTM C78

Related Standards: ASTM C31, C42, C192, C617, C1077, E4

## Flexural Strength of Concrete

### (Using Simple Beam with Third-Point Loading)

Qty.	Model	Description
1	Choose one:	Concrete compression machine, 250,000 lb (1,112 kN) cap., iD Digital Indicator, platens for testing 6" x 12" specimens
	HCM-2500iH	Concrete compression machine, 115V 60Hz
	HCM-2500iH.2F	Concrete compression machine, 230V 60Hz
	HCM-2500iH.5F	Concrete compression machine, 230V 50Hz
1	HCM-0119A	Flexural beam test attachment
1	HCM-0200	Machine mounting stand



Related Standards: ASTM C33, C40, C109, C128, C150, C230, C305, C670, C702

## Effect of Organic Impurities in Fine Aggregate on Strength of Mortar

Qty.	Model	Description
1	Choose one: H-3620 H-3624 H-3624.5F H-3625 H-3625.5F	Choose one: Flow table, hand-driven Flow table with counter and flow mold, 110V 60Hz Flow table with counter and flow mold, 220V 50Hz Flow table with flow mold, 110V 60Hz Flow table with flow mold, 220V 50Hz
1	H-3621	Flow caliper
1	H-3624F	Pedestal form
1	H-3623	Circular shield for use with flow mold
1	Choose one: HB-4961 HB-4961.4F	Choose one: ohaus navigator xl balance, 2100g x 0.1g, 120V 60Hz ohaus navigator xl balance, 2100g x 0.1g, 220V 50/60Hz
1	H-4915.250	Glass graduated cylinder, 250ml cap.
1	H-4915.500	Glass graduated cylinder, 500ml cap.
2	H-2820	2" cube mold, 3-gang
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 Qt. 115V 60Hz Mortar mixer, 5 Qt. 220V 60Hz Mortar mixer, 5 Qt. 220V 50Hz
1	H-2860	Tamper, rubber
2	H-3825	Cube test ottawa sand, 50 lb. (22.6 kg) bags
1	H-3761	Trowel, 2-3/4" x 5" (70 x 127mm)
1	Choose one: HCM-2500iH HCM-2500iH.2F HCM-2500iH.5F	Compression machine, 250,000 lb (1,112 kN), 115V 60Hz. Compression machine, 250,000 lb (1,112 kN), 230V 60Hz. Compression machine, 250,000 lb (1,112 kN), 230V 50Hz.
1	HCM-0200	Machine mounting stand
1	HCM-0112A	2" (50mm) cube platen set

**Note:** Also required but not part of basic set—Curing room/container and temperature recording equipment as described in ASTM C511.

# ASTM C88

Related Standards: ASTM C33, C136, C670, C702, D75, D3665, E11, E100, E323

## Soundness of Aggregates by Use of Sodium or Magnesium Sulfate

Qty.	Model	Description
1	H-3920FS4	8" dia. brass frame sieve, #4 ss mesh
1	H-3920FS5	8" dia. brass frame sieve, #5 ss mesh
1	H-3920FS8	8" dia. brass frame sieve, #8 ss mesh
1	H-3920FS16	8" dia. brass frame sieve, #16 ss mesh
1	H-3920FS30	8" dia. brass frame sieve, #30 ss mesh
1	H-3920FS50	8" dia. brass frame sieve, #50 ss mesh
1	H-3920FS100	8" dia. brass frame sieve, #100 ss mesh
1	H-3920P	8" x 2" sieve bottom pan
1	H-3930BC	8" sieve cover with ring handle
1	Choose one: H-4325 H-4325.2F H-4325.5F	Humboldt economy sieve shaker for 8" sieves, 120v 60hz Humboldt economy sieve shaker for 8" sieves, 220v 60hz Humboldt economy sieve shaker for 8" sieves, 220v 50hz
1	H-3351	Sample container, #4 wire mesh 10" x 4" dia. (254 x 102mm)
1	H-3353	Sample container, #8 wire mesh 5.5" x 4" dia. (140 x 102mm)
1	Choose one: H-1394 H-1394.4F	Water bath, 14 gal. (53 liter) 110v 60hz Water bath, 14 gal. (53 liter) 220v 50/60hz
1	Choose one: HB-4506A HB-4506A.4F	Electronic balance, 12,000g x 0.1g cap. 115v 50/60hz Electronic balance, 12,000g x 0.1g cap. 220v 50/60hz
1	Choose one: H-30140 H-30140.4F	Laboratory bench oven, 7 cu.ft. (198 liter) cap. 115v 60hz Laboratory bench oven, 7 cu.ft. (198 liter) cap. 230v 50/60hz
2	H-3705	Sample drying pans, 18" x 18" x 3" (457 x 457 x 76mm)
1	H-3374	Hydrometer, 1.150 to 1.200 range
1	HCM-0112A	2" (50mm) cube platen set

**Note:** Also required but not part of basic set—Sodium or Magnesium Sulfate Solutions.

Related Standards: ASTM C109/C109M, C151, C183, C185, C187, C188, C219, C230/C230M, C266, C270, C305, C430, C511, C778, C1506.

## Standard Specification for Masonry Cement

Qty.	Model	Description
1	H-3820	Tensile test ottawa silica sand

This specifications states requirements for the acceptance of three types of cements for use where mortar for masonry is required. Tensile test sand, and the remaining requirements refer to other ASTM standards, namely, C109/C109M, C151, C183, C185, C187, C188, C219, C230/C230M, C266, C270, C305, C430, C511, C778, C1506.

# ASTM C109

Related Standards: ASTM C230, C305, C349, C511, C670, C778, C1005, C1437

## Compressive Strength of Hydraulic Cement Mortars

### (Using 2" Cube Specimens)

Qty.	Model	Description
1	Choose one: HB-4961 HB-4961.4F	Ohaus navigator xl balance, 2100g x 0.1G, 120v 60hz Ohaus navigator xl balance, 2100g x 0.1G, 220v 50/60hz
1	H-4915.250	Glass graduated cylinder, 250ml cap.
1	H-4915.500	Glass graduated cylinder, 500ml cap.
2	H-2820	2" Cube mold, 3-gang
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 Qt. 115V 60Hz Mortar mixer, 5 Qt. 220V 60Hz Mortar mixer, 5 Qt. 220V 50Hz
1	Choose one: H-3620 H-3624 H-3624.5F H-3625 H-3625.5F	Choose one: Flow table, hand-driven Flow table with counter and flow mold, 110V 60Hz Flow table with counter and flow mold, 220V 50Hz Flow table with flow mold, 110V 60Hz Flow table with flow mold, 220V 50Hz
1	H-3621	Flow caliper
1	H-3623	Circular shield for use with flow mold
1	H-2860	Tamper, rubber
2	H-3825	Cube test ottawa sand, 50 lb. (22.6 Kg) bags
1	H-3761	Trowel, 2.75" x 5" (70 x 127mm)
1	Choose one:  HCM-2500iH HCM-2500iH.2F HCM-2500iH.5F	Concrete compression machine, 250,000 lb (1,112 kN) cap., iD Digital Indicator, platens for testing 6" x 12" specimens  Concrete compression machine, 115V 60Hz Concrete compression machine, 230V 60Hz Concrete compression machine, 230V 50Hz
1	HCM-0200	Machine mounting stand
1	HCM-0112A	2" (50mm) cube platen set

**Note:** Also required but not part of basic set—Curing room/container and temperature recording equipment. For testing 50mm cubes, replace "H-2820, 2" Cube Molds" with "H-2820M, 50mm Cube Molds".

# ASTM C110

Related Standards: ASTM C25, C28, C50, C51, C91, C109, C-117, C136, C150, C185, C188, C204, C207, C230, C305, C430, C472, C670, C702, C778, C1005, D75, E11, E29, E691

## Physical Testing of Quicklime, Hydrated Lime and Limestone

Qty.	Model	Description
1	H-3120	Modified vicat consistency apparatus with mold
1	H-3630A	Water retention apparatus
1	H-3817.20	SRM 114q portland calibration testing cement (20 vials)

**Note:** The above products represent only a small portion of item required. Please refer to ASTM C110 for a complete listing of the testing equipment required to carry out all test procedures used in the standard.

