

U.S.G. GYPSUM CEMENT COMPARISON CHART

	Use Consist ency	Set Time (Min)	Dry Compressive Strength (PSI)	Setting Expansion %	Wet Density (lb/cu. foot)	Dry Density (lb./cu. foot)	Absor ption Capa city
#1 POTTERY PLASTER	70	14-24	2,400	.36%	99	69	36%
# 1 MOULDING PLASTER	70	27-37	2,000	.20%	99	69	
WHITE HYDROCAL	45	25-35	5,000	.39%	110	90	
ULTRACAL 30	38	25-35	6,000	.08%	115	99	Low
FGR-95	25-30	50-70			112	101.6	
TUFSTONE	32	25-30	10,000	.24%	122	112	
DRYSTONE	18-22		16,000	.275%	130	128	2.5%
DURACAL (neat)	25	20-35	10,500	.20%		90	
DURACAL (50/50 w/sand)	25-?	20-35	8,800	.09%		144	

Use Consistency= % of water per lb of plaster powder.

USG No. 1 Pottery Plaster produces a break-resistant, smooth wearing mold designed for slip casting ceramics. It is formulated to provide stronger, longer-lasting ceramic slip cast molds, and is the industry standard for sanitaryware and dinnerware casting

USG No. 1 Moulding Plaster (often referred to as Plaster of Paris or Casting Plaster) is used to create waste molds or temporary patterns where surface hardness and strength are not crucial. Offers a controlled set that provides uniform workability. Has a fine grain — making it ideal for producing sharp detail when used neat for cast work.

USG White Hydrocal® Gypsum Cement : Offering twice the compressive strength of plaster, it is especially suitable in thin, delicate sections where high green strength is required. White Hydrocal is ideal for both solid and hollow casting of lamp bases, figurines, moldings and general castings. Offers long workability; setting expansion twice that of molding plaster and pottery plaster. Has a great value to performance ratio. Achieves a stark, white color, making it ideal for accepting colorants. High green strength minimizes breakage during removal from the most intricate latex molds.



USG Ultracal® 30 Gypsum Cement : a traditional tooling gypsum cement, specially formulated for close tolerance tooling. Low absorption USG Ultracal® 30 Gypsum Cement: Is recommended where extreme accuracy and surface hardness are required (i.e. duplicator molds) Provides the lowest expansion of any rapid-setting gypsum cement. Is ideal for splash-casting molds and models for polyester and epoxy resins.

USG Hydrocal® FGR 95 : an alpha hemihydrate gypsum cement designed for lightweight, strong, resilient, glass-reinforced architectural detail product fabrication from simple cornices to ornate capitals and medallions. Superior fire retardant properties allow for code-compliant installations in a variety of public and private structures. Effectively duplicates pieces formerly made of plaster, wood, concrete and stone.

USG Tuf-Stone™ Gypsum Cement: is formulated with polymers and fibers to withstand nearly three times the impact pressure of standard materials. Designed for solid cast interior giftware applications, high-strength USG Tuf-Stone™ Gypsum Cement is exceptionally resilient and chip-resistant and is compatible with numerous color pigments, making it an excellent alternative to resin products in solid casting operations.

USG Drystone™ : is a unique product designed for the fabrication of solid cast interior use pieces. Because it requires absolutely no drying, it can be cast, painted, packaged and shipped in a single day. Placing the cast piece(s) in front of a fan yields a finished product in two hours that can be decorated in roughly 2-4 hours (after setting) with typical paint. USG Drystone™ Casting Media: Eliminates the need for expensive drying procedures Achieves the highest compressive strength in its category and highest early “green strength” Provides an environmentally safe alternative to resin-based products with respect to air quality. Can be used with the majority of mold materials including silicone, latex and urethane, and offers a high density that produces a quality feel and excellent duplication of intricate details.

USG Duracal® Cement: is a specially formulated above-grade concrete patching material. Positive expansion allows traffic return one hour after set. Ideal for expressway, road, ramp, bridge, parking lot and commercial concrete floor repair, and even sculpture reproduction. Duracal can be applied "neat" or with aggregate –it mixes with equal parts of both sand and coarse aggregate and a measurement of water. Achieves sufficient strength to accept traffic just one hour after setting. Is exceptionally durable; withstands freeze-thaw cycles, salt application and heavy traffic. Performs in temperatures as low as 32° F

NOTE: DURACAL cement is not recommended for use in structural applications.

Volume Determination Formula=

Fluid oz. of mold cavity x .001 (= cu. Ft.) x dry density property = lbs of plaster needed.

