

Appalachian Center for Crafts - Clay Studio

Vince Pitelka, 2016

Claybodies and Soldner Mixer-Load Amounts

This handout describes claybodies and provides recipe amounts for full, 1/2, and 1/3 mixer-loads. The water amount is approximate, and you will most likely need to add more water as you add the final dry ingredients. Do so specifically according to the Soldner mixing instructions in a separate handout. When mixing with recycle, place six inches of slurry in the mixer, add 50% of the water specified for a half load, plus all the dry materials for a half load. Make sure you are thoroughly familiar with the Soldner mixer instructions.

<i>Mackenzie Stoneware - C8-10</i>	Full Load	Half Load	Third Load
Fire Clay	80 lbs.	40 lbs.	26.5 lbs.
Goldart	80 lbs.	40 lbs.	26.5 lbs.
OM-4 Ball Clay	40 lbs.	20 lbs.	13.5 lbs.
Fine Silica Sand	40 lbs.	20 lbs.	13.5 lbs.
G-200 Feldspar	20 lbs.	10 lbs.	6.5 lbs.
Total Dry Materials	260 lbs.	130 lbs.	86.5 lbs.
Water	60 lbs. = 7 gal.	30 lbs. = 3.5 gal.	20 lbs. = 2.3 gal.
Total Wet Clay	320 lbs.	160 lbs.	106.5 lbs.

A sandy stoneware body for thrown and handbuilt functional ware, devised by Mingei-sota potter Warren Mackenzie. Sand content gives good working structure, making it well-suited for large pots.

<i>Studio Stoneware - C8-10</i>	Full Load	Half Load	Third Load
Goldart	130 lbs.	65 lbs.	43 lbs.
Fireclay	78 lbs.	39 lbs.	26 lbs.
OM-4 Ball Clay	31 lbs.	15.5 lbs.	10.5 lbs.
G-200 Feldspar	21 lbs.	10.5 lbs.	7 lbs.
Total Dry Materials	260 lbs.	130 lbs.	86.5
Water	64 lbs. = 7 gal.	32 lbs. = 3.5 gal.	21 lbs. = 2.3 gal.
Total Wet Clay	324 lbs.	162 lbs.	107.5 lbs.

Fine-grain, grit-free stoneware throwing body. Especially nice in wood/salt/soda. Because it contains no sand or grog it is a little more prone to problems during drying and firing, and it is imperative that thrown bottoms be well compressed.

<i>Brown Studio Stoneware - C8-10</i>	Full Load	Half Load	Third Load
Goldart	120 lbs.	60 lbs.	40 lbs.
Fire Clay	74 lbs.	37 lbs.	24.5 lbs.
OM-4 Ball Clay	28 lbs.	14 lbs.	9.5 lbs.
Redart	20 lbs.	10 lbs.	6.5 lbs.
G-200 Feldspar	18 lbs.	9 lbs.	6 lbs.
Total Dry Materials	260 lbs.	130 lbs.	86.5 lbs.
Water	64 lbs. = 7 gal.	32 lbs. = 3.5 gal.	21 lbs. = 2.3 gal.
Total Wet Clay	324 lbs.	162 lbs.	107.5 lbs.

Similar to regular studio stoneware above, but contains some Redart earthenware clay, introducing iron brown. Excellent body for high-fire oxidation or reduction, but will fire very dark in wood or salt. Good body for those wishing to do work inspired by Chinese unglazed brown stoneware Yixing teapots.