# ASTM C115

Related Standards: ASTM C114, C430, C670

## Fineness of Portland Cement by the Turbidimeter

Qty.	Model	Description
1	Choose one: H-3805 H-3805.2F H-3805.5F	Choose one: Wagner turbidimeter, 110V 60Hz Wagner turbidimeter, 220V 60Hz Wagner turbidimeter, 220V 50Hz
1	H-3807	Cement wet washing sieve

**Note:** Also required but not part of basic set— Battery for turbidimeter and suspending liquid (white kerosene).

Related Standards: ASTM C136, C670, C702, D75, E11

## Materials Finer than 75- $\mu\text{m}$ (No. 200) Sieve in Mineral Aggregates by Washing

Qty.	Model	Description
1	Choose one: H-3949A H-3949A.5F	Aggregate washer, 115V 60Hz Aggregate washer, 220V 50Hz
1	H-3912FS16	12" dia. brass frame sieve, #16 ss mesh
1	H-3912FS200	12" dia. brass frame sieve, #200 ss mesh
1	H-3912P	12" x 3" brass pan
1	Choose one: H-30140 H-30140.4F	Laboratory bench oven, 7 cu.ft. (198 liter), 115V 60Hz Laboratory bench oven, 7 cu.ft. (198 liter), 230V 50/60Hz
2	H-3705	Sample drying pans, 18" x 18" x 3" (457 x 457 x 76mm)

**Note:** Also required but not part of basic set—Wetting agent such as liquid dishwashing detergent.

# ASTM C127

Related Standards: ASTM C29, 125, C128, C136, C566, C670, C702, D75, D488, E11, E12

## Specific Gravity and Absorption of Coarse Aggregate

### (Option A)

Qty.	Model	Description
1	Choose one: HB-5382AC HB-5382AC.4F	Ohaus adventurer balance, 8,200g x 0.1g Cap., 115V 60Hz Ohaus adventurer balance, 8,200g x 0.1g Cap., 220V 50/60Hz
1	H-4888.2KG	ASTM class 1 stainless steel weight, 2000g
2	H-4888.1KG	ASTM class 1 stainless steel weight, 1000g
1	H-3371	Specific gravity wire basket
1	H-3372	Water container (utility bucket)
1	H-3920FS4	8" dia. brass frame sieve, #4 ss mesh

**Note:** Also required but not part of basic set—Sample drying oven.

### (Option B)

Qty.	Model	Description
1	Choose one: H-2713B H-2713B.4F	Specific gravity bench; tank; heater, circulator, 120V 60Hz Specific gravity bench; tank; heater, circulator, 220V 50/60Hz
1	Choose one: HB-3535 HB-3535.4F	Ohaus ranger balance, 15,000g x 0.1g, 115V 60Hz Ohaus ranger balance, 15,000g x 0.1g, 220V 50/60Hz
1	H-3371	Specific gravity wire basket
1	H-3920FS4	8" dia. brass frame sieve, #4 ss mesh

**Note:** Also required but not part of basic set—Sample drying oven.



# ASTM C128

Related Standards: ASTM C29, C70, C125, C127, C188, C566, C670, C702, D75, E12, E380

## Specific Gravity and Absorption of Fine Aggregate

Qty.	Model	Description
1	Choose one: HB-4533A HB-4533A.4F	Choose one: Adam Core balance 2600g x 0.1g, 120V 60Hz Adam Core balance 2600g x 0.1g, 220V 50/60Hz
1	H-3381	Pycnometer top and jar
1	H-3360	Conical mold and tamper
1	Choose one: H-30120 H-30120.4F	Laboratory bench oven, 2 cu.ft. (56L), 115V 60Hz Laboratory bench oven, 7 cu.ft. (56L), 230V 50/60Hz
1	H-3966	Sample splitter, 3/4"

**Note:** For alternative Le Chatelier test procedure, request Humboldt model H-3400 Le Chatelier Flask.

# ASTM C131

Related Standards: ASTM C125, C136, C535, C670, C702, D75, E11

## Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

Qty.	Model	Description
1	Choose one: H-3860B H-3860B.2F H-3860B.5F	Los angeles abrasion machine with charges, 115V 60Hz Los angeles abrasion machine with charges, 220V 60Hz Los angeles abrasion machine with charges, 220V 60Hz
1	H-3920CS1.500	8" dia. brass frame sieve, 1.5" ss mesh
1	H-3920CS1.000	8" dia. brass frame sieve, 1" ss mesh
1	H-3920CS.750	8" dia. brass frame sieve, 3/4" ss mesh
1	H-3920CS.500	8" dia. brass frame sieve, 1/2" ss mesh
1	H-3920CS.375	8" dia. brass frame sieve, 3/8" ss mesh
1	H-3920CS.250	8" dia. brass frame sieve, 1/4" ss mesh
1	H-3920FS4	8" dia. brass frame sieve, #4 ss mesh
1	H-3920FS8	8" dia. brass frame sieve, #8 ss mesh
1	H-3920P	8" dia. brass pan
1	H-3930BC	8" dia. brass cover
1	Choose one: H-4325 H-4325.2F H-4325.5F	Humboldt economy sieve shaker for 8" sieves, 120v 60hz Humboldt economy sieve shaker for 8" sieves, 220v 60hz Humboldt economy sieve shaker for 8" sieves, 220v 50hz
1	H-4785	Heavy-duty solution balance, 20kg x 1g cap.
1	H-4615S	Scoop and counterweight for solution balance
1	Choose one: H-30140 H-30140.4F	Laboratory bench oven, 7 cu.ft. (198 liter) cap. 115V 60Hz Laboratory bench oven, 7 cu.ft. (198 liter) cap. 230V 50/60Hz
1	H-3705	Sample drying pans, 18" x 18" x 3" (457 x 457 x 76mm)

Related Standards: ASTM C117, C125, C670, C702, D75, E11

## Sieve Analysis of Fine and Course Aggregates

Qty.	Model	Description
1	Choose one: HB-4508A HB-4508A.4F	Choose one: Ohaus explorer balance, 24,000g x 0.1g cap., 115V 60Hz Ohaus explorer balance, 24,000g x 0.1g cap., 220V 50/60Hz
1	H-3920FS4	8" dia. brass frame sieve, #4 ss mesh
1	H-3920FS8	8" dia. brass frame sieve, #8 ss mesh
1	H-3920FS16	8" dia. brass frame sieve, #16 ss mesh
1	H-3920FS30	8" dia. brass frame sieve, #30 ss mesh
1	H-3920FS50	8" dia. brass frame sieve, #50 ss mesh
1	H-3920FS100	8" dia. brass frame sieve, #100 ss mesh
1	H-3920FS200	8" dia. brass frame sieve, #200 ss mesh
1	H-3920P	8" dia. brass pan
1	H-3930BC	8" dia. brass cover
1	Choose one: H-4325 H-4325.2F H-4325.5F	Humboldt economy sieve shaker for 8" sieves, 120v 60hz Humboldt economy sieve shaker for 8" sieves, 220v 60hz Humboldt economy sieve shaker for 8" sieves, 220v 50hz
1	H-3770	Sieve brush, fine mesh
1	H-3772	Sieve brush, coarse mesh

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# ASTM C136 (contd.)

Related Standards: ASTM C117, C125, C670, C702, D75, E11

## Sieve Analysis of Fine and Course Aggregates

Qty.	Model	Description
1	Choose one: H-4276A H-4276A.5F H-4283A H-4283A.5F	Choose one: Testing screen, aggregate shaker, 120V 60Hz Testing screen, aggregate shaker, 220V 50Hz Testing screen, aggregate shaker, hydraulic 120V 60Hz Testing screen, aggregate shaker, hydraulic 220V 50Hz
1	H-4278F4	Aggregate screen tray, #4 wire mesh
1	H-4278C.375	Aggregate screen tray, 3/8" wire mesh
1	H-4278C.500	Aggregate screen tray, 1/2" wire mesh
1	H-4278C.750	Aggregate screen tray, 3/4" wire mesh
1	H-4278C1.000	Aggregate screen tray, 1" wire mesh
1	H-4278C1.500	Aggregate screen tray, 1-1/2" wire mesh
1	H-4278C2.000	Aggregate screen tray, 2" wire mesh
1	H-4278C2.500	Aggregate screen tray, 2-1/2" wire mesh
1	H-4278C3.000	Aggregate screen tray, 3" wire mesh
1	H-4283P	Dustpan tray
1	H-4308	Aggregate scoop
1	Choose one: H-30140 H-30140.4F	Laboratory bench oven, 7 cu.ft. (198 liter) cap. 115V 60Hz Laboratory bench oven, 7 cu.ft. (198 liter) cap. 230V 50/60Hz
2	H-3705	Sample drying pans, 18" x 18" x 3" (457 x 457 x 76mm)

Related Standards: ASTM C29, C150, C172, C188, C231. AASHTO T121

## Unit Weight, Yield and Air Content (gravimetric) of Concrete

Qty.	Model	Description
1	H-3650	Tamping rod, 5/8" (16mm) dia. x 24" (600mm) long
1	Choose one: H-2999A H-2999A.4F	Choose one: Concrete vibrator, 115V 50/60 Hz Concrete vibrator, 230V 50/60 Hz
1	H-3660.1	Unit weight measure, 1/10 cu.ft. (3 liter)
1	H-3669.1P	Strike-off plate for 1/10 cu.ft. (3 liter) measure
1	H-3663.1	Unit weight measure, 1/3 cu.ft. (10 liter)
1	H-3669.4P	Strike-off plate for 1/3 cu.ft. (10 liter) measure
1	H-3661.1	Unit weight measure, 1/2 cu.ft. (15 liter)
1	H-3669.2P	Strike-off plate for 1/2 cu.ft. (15 liter) measure
1	H-3662.1	Unit weight measure, 1 cu.ft. (30 liter)
1	H-3669.3P	Strike-off plate for 1 cu.ft. (30 liter) measure
1	H-4976	Rubber mallet

**Note:** Also required but not part of basic set—Balance or Scale for weighing concrete in measure.

# ASTM C140

Related Standards: ASTM C90, C143, C1093, C1209, C1232, C1552, E4, E6

## Sampling and Testing Concrete Masonry and Related Units

Qty.	Model	Description
1	HCM-0106	Masonry platen for HCM-2500iH
1	HCM-0190SP	Carrier bracket
1	Choose one: HCM-2500iH HCM-2500iH.2F HCM-2500iH.5F	Concrete compression machine, 250,000 lb (1,112 kN) cap., iD Digital Indicator, platens for testing 6" x 12" specimens Concrete compression machine, 115V 60Hz Concrete compression machine, 230V 60Hz Concrete compression machine, 230V 50Hz
1	HCM-0200	Machine mounting stand

**Note:** The above products represent only a small portion of items required. Please refer to ASTM C39 and this standard for a complete listing of the testing equipment required to carry out all test procedures used in the standard.

