Mortar Recommendations

GENERAL DISCUSSION

(1) No single type of mortar is best for all purposes or brick types. A good general rule is: Never use a mortar that is stronger (higher in compressive strength and cement content) than is required by the structural requirement of the project.

(2) Generally we break our products into two or three groups based on their relative Initial Rate of Absorption – I.R.A. (Suction)

(3) Our recommendations are based on using higher cement content mortar (Type S) for our lower IRA Brick and lower cement content mortars (Type N) for our higher IRA Brick. This assumes that greater water retention properties* are needed as the suction rate of the brick increases.

Sergeant Bluff Colors

All the brick from this plant are made with a fireclay raw material with 8-10% of a non-plastic grog added for pore structure development and surface roughness. This raw material has been mined at the same site since the 1860’s. Our mortar recommendations from this plant are as follows:

Group I Portland Cement and Lime

Type S mortar with low water retention*


Type S: 3 parts Portland, 1 part Quicklime, 9 parts Sand by volume.

Group II Portland Cement and Lime

Type S or N* mortar

The following colors in Williamsburg, Charleston, and Savannah textures are all suitable for Type S as listed below – Tudor, Stratford, Bradford, Cambridge, Old Heritage, Old Plantation, Wellington, Misty Creek Westport, Parkridge, Smoky Mountain, Hampton and Flint Hills.

The following colors are suitable for Type N as listed below – Red (all textures and ironspot versions) Velour, Red Rock, Red Desert, Aztec White, Casablanca, Winter Rose, Pink Aztec, Antique White, Regular or Williamsburg Inca Gold, Dover White, plus all Williamsburg, Charleston, and Savannah Birchwood, Cherry Creek, Sand Hills Red, Stone Ridge, and Wexford.

Type S: 2 parts Portland, 1 part Quicklime, 9 parts Sand

Type N: 1 part Portland, 1 part Quicklime, 6 parts Sand*

Group III Portland Cement and Lime

Type S or N* Mortar with higher water retention


Type S: 1 part Portland Cement, 1 part Quicklime, 3 parts Sand

Type N: 1 part Portland, 1 part Quicklime, 6 parts Sand

Adel Plant Colors

All brick from this plant are made with a red burning shale which has been mined at the same site for over 100 years. Our mortar recommendations from this plant are as follows:

Group I Portland Cement and Lime

Type S mortar with low water retention*

Mission Valley Colonial Ironspot, Cedar Valley Colonial Ironspot, Brown, Hearthside, Mocha, Cordovan, Bordeaux Burgundy, Amherst, Lexington, Brownstone, Countryside, Swiss Chalet, Brookfield, Royal Burgundy, Cabernet Burgundy, Smoked Tudor, Chelsea Ironspot, Welsford Ironspot, Bordeaux Burgundy, Sonoma Valley, Napa Valley, Plum, Cinnamon Ironspot, Mesaba, Canterbury, Cranberry, Cambridge, Granite Red, Redstone, Parkridge. This includes the Colonial Ironspot versions of already mentioned colors.

Type S: 3 parts Portland, 1 part Quicklime, 9 parts Sand

Type N: 1 part Portland, 1 part Quicklime, 6 parts Sand

Pre-construction testing of brick and mortar prisms is desirable to obtain a mix which is consistent with compressive strength, bond strength, and water retention properties desired. It has always been our desire to strike a balance between high durability and good laying properties. Please contact us for reprints of an Independent Lab Study on Bond Strength and Water Penetration of Low IRA Brick and Mortar by Greg Borchelt, who is the CEO with the Brick Industry Association.

*Low Water Retention is the ability of mortar to resist the loss of water to an absorptive masonry unit. (more quicklime increases water retention)