<i>White Stoneware - C8-10</i>	Full Load	Half Load	Third Load
Goldart	47 lbs.	23.5 lbs.	15.5 lbs.
OM-4 Ball Clay	47 lbs.	23.5 lbs.	15.5 lbs.
Tile-6 Kaolin	36 lbs.	18 lbs.	12.5 lbs.
EPK Kaolin	35 lbs.	17.5 lbs.	11.5 lbs.
G-200 Feldspar	35 lbs.	17.5 lbs.	11.5 lbs.
Flint	35 lbs.	17.5 lbs.	11.5 lbs.
Epsom Salts **	0.8 lbs = 363 g.	0.4 lbs. = 182 g.	0.27 lbs. = 121 g.
Fine Silica Sand	25 lbs.	12.5 lbs.	8.5 lbs.
Total Dry Materials	260.8 lbs.	130.4 lbs.	86.77 lbs.
Water	60 lbs. - 7 gal.	30 lbs. - 3.5 gal.	20 lbs. - 2.3 gal.
Total Wet Clay	320.8 lbs.	160.9 lbs.	106.77 lbs.

White stoneware throwing body for functional ware, containing a significant amount of stoneware clay (Goldart) for increased plasticity and less firing shrinkage as compared to porcelain. Sand content can be increased for a sculpture body, or eliminated for a smooth throwing body. ** Dissolve Epsom salts thoroughly in a half gallon of hot water, and include in the above weights of water for the batch.

<i>Raku/Sculpture - C018-12</i>	Full Load	Half Load	Third Load
Goldart	65 lbs.	32.5 lbs.	21.5 lbs.
OM-4 Ball Clay	65 lbs.	32.5 lbs.	21.5 lbs.
Fire Clay	65 lbs.	32.5 lbs.	21.5 lbs.
Fine Grog	65 lbs.	32.5 lbs.	21.5 lbs.
Total Dry Materials	260 lbs.	130 lbs.	86 lbs.
Water	60 lbs. = 7 gal.	30 lbs. = 3.5 gal.	20 lbs. = 2.3 gal.
Total Wet Clay	320 lbs.	160 lbs.	106 lbs.

Versatile claybody with wide firing range. High thermal shock resistance at low-fire for raku and bonfire. Does not fully vitrify until at least cone 12, so makes a good midrange or high-fire sculpture body at cone 6-10. Excellent resistance to warpage at high fire, and therefore a good body for large sculpture.

<i>Tennessee Nichols Body - C/8-11</i>	Full Load	Half Load	Third Load
EPKaolin	65 lbs.	32.5 lbs.	21.5 lbs.
Tile-6 Kaolin	42 lbs.	21 lbs.	14 lbs.
Goldart	36 lbs.	18 lbs.	12 lbs.
OM-4 Ball Clay	36 lbs.	18 lbs.	12 lbs.
Hawthorn Bond Fireclay	21 lbs.	10.5 lbs.	7 lbs.
G-200 Feldspar	21 lbs.	10.5 lbs.	7 lbs.
F-4 Feldspar	13 lbs.	6.5 lbs.	4.2 lbs.
Epsom Salts**	0.8 lbs = 363 g.	0.4 lbs. = 182 g.	0.27 lbs. = 121 g.
Fine White Silica Sand	13 lbs.	6.5 lbs.	4.2 lbs.
Molochite	13 lbs.	6.5 lbs.	4.2 lbs.
Total Dry Materials	260 lbs.	130 lbs.	86 lbs.
Water	63 lbs. = 7 gal.	31.5 lbs. = 3.5 gal.	21 lbs. = 2.3 gal.
Total Wet Clay	323 lbs.	161.5 lbs.	107 lbs.

A fairly fine-grain, smooth-throwing porcelaineous stoneware body adapted from Gail Nichols's soda-firing body. Especially good for wood, salt, and soda firing.

** Dissolve Epsom salts thoroughly in a half gallon of hot water, and include in the above weights of water for the batch.