Related Standards: ASTM C25, C109/C109M, C150, C151, C184, C187, C230/C230M, C266, C305, C778, E11.

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## **Standard Specification for Hydraulic Hydrated Lime for Structural Purposes**

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This specifications states requirements for the acceptance of hydrated lime for structural purposes. Sand utilized is H-3820, Tensile test sand, and the remaining requirements refer to other ASTM standards, namely, C25, C109/C109M, C150, C151, C184, C187, C230/C230M, C266, C305, C778, E11.

# ASTM C143

Related Standards: ASTM C172

## Slump of Hydraulic-Cement Concrete

Qty.	Model	Description
1	H-3640	Slump cone
1	H-3651	Tamping rod, graduated
1	H-3638	Slump cone funnel
1	H-3636	Slump cone base plate with handle
1	H-3731	Scoop

**Note:** Slump Cones are also available in plastic as well as metric equivalent versions.



Related Standards: ASTM C187, C305, C490, C511, C1005

## Autoclave Expansion of Portland Cement

Qty.	Model	Description
2	H-3253	Two-gang prism mold
1	H-3260	Replacement gauge studs, pack of 10
1	H-3762	Trowel
1	Choose one: H-3240 H-3240.4F	Cement autoclave, 115V 60Hz Cement autoclave, 220V 50/60Hz
1	H-3243B	Test bar holder
1	H-3240.21N	Rupture disk, nickel
1	H-3240.22	Holder for rupture disk
1	H-3242	Replacement gaskets, pack of 100
1	Choose one: H-3250D H-3250D.4F	Choose one: Digital length comparator, english/metric display, 120V 60HZ Digital length comparator, english/metric display, 220V 50/60Hz

**Note:** Also required but not part of basic set—Weighing devices, glass graduates, molding room and moist storage facilities.

# ASTM C157

Related Standards: ASTM C109, C125, C143, C172, C192, C305, C490, C511, C596, E11, E337

## Length Change of Hardened Hydraulic-Cement Mortar and Concrete

Qty.	Model	Description
1	H-3253	Two-gang prism mold
1	H-3260	Replacement gauge studs, pack of 10
1	Choose one: H-3250D H-3250D.4F	Digital length comparator, english/metric display, 120V 60HZ Digital length comparator, english/metric display, 220V 50/60Hz
1	H-2860	Tamper, hard rubber
1	H-2905.1	Tamping rod, 3/8" dia. x 12" long (10 x 300mm)
1	H-3258DD	Demolding device

**Note:** Also required but not part of basic set—Drying room, Atometer Assembly, and filter paper.

Related Standards: ASTM C125, C127, C128, C138, C670

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## Sampling Freshly Mixed Concrete

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This specifications states procedures for sampling of fresh concrete on which tests are to be performed to determine compliance with specific test methods in ASTM standards.

Related ASTM standards: E11

**Note:** Also required but not part of basic sets—Hand tools, Sieves, and Wet-sieving equipment as required.

# ASTM C173

Related Standards: ASTM C29, C138, C172, C231, C670

## Air Content of Freshly Mixed Concrete by the Volumetric Method

Qty.	Model	Description
1	H-2796A	Roll-a-meter air indicator, aluminum
1	H-2785.34	Strike-off bar
1	H-3734	Scoop
1	H-4976	Rubber mallet

**Note:** Also required but not part of basic set—Isopropyl Alcohol for dispelling foam during test. For users wanting the new lightweight plastic air meter, please refer to model H-2795P.

## Measuring Thickness of Concrete Elements Using Drilled Concrete Cores

Qty.	Model	Description
1	H-2939	Core length measuring device

# ASTM C183

Related Standards: ASTM C91, C109, C114, C115, C150, C151, C157, C185, C186, C191, C204, C227, C265, C451, C152

## Sampling and the Amount of Testing of Hydraulic Cement

Qty.	Model	Description
1	H-3340	Tube sampler for packaged cement
1	H-3341	Tube sampler for bulk cement
1	H-4914.16	Plastic jars with caps (carton of 12)
1	H-3920FS20	8" dia. brass frame sieve, #20 ss mesh
1	H-3920P	8" dia. brass pan
1	H-3770	Sieve brush, fine mesh

# ASTM C185

Related Standards: ASTM C91, C109, C183, C230, C305, C511, C778, C1005, E438, E694

## Air Content of Hydraulic Cement Mortar

Qty.	Model	Description
1	Choose one: H-3624 H-3624.5F	Motorized flow table with counter, 110v 60hz Motorized flow table with counter, 220v 50hz
1	H-3622	Flow mold
1	H-3621	Flow caliper
1	H-3840	400ml measure
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 qt. 115v 60hz Mortar mixer, 5 qt. 220v 60hz Mortar mixer, 5 qt. 220v 50hz
1	H-4144.8	Straight edge
1	Choose one: HB-4533A HB-4533A.4F	Adam core balance, 2600g x 0.1g, 115v 60hz Adam core balance, 2600g x 0.1g, 115v 60hz
1	H-4915.250	Glass graduated cylinder, 250ml cap.
1	H-2860	Tamper, hard rubber
1	H-3855	Tapping stick
1	H-4974	Spoon, stainless steel
1	H-3820	Ottawa tensile test sand (50 lb. bag)

# ASTM C186

Related Standards: ASTM C109, C114, C670, C1005, E11

## Heat of Hydration of Hydraulic Cement

Qty.	Model	Description
1	Choose one: H-3161 H-3161.4F	Cement calorimeter, 115v 60hz Cement calorimeter, 220v 50/60hz
1	Choose one: H-4260A H-4260A.4F	choose one: Dispersion mixer, 120v 60hz Dispersion mixer, 220v 50/60hz
1	H-4257	Mortar
1	H-4258	Pestle
1	Choose one: H-30100 H-30100.4F	Choose one: Laboratory drying oven, 0.7ft <sup>3</sup> (20L), 120V 60Hz Laboratory drying oven, 0.7ft <sup>3</sup> (20L), 220V 50/60Hz
1	H-2260	Stopwatch
1	H-3920FS20	8" dia. brass frame sieve, #20 ss mesh
1	H-3920FS100	8" dia. brass frame sieve, #100 ss mesh
1	H-3920P	8" dia. brass pan
1	H-3770	Sieve brush, fine mesh
1	H-3920P	8" x 2" Sieve bottom pan
1	H-3930BC	8" Sieve cover with ring handle
1	Choose one: H-4325 H-4325.2F H-4325.5F	Choose one: Humboldt economy sieve shaker for 8" sieves, 120V 60Hz Humboldt economy sieve shaker for 8" sieves, 220V 60Hz Humboldt economy sieve shaker for 8" sieves, 220V 50Hz
1	H-4922.030	Nickel crucible
1	H-4922C.030	Nickel crucible cover
1	Choose one: H-30200 H-30200.4F	Choose one: Bench-top muffle furnace, 120V 60Hz Bench-top muffle furnace, 220V 50/60Hz

**Note:** Also required but not part of basic set—Temperature controlled storage space, plastic vials, weighing bottles, analytical balance, weighing devices and various chemical reagents.



# ASTM C187

Related Standards: ASTM C305, C490, C1005, D1193, E177. AASHTO T129

## Normal Consistency of Hydraulic Cement

Qty.	Model	Description
1	H-4915.250	Glass graduated cylinder, 250ml cap.
1	H-3050	Vicat apparatus
1	H-3070	Replacement needle

**Note:** Also required but not part of basic set—Weighing device and water bath.

# ASTM C188

Related Standards: ASTM C114, C670. AASHTO T133

## Density of Hydraulic Cement

Qty.	Model	Description
1	H-3400	Density flask (LeChatelier)

**Note:** Also required but not part of basic set—Weighing device, water bath, and kerosene or naphtha.

# ASTM C191

Related Standards: ASTM C187, C266, C305, C490, AAHSTO T131

## Time of Setting of Hydraulic Cement by Vicat Needle

Qty.	Model	Description
1	H-4915.250	Glass graduated cylinder, 250ml cap.
1	H-3050	Vicat apparatus
1	H-3070	Replacement needle

**Note:** Also required but not part of basic set—Weighing device and water bath.

# ASTM C192

Related Standards: ASTM C31, C70, C125, C127, C128, C138, C143, C172, C173, C231, C470, C511, C566, C567, C617

## Making and Curing Concrete Test Specimens in the Laboratory

Qty.	Model	Description
6	H-2942	Steel concrete cylinder mold, 6" x 12"
3	H-3005	Steel concrete beam form, 6" x 6" x 21"
1	H-3650	Tamping rod, 5/8" dia. x 24" long
1	H-4976	Rubber mallet
1	choose one: H-2999A H-2999A.4F H-3755 H-3755.2F H-3755.5F	Concrete vibrator, 115V 50/60Hz Concrete vibrator, 220V 50/60Hz Vibrating table, 115V 60Hz Vibrating table, 220V 60Hz Vibrating table, 220V 50Hz
1	H-4982	Shovel, round point
1	H-3372	Utility bucket (pail)
1	H-3762	Trowel
1	H-4144.12	Straightedge
1	H-3731	Scoop
1	H-3740	Gloves, rubber
2	H-4939	Mixing bowl
1	H-3640	Slump cone
1	H-3638	Slump cone funnel
1	H-3636	Slump cone base plate
1	H-3651	Tamping rod, graduated
1	H-3800	Cleaning brush
1	H-3760	Trowel
1	H-3725	Mixing pan
1	H-2786	Air entrainment meter

*contd. next page*

# ASTM C192 (contd.)

Related Standards: ASTM C31, C70, C125, C127, C128, C138, C143, C172, C173, C231, C470, C511, C566, C567, C617

## Making and Curing Concrete Test Specimens in the Laboratory

Qty.	Model	Description
1	choose one: H-3847A H-3847A.2F H-3847A.5F H-3847A.G	Utlity mixer with steel drum, 110V 60Hz Utlity mixer with steel drum, 220V 60Hz Utlity mixer with steel drum, 220V 50Hz Utlity mixer with steel drum, 3.5hp gasoline motor
1	choose one: H-2968 H-2967	Curing box, deluxe, 115V 50/60Hz Curing box, heating only, 115V 50/60Hz
	or	
1	choose one: H-2969.8 H-2969.6 H-2969.4	Poly curing tank, 3' x 2' x 8' Poly curing tank, 2' x 2' x 6' Poly curing tank, 2' x 2' x 4'
1	choose one: H-2986A H-2986A.4F	Precision tank heater, 110V 60Hz Precision tank heater, 220V 50/60Hz

**Note:** Also required but not part of basic set—Weighing device.

# ASTM C204

Related Standards: ASTM C670, AASHTO Y153

## Fineness of Hydraulic Cement by Air Permeability Apparatus

Qty.	Model	Description
1	choose one: H-3810 H-3058.3F H-3059.3F	Blaine air permeability apparatus Blaine air permeability apparatus, electronic, 120/220V 50/60Hz Blaine air permeability apparatus, computer, 120/220V 50/60Hz
1	H-3814	Spare bottle, manometer fluid
1	H-3816.1M	Spare package, filter paper discs
1	H-3817	SRM 114q portland calibration testing cement
1	H-2260	Stopwatch

Related Standards: ASTM C25, C50, C110, C206, C226, C778, C1489.

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## Hydrated Lime for Masonry Purposes

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This specification states requirements for types N, S, NA, and SA hydrated lime for use in masonry. Sand utilized is both H-3820 and H-3825; for the remaining requirements refer to referenced ASTM standards, namely, C25, C50, C110, C206, C226, C778, C1489.

# ASTM C215

Related Standards: ASTM C31/C31M, C42/C42M, C125, C192/192M, C469, C670, E1316

## Fundamental Transverse, Longitudinal, and Torsional Resonant Frequencies of Concrete Specimens

Qty.	Model	Description
1	H-3177	Sonometer, 115V 60Hz

**Note:** Also required but not part of basic set—rubber specimen supports or pad.



# ASTM C227

Related Standards: ASTM C33, C109, C289, C294, C295, C305, C490, C511, C586, C856, C1437, E11

## Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method)

Qty.	Model	Description
1	H-3267	Round mortar bar container with rack, 8 bar
1	H-3265	Rectangular mortar bar container, up to 36 bars
4	H-3253	2-gang prism molds
2	H-3260	Replacement gauge studs, pack of 10
1	H-3250D	Digital length comparator
1	H-2860	Tamper, rubber
1	H-3761	Trowel

**Note:** Also required but not part of basic set—Mixer and test sieves.

# ASTM C230

Related Standards: ASTM C125, C127, C128, C138, C670

## Flow Table for Use in Tests of Hydraulic Cement

Qty.	Model	Description
1	choose one:	
	H-3624	Motorized flow table with counter and mold, 120v 60hz
	H-3624.5F	Motorized flow table with counter and mold, 220v 50hz
	H-3625	Motorized flow table with mold, 120v 60hz
1	H-3625.5F	Motorized flow table with mold, 220v 50hz
	H-3621	Caliper

**Note:** Also required but not part of basic set—Concrete pedestal.

Related Standards: ASTM C138, C172, C173, C192, C670, E177

## Air Content of Freshly Mixed Concrete by the Pressure Method

Qty.	Model	Description
1	H-2783	Humboldt concrete air meter
1	choose one: H-2788 H-2793 H-2789	Air meter calibrator, plastic Air meter calibrator, aluminum Air meter calibrator, brass
1	H-2785.DB	Replacement pump assembly

# ASTM C232

Related Standards: ASTM C138, C172, C192, C670

## Bleeding of Concrete (Method A)

Qty.	Model	Description
1	H-3661.1	Unit weight measure, 1/2 cu. ft.
1	H-3650	Tamping rod
1	H-2785.36	Syringe
1	H-4915.1M	Glass graduate, 1,000 ml

**Note:** Also required but not part of basic set—weighing device.

Related Standards: ACI 211.1

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## **Air-Entraining Admixtures for Concrete**

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This test method covers requirements for air entraining admixtures in the field. For specific requirements refer to referenced ASTM standards, namely, C33, C39, C78, C136, C143, C150, C157, C172, C173, C185, C192, C231, C232, C260, C403, C666, C670, D75, D1193, E70.

# ASTM C234

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## Comparing Concretes on the Basis of Bond Development with Reinforcing Steel

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Standard Withdrawn

# ASTM C243

Related Standards: ASTM C109, C230, C305, C778, C1005

## Bleeding of Cement Pastes and Mortars

Qty.	Model	Description
1	H-3600	Cement bleeding apparatus
1	H-2860	Tamper, rubber

# ASTM C266

Related Standards: ASTM C151, C183, C187, C305, C490, C511, C670, C1005, D1193

## Time of Setting of Hydraulic-Cement Paste by Gillmore Needles

Qty.	Model	Description
1	H-3150	Gillmore apparatus
1	H-3154	Gillmore test sample template
1	H-3761	Trowel

**Note:** Also required but not part of basic set—Mixer, weighing device and glass graduates.



Related Standards: ASTM C470/C470M, C579, C904, C1312, E4

## Chemical Resistance of Mortars, Grouts, and Monolithic Surfacing and Polymer Concretes

### Method B

Qty.	Model	Description
1	choose one: H-4913.250 H-4913.500 H-4913.1M	choose one: Erlenmeyer flask, 250ml, vented Erlenmeyer flask, 500ml, vented Erlenmeyer flask, 1M, vented
2	H-2820	2" cube mold, 3-gang
1	H-3760	Triangular trowel
1	H-4359A	Bakalon mixing pan

**Note:** For testing 50mm cubes, substitute H-2820, 2" Cube Molds with H-2820M, 50mm Cube Molds.

### Method C

Qty.	Model	Description
1	choose one: H-4913.250 H-4913.500 H-4913.1M	choose one: Erlenmeyer flask, 250ml, vented Erlenmeyer flask, 500ml, vented Erlenmeyer flask, 1M, vented
1	see C470	Cylindrical molds
1	H-3760	Triangular trowel
1	H-4359A	Bakalon mixing pan

**Note:** Also required but not part of basic set—Weighing balance, micrometer(s), glass containers (inert lined), bath oven, and compression testing machine.

# ASTM C289

Related Standards: ASTM C114, C227, C295, C1005, D1193, D1248, E11, E60

## Potential Alkali-Silica Reactivity of Aggregate (Chemical Method)

Qty.	Model	Description
4	H-3320	Reaction container
1	choose one: H-1390 H-1390.4F	Constant temperature water bath, 110V 60hz Constant temperature water bath, 220V 50/60hz
1	H-3920FS50	8" dia. brass frame sieve, #50 ss mesh
1	H-3920FS100	8" dia. brass frame sieve, #100 ss mesh
1	H-3920P	8" dia. brass pan
1	H-3930BC	8" dia. brass cover
1	Choose one: H-4325 H-4325.2F H-4325.5F	Humboldt economy sieve shaker for 8" sieves, 120v 60hz Humboldt economy sieve shaker for 8" sieves, 220v 60hz Humboldt economy sieve shaker for 8" sieves, 220v 50hz

**Note:** Also required but not part of basic set—Weighing scale, analytical balance, crushing and grinding equipment, spectrophotometer, glassware and various reagents.