<i>Basic Porcelain - C8-10</i>	Full Load	Half Load	Third Load
EPKaolin	35 lbs.	17.5 lbs.	11.5 lbs.
Tile-6 Kaolin	30 lbs.	20 lbs.	10 lbs.
OM-4 Ball Clay	65 lbs.	32.5 lbs.	21.5 lbs.
G-200 Feldspar	65 lbs.	32.5 lbs.	21.5 lbs.
Flint	65 lbs.	32.5 lbs.	21.5 lbs.
Veegum-T **	5.2 lbs.	2.6 lbs.	1.75 lbs.
Epsom Salts **	0.8 lbs. = 262 g.	0.4 lbs. = 182 g.	0.27 lbs. = 121 g.
Total	266 lbs.	133 lbs.	88.2 lbs.
Water	60 lbs. = 7 gal.	30 lbs. = 3.5 gal.	20 lbs. = 2.3 gal.
Total Wet Clay	326 lbs.	163 lbs.	108.2 lbs.

True porcelain for throwing/handbuilding, flashes orange in salt/soda/wood. White in ox., eggshell in reduc. After weighing or measuring water, take out a half gallon of the water in a small bucket, add the Veegum-T, blend thoroughly with a hand-blender or drill-mixer, and pour into mixer along with the rest of the water.

<i>Clennell Porc. Stnwr. - C8-11</i>	Full Load	Half Load	Third Load
EPK Kaolin	52 lbs.	26 lbs.	17.3 lbs.
Tennessee Ball Clay	52 lbs.	26 lbs.	17.3 lbs.
Hawthorn Bond Fireclay	52 lbs.	26 lbs.	17.3 lbs.
G-200 Feldspar	52 lbs.	26 lbs.	17.3 lbs.
Flint	52 lbs.	26 lbs.	17.3 lbs.
Epsom Salts **	01.3 lbs. = 597 grams	0.65 lbs. = 298 grams	0.43 lbs. = 197 grams
Total	261.3 lbs.	130.65	87.1 lbs.
Water	60 lbs. = 7 gal.	30 lbs. = 3.5 gal.	20 lbs. = 2.3 gal.
Total Wet Clay	321.3 lbs.	160.65 lbs	107.1 lbs.

This porcelaineous stoneware is used by Canadian potters Tony and Sheila Clennell. It is a variation of the basic porcelain, with the addition of the fireclay. Tony says it works great for throwing large forms, and flashes nicely in the wood kiln. ** Dissolve Epsom salts thoroughly in a half gallon of hot water, and include in the above weights of water for the batch.

<i>Fina Porcelain - C8-10</i>	Full Load	Half Load	Third Load
Tile-6 Kaolin	143 lbs.	71.5 lbs.	47.5 lbs.
Pyrax-HS Pyrophyllite	39 lbs.	19.5 lbs.	13 lbs.
G-200 Feldspar	52 lbs.	26 lbs.	17.5 lbs.
Flint (325-M)	31 lbs.	15.5 lbs.	10.5 lbs.
Veegum-T **	5.2 lbs.	2.6 lbs.	1.75 lbs.
Epsom Salts **	0.8 lbs. = 363 g.	0.4 lbs. = 182 g.	0.27 lbs. = 121 g.
Total	270.2 lbs.	135.1 lbs.	90.52 lbs.
Water	60 lbs. = 7 gal.	30 lbs. = 3.5 gal.	20 lbs. = 2.3 gal.
Total Wet Clay	330.2 lbs.	165.1 lbs.	110.52 lbs.

Angela Fina's hybrid porcelain for high-fire reduction. Very stretchy for throwing large forms. White in ox. or reduc. For flashing in wood and salt, replace Tile-6 with 113 Grolleg and 30 Tennessee ball clay.

** Mix Epsom salts with a half gallon of hot water and include in the above weights of water for the batch.

Blend the Veegum-T into 1/2 gallon of the weighed water with a drill mixer before adding to the mixer tub.