# ASTM C293

Related Standards: ASTM C31, C78, C192, C617, C1077, E4

## Flexural Strength of Concrete (Using Simple Beam With Center-Point Loading)

Qty.	Model	Description
1	Choose one:	Concrete compression machine, 250,000 lb (1,112 kN) cap., iD Digital Indicator, platens for testing 6" x 12" specimens
	HCM-2500iH	Concrete compression machine, 115V 60Hz
	HCM-2500iH.2F	Concrete compression machine, 230V 60Hz
	HCM-2500iH.5F	Concrete compression machine, 230V 50Hz
1	HCM-0119A	Flexural beam test attachment
1	HCM-0200	Machine mounting stand

# ASTM C305

Related Standards: ASTM C778 AASHTO T162

## Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency

Qty.	Model	Description
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 Qt. 115V 60Hz Mortar mixer, 5 Qt. 220V 60Hz Mortar mixer, 5 Qt. 220V 50Hz

**Note:** Also required but not part of basic set—Balance, weights, glass graduates and other labware.

Related Standards: ASTM C904, E4

## Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing

Qty.	Model	Description
2	H-2800	Briquette mold
1	H-2959	Concrete capping compound, flake-style
1	H-2958	Capping ladle

**Note:** Also required but not part of basic set—Weighing scale, mixing-melting equipment, and tensile test machine.

# ASTM C308

Related Standards: ASTM C279, C307, C904

## Working, Initial Setting, and Service Strength Setting Times of Chemical-Resistant Resin Mortars

Qty.	Model	Description
1	H-3050	Vicat consistency apparatus
1	H-3760	Triangular trowel
1	H-4359A	Bakalon mixing pan

**Note:** Also required but not part of basic set—Weighing scale and bricks per ASTM C279.

Related Standards: ASTM C25, C33, C109/C109M, C114, C150, C151, C157/C157M, C185, C188, C204, C226, C227, C430, C441, C618, C670, C778, C1012, C1157, C1437, CD4326

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## **Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete**

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This specifications states requirements for the acceptance of fly ash and raw or calcined pozzolans for use in Portland-cement concrete. Sand utilized is H-3820, Tensile test sand, and the remaining requirements refer to other ASTM standards, namely, C25, C33, C109/C109M, C114, C150, C151, C157/C157M, C185, C188, C204, C226, C227, C430, C441, C618, C670, C778, C1012, C1157, C1437, CD4326.

# ASTM C321

Related Standards: ASTM C279, C287, C904, E4

## Bond Strength of Chemical-Resistant Mortars

Qty.	Model	Description
1	H-2959	Concrete capping compound, flake-style
1	Choose one: H-2953 H-2953.4F	Compound melting pot, 120V 60Hz Compound melting pot, 220V 50/60Hz
1	H-3760	Triangular trowel
1	H-4359A	Bakalon mixing pan

**Note:** Also required but not part of basic set—Weighing scale, bricks per ASTM C 279, marking guide, special fixtures, and universal testing machine.



# ASTM C341

Related Standards: ASTM C276, C31/C31M, C42/C42M, C157/C157M, C192/C192M, C490, C666/C666M

## Length Change of Cast, Drilled, or Sawed Specimens of Hydraulic-Cement Mortar and Concrete

### Vertical

Qty.	Model	Description
1	H-3260	Replacement gauge studs, pack of 10
1	choose one: H-3250D H-3250D.4F	Length comparator, digital indicator, 120V 60Hz Length comparator, digital indicator, 220V 50/60Hz

### Horizontal

Qty.	Model	Description
1	choose one: H-3230 H-3230D H-3231 H-3231D	Strain gauge set Strain gauge set, digital Strain gauge set, metric Strain gauge set, metric, digital

# ASTM C342

Related Standards: ASTM C109, C150, C227, C305, C490, C856, E11

## Potential Volume Change of Cement-Aggregate Combinations

Qty.	Model	Description
1	H-3264	Mortar bar container
4	H-3253	2-gang prism molds
2	H-3260	Replacement gauge studs, pack of 10
1	choose one: H-3250D H-3250D.4F	Length comparator, digital indicator, 120V 60Hz Length comparator, digital indicator, 220V 50/60Hz
1	H-2860	Tamper, rubber
1	H-3761	Trowel

**Note:** Also required but not part of basic set—Mixer and test sieves.

Related Standards: C109/C109M, C230, C305, C349, C670, C778

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## Flexural Strength of Hydraulic-Cement Mortars

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This test method covers test prisms and center point loading. Sand utilized is H-3825; for the remaining requirements refer to referenced ASTM standards, namely, C109/C109M, C230, C305, C349, C670, C778.

**Note:** Also required but not part of basic set—Tamper, guide, and center point loading fixture.

# ASTM C359

Related Standards: ASTM C150, C183, C185, C187, C305, C490, C670, C778, C1005, D1193, E11

## Early Stiffening of Portland Cement (Mortar Method)

Qty.	Model	Description
1	H-3050	Vicat apparatus
1	H-3070	Replacement needle
1	H-4974	Spoon, stainless steel
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 Qt. 115V 60Hz Mortar mixer, 5 Qt. 220V 60Hz Mortar mixer, 5 Qt. 220V 50Hz
1	H-4915.100	Graduated cylinder, 100ML
1	H-4915.250	Graduated cylinder, 250ML
1	H-4915.500	Graduated cylinder, 500ML
1	H-2604.1C	ASTM thermometer, 150°C (non mercury)
1	H-3761	Trowel
1	H-3575A	Digital timer clock, 24-hour
1	H-3065	Mold container
1	H-3820	Ottawa 20-30 sand, 50 lb. bag

**Note:** Also required but not part of basic set—Weighing devices and mixing water.

# ASTM C360

Related Standards: AASHTO T183 & California Test Method CTM533

## Withdrawn Standard: Test Method for Ball Penetration in Freshly Mixed Hydraulic Cement Concrete

Qty.	Model	Description
1	choose one: H-3655 H-3655-20	Ball penetration apparatus Ball penetration apparatus, 20 lb.

# ASTM C386

Related Standards: ASTM C267, C287, C395, C399, C904

## Use of Chemical-Resistant Sulphur Mortar

Qty.	Model	Description
1	H-2959	Concrete capping compound, flake-style
1	H-2958	Capping ladle
1	choose one: H-2948 H-2948.4F H-2949 H-2949.4F	choose one: Compound melting pot, 20 qt. (19L), 120V 60Hz Compound melting pot, 20 qt. (19L), 220V 50/60Hz Compound melting pot, 28 qt. (26.5L), 120V 60Hz Compound melting pot, 28 qt. (26.5L), 220V 50/60Hz

# ASTM C403

Related Standards: ASTM C125, C143, C172, C173, C192, C231, C670, D1558, E1, E11

## Time of Setting of Concrete Mixtures by Penetration Resistance

Qty.	Model	Description
1	H-4133	Acme penetrometer
1	H-4133F	Spare data sheets, pack of 100
2	H-4184A	Sample can
1	H-3650	Tamping rod, 5/8" (16mm) dia. x 24" (600mm) long
1	H-2785.36	Syringe
1	H-2631D	Dual-scale thermometer

# ASTM C426

Related Standards: ASTM C490, C1093; ANSI B94.11M – 1993 Twist Drills

## Linear Drying Shrinkage of Concrete Masonry Units

Qty.	Model	Description
1	choose one:	
	H-3230	Multi-Length Strain Gauge Set, Analog
	H-3231	Multi-Length Strain Gauge Set, Analog, metric
	H-3230D	Multi-Length Strain Gauge Set, Digital
	H-3231D	Multi-Length Strain Gauge Set, Digital, metric

**Note:** Also required but not part of basic set— Weighing scale, drying oven, calcium chloride flakes, cooling chamber, immersion tank, and temperature & humidity recording equipment.



Related Standards: ASTM C109, C125, C150, C227, C618, C989

## Effectiveness of Mineral Admixtures or Ground Blast-Furnace Slag in Preventing Excessive Expansion of Concrete Due to the Alkali-Silica Reaction

Qty.	Model	Description
1	H-3267	Round mortar bar container with rack
4	H-3253	2-gang prism molds
2	H-3260	Replacement gauge studs, pack of 10
1	H-3250D	Digital length comparator
1	H-2860	Tamper, rubber
1	H-3761	Trowel

**Note:** Also required but not part of basic set—Mixer and test sieves..

# ASTM C451

Related Standards: ASTM C150, C183, C187, C305, C490, C670, C1005, D1193

## Early Stiffening of Hydraulic Cement (Paste Method)

Qty.	Model	Description
1	H-3050	Vicat apparatus
1	H-3070	Replacement needle
1	H-3761	Trowel
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 Qt. 115V 60Hz Mortar mixer, 5 Qt. 220V 60Hz Mortar mixer, 5 Qt. 220V 50Hz
1	H-4915.100	Graduated cylinder, 100ml
1	H-4915.250	Graduated cylinder, 250ml
1	H-4915.500	Graduated cylinder, 500ml

**Note:** Also required but not part of basic set—Weighing device and reference masses.

# ASTM C452

Related Standards: ASTM C109, C150, C230, C305, C471, C490, C511, C778, C1005, D1193, E380

## Potential Expansion of Portland-Cement Mortars Exposed to Sulfate

Qty.	Model	Description
1	Choose one: H-3620 H-3624 H-3624.5F H-3625 H-3625.5F	Choose one: Flow table, hand-driven Flow table with counter and flow mold, 110V 60Hz Flow table with counter and flow mold, 220V 50Hz Flow table with flow mold, 110V 60Hz Flow table with flow mold, 220V 50Hz
1	H-3621	Caliper
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 Qt. 115V 60Hz Mortar mixer, 5 Qt. 220V 60Hz Mortar mixer, 5 Qt. 220V 50Hz
1	H-2860	Tamper, rubber
1	H-3761	Trowel, 2-3/4" x 5" (70 x 127mm)
1	H-4915.100	Graduated cylinder, 100ML
1	H-4915.250	Graduated cylinder, 250ML
1	H-4915.500	Graduated cylinder, 500ML
2	H-3253	2-Gang prism molds
2	H-3260	Replacement gauge studs, pack of 10
1	Choose one: H-3250D H-3250D.4F	Choose one: Digital length comparator, english/metric display, 120V 60HZ Digital length comparator, english/metric display, 220V 50/60Hz

**Note:** Also required but not part of basic set—Weights and weighing devices.

# ASTM C469

Related Standards: ASTM C31/C31M, C39/C39M, C42/C42M, C174/C174M, C192/C192M, C617, E4, E83, E177

## Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression

Qty.	Model	Description
1	choose one: H-2911 H-2911D	Compressometer, 6" x 12" cylinders Compressometer, 6" x 12" cylinders, digital
1	choose one: H-2916 H-2916D	Compressometer, 4" x 8" cylinders Compressometer, 4" x 8" cylinders, digital
1	choose one: H-2918 H-2918D	Compressometer, 3" x 6" cylinders Compressometer, 3" x 6" cylinders, digital

**Note:** Also required but not part of basic set— Compression Testing Machine.

Qty.	Model	Description
1	choose one: H-2912 H-2912D	Compressometer-extensometer, 6" x 12" cylinders Compressometer-extensometer, 6" x 12" cylinders, digital
1	choose one: H-2917 H-2917D	Compressometer-extensometer, 4" x 8" cylinders Compressometer-extensometer, 4" x 8" cylinders, digital
1	choose one: H-2919 H-2919D	Compressometer-extensometer, 3" x 6" cylinders Compressometer-extensometer, 3" x 6" cylinders, digital

**Note:** Also required but not part of basic set— Compression Testing Machine.

Related Standards: ASTM C31/C31M, C33, C192/C192M, D256, D570

## Molds for Forming Concrete Test Cylinders Vertically

### Metal Molds which meet this specification are:

Model	Description
H-2942	6" x 12" split, steel, 1/8" wall
H-2950	6" x 12" split, steel, 1/4" wall
H-2934	4" x 8" steel, 1/4" wall
H-2920	2" x 4" split, bronze, 3-cavity

### Single-use Molds which meet this specification are:

Model	Description
H-3041	6" x 12" Plastic, (order lids separately, H-3041L)
H-3037PML	4" x 8" Plastic, has integral domed lid
H-3038PML	3" x 6" Plastic, has integral dome lid
H-3040	6" x 12" Waxed cardboard, metal bottom
H-3037	4" x 8" Waxed cardboard, metal bottom
H-3038	3" x 6" Waxed cardboard, metal bottom
H-3039	2" x 4" Waxed cardboard, metal bottom

### Reusable Plastic Molds which meet this specification are:

Model	Description
H-3043.4	4" x 8" Light, impact resistant, up to 100 uses
H-3043.6	6" x 12" Light, impact resistant, up to 100 uses

### Strippers (Optional)

Model	Description
H-3041S	T-handle style
H-3041SMA	Screwdriver style

# ASTM C472

Related Standards: ASTM C11, C778, E11

## Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete

Qty.	Model	Description
1	H-3820	Tensile test (20-30) Sand
1	H-3137	Modified vicat apparatus
1	H-3050	Vicat consistency apparatus
1	H-4915 Series	Graduated cylinder
1	choose one: H-4962 H-4960/61	Desiccab desiccator Desiccator jar(s)
1	H-4929	Aluminum moisture box
2	H-2820	2" Cube mold, 3-gang

**Note:** Also required but not part of basic set— Distilled water, weighing devices, stopwatch, mixer, curing room/insulated container, drying oven, compression test machine, and temperature & humidity recording equipment. For testing 50mm cubes, substitute H-2820, 2" Cube molds with H-2820M, 50mm Cube molds.

Related Standards: ASTM C511, C1005

## Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete

Qty.	Model	Description
1	H-3253	Two-gang prism mold
1	H-3260	Replacement gauge studs, pack of 10
1	Choose one: H-3250D H-3250D.4F	Choose one: Digital length comparator, english/metric display, 120V 60HZ Digital length comparator, english/metric display, 220V 50/60Hz

**Note:** Also required but not part of basic set—Weight and weighing devices.

# ASTM C496

Related Standards: ASTM C31/C31M, C39/C39M, C42/C42M, C192/C192M, C670

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## Splitting Tensile Strength of Cylindrical Concrete Specimens

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Cylinder Molds used comply with ASTM C470

Compression Machine used complies with ASTM C39/C39M

**Note:** Also required but not part of basic set—Supplementary Bearing Bar or Plate and Bearing Strips.



Related Standards: ASTM C911, E77, IEEE/ASTM SI 10

## Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes

Qty.	Model	Description
1	choose one: H-2967 H-2968	Concrete curing box, heat only, 110V 50/60Hz Concrete curing box, heat & cool, 110V 50/60Hz
1	H-2607.63C	Certified standard thermometer, -8 to 32°C
1	choose one: H-2735F H-2735F.4F H-2735C H-2735C.4F	Chart recorder w/ sensor, °F, 120V 60Hz Chart recorder w/ sensor, °F, 220V 50/60Hz Chart recorder w/ sensor, °C, 120V 60Hz Chart recorder w/ sensor, °C, 220V 50/60Hz
1	choose one: H-2969.8 H-2969.6 H-2969.4	Poly curing tank, 3' x 2' x 8' Poly curing tank, 2' x 2' x 6' Poly curing tank, 2' x 2' x 4'
1	choose one: H-2985 H-2985.4F	choose one: Curing tank circulator, 120V 60Hz Curing tank circulator, 220V 50/60Hz
choose one combination below:		
1	H-2914B	HumiDisk humidifier, 120/220 50/60Hz
or		
1	H-2737	Fogging fan, 120V 60Hz
1	H-2737.3	Cycle timer, programmable

**Note:** Also optionally required but not part of basic set—a moist room with durable walls and tight fitting doors (and windows).

H-2737 Fogging fan is not available in a 220V configuration.

# ASTM C535

Related Standards: ASTM C125, C131, C136, C670, C702, D75, E11

## Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

Qty.	Model	Description
1	Choose one: H-3860B H-3860B.2F H-3860B.5F	Los Angeles abrasion machine with charges, 115V 60Hz Los Angeles abrasion machine with charges, 220V 60Hz Los Angeles abrasion machine with charges, 220V 50Hz
1	Choose one: H-3880 H-3880.4F	Table-top aggregate washer, 115V 60 Hz Table-top aggregate washer, 220V 50/60Hz
1	Choose one: H-4283A H-4283A.5F H-4276A H-4276A.5F	Testing screen aggregate shaker, 110V 60Hz Testing screen aggregate shaker, 220V 50Hz Testing screen aggregate shaker, 110V 60Hz Testing screen aggregate shaker, 220V 50Hz
1	H-4278F12	Aggregate screen tray, #12 Wire Mesh
1	H-4278F8	Aggregate screen tray, #8 Wire Mesh
1	H-4278F4	Aggregate screen tray, #4 Wire Mesh
1	H-4278C.375	Aggregate screen tray, 3/8" Wire Mesh
1	H-4278C.500	Aggregate screen tray, 1/2" Wire Mesh
1	H-4278C.750	Aggregate screen tray, 3/4" Wire Mesh
1	H-4278C1.000	Aggregate screen tray, 1" Wire Mesh
1	H-4278C1.500	Aggregate screen tray, 1.5" Wire Mesh
1	H-4278C2.000	Aggregate screen tray, 2" Wire Mesh
1	H-4278C2.500	Aggregate screen tray, 2.5" Wire Mesh
1	H-4278C3.000	Aggregate screen tray, 3" Wire Mesh

*contd. next page*

# ASTM C535 (contd.)

Qty.	Model	Description
1	H-4283P	Dustpan tray
1	H-4308	Aggregate scoop
1	Choose one: HB-4964 HB-4964.4F	Ohaus navigator xl balance, 20kg x 1g, 120V 60Hz Ohaus navigator xl balance, 20kg x 1g, 220V 50/60Hz
1	Choose one: H-30140 H-30140.4F	Laboratory bench oven, 7 cu.ft. (198 liter), 115V 60Hz Laboratory bench oven, 7 cu.ft. (198 liter), 230V 50/60Hz
2	H-3705	Sample drying pans, 18" x 18" x 3" (457 x 457 x 76mm)

# ASTM C579

Related Standards: ASTM C470, C904, E4

## Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes

### Method B

Qty.	Model	Description
2	H-2820	2" cube mold, 3-gang
1	H-2959	Concrete capping compound, flake-style
1	Choose one: H-2953 H-2953.4F	Compound melting pot, 120V 60Hz Compound melting pot, 220V 50/60Hz

### Method C

Qty.	Model	Description
1	H-2959	Concrete capping compound, flake-style
1	Choose one: H-2953 H-2953.4F	Compound melting pot, 120V 60Hz Compound melting pot, 220V 50/60Hz
1	see C470	Cylindrical molds

**Note:** Also required but not part of basic set—Temperature controlled storage space. For testing 50mm cubes, substitute H-2820, 2" Cube Molds with H-2820M, 50mm Cube Molds.