<u>V-Whiteware - C04-6</u>	Full Load	Half Load	Third Load
OM-4 Ball Clay	77 lbs.	38.5 lbs.	25.5 lbs.
EPK Kaolin	50 lbs.	25 lbs.	16.5 lbs.
Tile-6 Kaolin	50 lbs.	25 lbs.	16.5 lbs.
Flint	31 lbs.	15.5 lbs.	10 lbs.
G-200 Feldspar	26 lbs.	13 lbs.	8.5 lbs.
F-4 Feldspar	26 lbs.	13 lbs.	8.5 lbs.
Veegum-T **	5.2 lbs.	2.6 lbs.	1.75 lbs.
Epsom Salts **	0.8 lbs. = 363 g.	0.4 lbs. = 182 g.	0.27 lbs. = 121 g.
Total	266 lbs.	133 lbs.	88.5 lbs.
Water	60 lbs. = 7 gal.	30 lbs. = 3.5 gal.	20 lbs. = 2.3 gal.
Total Wet Clay	326 lbs.	163 lbs.	108.5 lbs.

V-Whiteware is a midrange porcelaineous stoneware body that is very plastic and joins easily. White at low-fire, warm off-white at midrange. Both versions (with and without sand) are excellent for small and midrange throwing and handbuilding, and both are good for low-fire sculpture. The addition of sand gives more working structure for both throwing and handbuilding, especially larger work, and makes an even better low-fire sculpture body. Neither is appropriate for low-fire functional wares. Both versions flash nicely in moderate soda and salt-firing. ** Mix Epsom salts with a half gallon of hot water and include in the above weights of water for the batch. After weighing or measuring water, take out a half gallon of the water in a small bucket, add the Veegum-T, blend thoroughly with a drill-mixer, and pour into mixer along with the rest of the water.

<u>V-Whiteware w/Sand - C04-6</u>	Full Load	Half Load	Third Load
OM-4 Ball Clay	71 lbs.	35.5 lbs.	23.5 lbs.
EPKaolin	46 lbs.	23 lbs.	15.5 lbs.
Tile-6 Kaolin	46 lbs.	23 lbs.	15.5 lbs.
Flint	29 lbs.	14.5 lbs.	9.5 lbs.
G-200 Feldspar	24 lbs.	12 lbs.	8 lbs.
F-4 Feldspar	24 lbs.	12 lbs.	8 lbs.
Fine white silica sand	20 lbs.	10 lbs.	6.5 lbs.
Veegum-T **	5.2 lbs.	2.6 lbs.	1.75 lbs.
Epsom Salts **	0.8 lbs. = 363 g.	0.4 lbs. = 182 g.	0.27 lbs. = 121 g.
Total	266 lbs.	133 lbs.	88.5 lbs.
Water	60 lbs. = 7 gal.	30 lbs. = 3.5 gal.	20 lbs. = 2.3 gal.
Total Wet Clay	326 lbs.	163 lbs.	108.5 lbs.

See description and notes above. Same claybody with addition of sand for greater working structure.

<i>Stephenson Terracotta - C04-2</i>	Full Load	Half Load	Third Load
Redart	110 lbs.	55 lbs.	36.5 lbs.
Goldart	56 lbs.	28 lbs.	19 lbs.
Fire Clay	56 lbs.	28 lbs.	19 lbs.
Talc	19 lbs.	9.5 lbs.	6 lbs.
Fine Grog	19 lbs.	9.5 lbs.	6 lbs.
Total	260 lbs.	130 lbs.	86.5 lbs.
Water	60 lbs. = 7 gal.	30 lbs. = 3.5 gal.	20 lbs. = 2.3 gal.
Total Wet Clay	320 lbs.	160 lbs.	106.5 lbs.

John Stephenson's terracotta body for sculpture, has superior working structure because of the fireclay and grog. Those materials also make it quite refractory for a terracotta, and it can fire to cone 2 with no bloating or distortion. Recipe suggests fine grog, but you can choose the sand or grog depending on desired working texture and fired surface. With extra fine grog or fine silica sand it is a good throwing body, but if used for functional ware it should be fired to cone 1 or 2 for durability and impermeability.