# ASTM C593

Related Standards: ASTM C25, C39, C50, C51, C109/C109M, C110, C305, C311, C670, C821, D1557

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## Fly Ash and Other Pozzolans for Use With Lime

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This specification states requirements for fly ash and other pozzolans for use with mixtures that affect lime pozzolanic reaction. Sand utilized is H-3825, Cube test sand, and the remaining requirements refer to other ASTM standards, namely, C25, C39, C50, C51, C109/C109M, C110, C305, C311, C670, C821, D1557.

# ASTM C596

Related Standards: ASTM C157/C157M, C219, C305, C490, C511, C778, C1005, C1437, E177

## Dry Shrinkage of Mortar Containing Hydraulic Cement

Qty.	Model	Description
1	H-4915.100	Graduated cylinder, 100ML
1	H-4915.250	Graduated cylinder, 250ML
1	H-4915.500	Graduated cylinder, 500ML
1	H-3253	Two-gang prism mold
1	H-3260	Replacement gauge studs, pack of 10
1	Choose one: H-3250D H-3250D.4F	Length comparator, 10" effective length, 120V 60Hz Length comparator, 10" effective length, 220V 50/60Hz
1	H-3258DD	Demolding device
1	H-3825	Cube test ottawa sand (graded)

**Note:** Also required but not part of basic set—Weight and weighing devices, mechanical mixer, curing room/container and temperature & humidity recording equipment.

# ASTM C597

Related Standards: ASTM C125, C215, C823, E1316

## Pulse Velocity through Concrete

Qty.	Model	Description
1	H-2983	Pundit plus ultrasonic pulse velocity test system

Related Standards: ASTM C109, C150, C472, C595, C1231; ANSI B46.1

## Capping Cylindrical Concrete Specimens (6" x 12" Cylinders)

Qty.	Model	Description
1	H-2952	Vertical cylinder capper
1	H-2945	Cylinder carrier
1	H-2958	Capping ladle
1	H-2959	Concrete capping compound, flake-style
1	Choose one: H-2953 H-2953.4F	Compound melting pot, 120V 60Hz Compound melting pot, 220V 50/60Hz
1	H-2822	Cover plate

**Note:** Also recommended but not part of basic set—Exhaust fume hood and suitable alignment device(s).

**For 220V-50/60Hz applications,** substitute:

H-2953 with H-2953.4F 4-QT (3.8L) Compound Melting Pot, 220V-50/60Hz



# ASTM C618

Related Standards: ASTM C125, C311

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## **Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete**

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This specification states requirements for classes N, F, and C product. Sieve used is No. 325; for the remaining requirements refer to ASTM standard C311.

Related Standards: ASTM C157, C192, C215, C233, C295, C341, C490, C494, C670, C823

## Resistance of Concrete to Rapid Freezing and Thawing (Procedure A)

Qty.	Model	Description
1	HC-3186S.4F	Rapid freeze-thaw apparatus, 220v 50/60hz
1	H-3185.1	Spare recording chart paper, pack of 100
1	H-3185.3A	Pen arm replacement kit, pack of 2
1	H-TA	Spare stainless steel sample positioning tray
16	H-3195	Freeze-thaw mold

**Note:** Also required but not part of basic set(s)—rubber specimen supports or pad.

# ASTM C702

Related Standards: ASTM C125, C128, D75

## Reducing Samples of Aggregate to Testing Size

Qty.	Model	Description
1	H-3964	Sample splitter, 14 chutes, 1/2" chute width
1	H-3966	Sample splitter, 14 chutes, 3/4" chute width
1	H-3987	Sample splitter, 16 chutes, 1" chute width
1	H-3990	Sample splitter, 10 chutes, 1-1/2" chute width
1	H-3992	Sample splitter, 8 chutes, 2-1/2" chute width
1	H-4136	Quartering canvas, 6' x 8'. (2 x 2.5m)
1	H-4983	Square-point shovel

# ASTM C778

Related Standards: ASTM C109/C109M, C127, C136, C150, C185, C595, C702, C1005, E11

## Standard Specification for Standard Sand

Qty.	Model	Description
1	H-3820	Tensile test ottawa sand c190
1	H-3825	Cube test ottawa sand c109
1	H-3920FS16	8" dia. brass frame sieve, #16 ss mesh
1	H-3920FS20	8" dia. brass frame sieve, #20 ss mesh
1	H-3920FS30	8" dia. brass frame sieve, #30 ss mesh
1	H-3920FS40	8" dia. brass frame sieve, #40 ss mesh
1	H-3920FS50	8" dia. brass frame sieve, #50 ss mesh
1	H-3920FS100	8" dia. brass frame sieve, #100 ss mesh
1	H-3920P	8" x 2" Sieve bottom pan
1	H-3930BC	8" Sieve cover with ring handle
1	Choose one: H-4325 H-4325.2F H-4325.5F	Choose one: Humboldt economy sieve shaker for 8" sieves, 120V 60Hz Humboldt economy sieve shaker for 8" sieves, 220V 60Hz Humboldt economy sieve shaker for 8" sieves, 220V 50Hz
1	H-3962	Sample splitter, 14 chutes-10 mm chute width

**Note:** Also required but not part of basic set—Weight and weighing devices.

# ASTM C780

Related Standards: ASTM C39, C109/C109M, C128, C173, C187, C231, C270, C470, C496, C511, E11

## Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry

### Annex 1

Qty.	Model	Description
1	H-3133	Modified vicat cone penetrometer (includes h-3840 400 ml measure)
1	H-2860	Tamper, rubber
1	H-4144.8	Straightedge
1	H-4974	Spoon
1	H-3855	Tapping stick

**Note:** The above applies only to Annex 1. Consistency by Cone Penetration Test Method.

### Annex 3

Qty.	Model	Description
1	choose one: H-4134 H-4132	Concrete pocket penetrometer Concrete pocket penetrometer, dial
1	H-4134F	Foot for pocket penetrometer

**Note:** The above applies only to Annex 3. Initial Consistency and Consistency Retention or Board Life of Masonry Mortars Using a Modified Concrete Penetrometer.

### Annex 7

Qty.	Model	Description
1	H-3372	Utility bucket
1	see C470	2" x 4" or 3" x 6" cylindrical molds
or		
2	H-2820	2" cube mold, 3-gang
1	H-2860	Tamper, rubber
1	H-4974	Spoon
1	H-4906	Straight edge spatula (trowel)

**Note:** The above applies only to Annex 7. Compressive Strength of Molded Masonry Mortar Cylinders and Cubes. Also required but not included in basic set—max-min thermometer and compression testing machine.

# ASTM C803

Related Standards: ASTM C670, C125; ANSI A10.3

## Penetration Resistance of Hardened Concrete

Qty.	Model	Description
1	H-2978	Windsor hp probe system
1	H-2978.01	Silver probe kit (for up to 17,000 psi)
1	H-2978.03	Gold probe kit (for 3,000 psi and below)

# ASTM C805

Related Standards: ASTM C125, C670, E18

## Rebound Number of Hardened Concrete

Qty.	Model	Description
1	choose one:	
	H-2987H	Humboldt concrete rebound hammer
	H-2975	Standard concrete test hammer, type n
	H-2975LM	Light weight test hammer
1	H-2976	Digi-schmidt concrete test hammer with data logger/display
1	H-2972	Calibration anvil

# ASTM C806

Related Standards: ASTM A307, C157, C219, C305, C490, C778, C1005, F606

## Restrained Expansion of Expansive Cement Mortar

Qty.	Model	Description
1	H-3251	2-gang prism mold, 2" x 2" x 10"
2	H-3251RC	Retaining cage
1	Choose one: H-3250D H-3250D.4F	Digital length comparator, english/metric display, 120V 60HZ Digital length comparator, english/metric display, 220V 50/60Hz
1	H-2860	Tamper, hard rubber
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 qt., 115v 60hz Mortar mixer, 5 qt., 220v 60hz Mortar mixer, 5 qt., 220v 50hz
1	H-3761	Trowel
1	H-3825	Ottawa test sand, 50lb (22.5kg) bag
1	H-4915.250	Graduated cylinder, 250ml
1	H-4915.500	Graduated cylinder, 500ml

**Note:** Also required but not part of basic set—Weight and weighing devices.



# ASTM C807

Related Standards: ASTM C109, C183, C187

## Time of Setting of Hydraulic Cement Mortar by Modified Vicat Needle

Qty.	Model	Description
1	H-3085	Time of set and consistency vicat needle apparatus
1	H-2860	Tamper, rubber
1	H-3761	Trowel, 2.75" x 5" (70 x 127mm)
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 qt., 115v 60hz Mortar mixer, 5 qt., 220v 60hz Mortar mixer, 5 qt., 220v 50hz
1	H-4915.100	Graduated cylinder, 100ml
1	H-4915.250	Graduated cylinder, 250ml
1	H-4915.500	Graduated cylinder, 500ml
1	H-3825	Ottawa test sand, 50lb (22.5kg) bag

**Note:** Also required but not part of basic set—Weight and weighing devices.

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## Withdrawn Standard: Recommended Practice for Estimating Scratch Hardness of Aggregate Particles

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Qty.	Model	Description
1	H-3420	Scratch hardness tester

# ASTM C876

Related Standards: ASTM G3

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## Half-Cell Potentials of Uncoated Reinforcing Steel in Concrete

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Qty.	Model	Description
1	H-2872	CorMap rebar corrosion mapping system

Related Standards: ASTM C125, C157, C192, C219, C403, C490, C670, C806, C845

## Restrained Expansion of Shrinkage-Compensating Concrete

Qty.	Model	Description
3	H-3254	Prism mold, 3" x 3" x 10"
3	H-3257	retaining cage
1	Choose one: H-3250D H-3250D.4F	Digital length comparator, english/metric display, 120V 60Hz Digital length comparator, english/metric display, 220V 50/60Hz
1	H-2905.1	Tamping rod
1	Choose one: H-2999A H-2999A.4F	Concrete vibrator, 115V 60hz Concrete vibrator, 220V 50/60hz

# ASTM C939

Related Standards: ASTM C109/C109M, C938

## Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)

Qty.	Model	Description
1	choose one: H-2834 H-2835	Grout flow cone, 1/2" orifice with 3/4" option & point gage assy. Grout flow cone, 3/4" orifice with 1/2" option & point gage assy.
1	H-2833	Flow cone stand

**Note:** Also required but not part of basic set—Grout mixer, level, stopwatch, No. 8 sieve and other labware.

# ASTM C1073

Related Standards: ASTM C109/C109M, C125, C219, C305, C670, C778, C989

## Hydraulic Activity of Ground Slag by Reaction with Alkali

Qty.	Model	Description
2	H-2820	2" Cube Mold, 3-Gang
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 Qt. 115V 60Hz Mortar mixer, 5 Qt. 220V 60Hz Mortar mixer, 5 Qt. 220V 50Hz
1	Choose one: HCM-2500iH HCM-2500iH.2F HCM-2500iH.5F	Concrete compression machine, 250,000 lb (1,112 kN) cap., iD Digital Indicator, platens for testing 6" x 12" specimens Concrete compression machine, 115V 60Hz Concrete compression machine, 230V 60Hz Concrete compression machine, 230V 50Hz
1	HCM-0200	Machine mounting stand
1	HCM-0112A	2" (50mm) cube platen set

**Note:** Also required but not part of basic set—Curing room/container, temperature recording equipment and other labware. For testing 50mm cubes, substitute H-2820, 2" Cube Molds with H-2820M, 50mm Cube Molds.

# ASTM C1074

Related Standards: ASTM C39/C39M, C78, C109/C109M, C192/C192M, C403/C403M, C511, C684, C803/C803M, C873, C900, C918

## Estimating Concrete Strength by the Maturity Method

Qty.	Model	Description
1	choose one: H-2680 H-2682	Multi-channel maturity meter set Rechargeable multi-channel maturity meter set

# ASTM C1090

Related Standards: ASTM C172, C305, C511, C670, C827, C939

## Measuring Changes in Height of Cylindrical Specimens of Hydraulic-Cement Grout

Qty.	Model	Description
1	H-2903	Micrometer bridge set
Contains:		
1	H-2904	Tapered cylinder mold
1	H-2902	Micrometer depth gauge
1	H-2901	Micrometer bridge
1	H-2905.2	Glass plate, 100mm sq. x 6mm thick
1	H-2905.3	Weight, 1.5 kg
1	H-2905.1	Tamping rod

**Note:** Also required but not part of basic set—Mixer with clearance adjustment and Outside Micrometer/Caliper with 50 mm throat depth.



# ASTM C1231

Related Standards: ASTM C31/C31M, C39, C192/C192M, C617, D2000, D2240

## Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders

Qty.	Model	Description
1	choose one:	
	H-2946D	Econ-o-cap set, (2) rings, (2) 60 duro pads for 6" x 12" specimens
	H-2946B	Econ-o-cap set, (2) rings, (2) 60 duro pads for 3" x 6" specimens
	H-2946C	Econ-o-cap set, (2) rings, (2) 60 duro pads for 4" x 8" specimens

**Note:** Also required but not part of basic set—Materials & equipment to produce ends of cylinders per ASTM C39 & C617.

# ASTM C1260

Related Standards: ASTM C109, C150, C151, C295, C305, C490, C511, C670, C856, D1193, E11

## Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)

Qty.	Model	Description
1	H-3265	Rectangular mortar bar container, up to 36 bars
4	H-3253	2-gang prism molds
2	H-3260	Replacement gauge studs, pack of 10
1	H-3250D	Digital length comparator
1	H-2860	Tamper, rubber
1	H-3761	Trowel

**Note:** Also required but not part of basic set—Mixer, test sieves, and water bath or oven.

# ASTM C1362

Related Standards: ASTM C172, C670

## Flow of Freshly Mixed Hydraulic-Cement Concrete

Qty.	Model	Description
1	H-3643	K slump tester

# ASTM C1383

Related Standards: ASTM C597, E1316

## Measuring the P-Wave Speed and the Thickness of Concrete Plates Using the Impact Echo Method

Qty.	Model	Description
1	H-2851	Impact echo system

# ASTM C1506

Related Standards: ASTM C109/109M, C185, C230, C305, C670, C1437

## Water Retention of Hydraulic Cement-Based Mortars and Plasters

Qty.	Model	Description
1	H-3630A	Water retention apparatus
1	H-2860	Tamper, rubber
1	H-4144.8	Straight edge
1	Choose one: H-3841 H-3841.2F H-3841.5F	Mortar mixer, 5 qt., 115V 60Hz Mortar mixer, 5 qt., 220V 60Hz Mortar mixer, 5 qt., 220V 50Hz

**Note:** Also required but not part of basic set—Balance, weights, glass graduates and other labware.

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## Standard Test Method for Static Segregation of Self-Consolidating Concrete Using Column Technique

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Qty.	Model	Description
1	HC-3666	Static segregation column mold
1	H-2785.34	Strike-off bar

# ASTM C1611

Related Standards: ASTM C143/C143M, C172, C173/C173M, C670

## Slump Flow of Self-Consolidating Concrete

Qty.	Model	Description
1	choose one: H-3640 H-3640P	Slump cone, steel Slump cone, plastic
1	H-2785.34	Strike-off bar
1	H-3650	Tamping (puddling) rod

**Note:** Also required but not part of basic set—Base plate, 36 in. min. dia.

# ASTM C1621

## Standard Test Method for Passing Ability for Self-Consolidating Concrete by J-Ring

Qty.	Model	Description
1	H-3652	J-ring test set, smooth rods
1	H-2785.34	Strike-off bar



# ASTM C1712

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## Standard Test Method for Rapid Assessment of Static Segregation Resistance of Self-Consolidating Concrete Using Penetration Test

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Qty.	Model	Description
1	HC-3668	Penetration apparatus for self-consolidating concrete
1	H-3653	Stainless steel base plate (optional)
1	H-2785.34	Strike-off bar

Related Standards: ASTM C109/109M, C185, C230, C305, C670, C1437

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## **Standard Guide to Methods of Evaluating Moisture Conditions of Concreted Floors to Receive Resilient Floor Coverings**

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See ASTM F1869 and ASTM F2170.

# ASTM F1869

Related Standards: ASTM C670, F141

## Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Carbide

Qty.	Model	Description
1	choose one: HC-2993A HC-2993B	Vapor Emission Test Kit, 3 kits, for 1000 sq. ft. Vapor Emission Test Kit, 12 kits, for 10,000 sq. ft.
1	choose one: HB-4720A HB-4720A.4F	Ohaus portable balance, 200g x 0.01g, 120V 60Hz Ohaus portable balance, 200g x 0.01g, 220V 50/60Hz

**Note:** Also required but not part of basic set—Concrete surface cleaner or light grinder.

Related Standards: ASTM C511, E104, E710

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## Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes

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Qty.	Model	Description
1	HC-3000	Concrete RH/Moisture meter kit

**Note:** Also required but not part of basic set—Concrete drill bit approximately 15 mm diameter.



**1.800.544.7220**  
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