

### ALSEY Flue-Set Non-Water Soluble Refractory Mortar-- Medium Duty

#### Description:

Dry, hydraulically setting, non-water soluble, medium duty refractory mortar developed for use with firebrick and clay flue tile.

#### Sizes:

10lb plastic pail {3A5010}  
50lb bags {3A5050}

#### Application:

Mix 50lb bag with 3.75 quarts of clean water or .75 quarts per 10 lbs of dry product until completely blended. A 50-lb. bag will yield 60 lbs. of refractory mortar when properly mixed with water.

Complete set time is between 48 and 72 hours; however, only mix what can be utilized within 15 minutes; do not retemper (the addition of water after the chemical reaction has begun). The use of warm water will accelerate setup. For best results, please allow seven days before heat is applied. Joint thickness should be thin (1/16" – 1/8") for clay flue tile. A thicker joint may be used when laying up firebrick. Approximately 35 to 40 lbs. of prepared mortar will lay up one hundred 9x4½x2½" straights.

#### Cautions:

**Do not add additives such as fireclay, sand, cement, or other accelerators**

Alsey Flue-Set NWS Refractory Mortar is accepted and approved by all national building codes including The International Code Council, The International Residential Building Code and The National Fire Protection Association.



#### TYPICAL TEST DATA -- PHYSICAL PROPERTIES

ASTM C-24  
P.C.E..... 29-30  
Temperature Equivalent (melting), °F ..... 3018-3029  
Service Temperature (max. recommended), °F..... 2700

#### ASTM C-198 Bonding Strength

After 230°F, psi..... 125  
After 2450°F, psi..... 734

#### ASTM C-199—Medium Duty

Pier Test at 2730°F

No flow from joints. No cracks or shrinkage.

96-97lbs per cubic foot or approximately 890 in<sup>3</sup> per 50lb bag

#### Typical Chemical Analysis, wt. % (calcined basis)

Silica (SiO <sub>2</sub> ) .....	43.53
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ).....	46.06
Calcium Oxide (CaO) .....	5.47
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1.86
Titanium Dioxide (TiO <sub>2</sub> ).....	1.94
Potassium Oxide (K <sub>2</sub> O).....	0.59
Magnesium Oxide (MgO).....	0.27
Phosphorous Pentoxide (P <sub>2</sub> O <sub>5</sub> ).....	0.099
Zirconium Oxide (ZrO <sub>2</sub> ) .....	0.06
Sodium Oxide (Na <sub>2</sub> O) .....	0.051
Chromium Trioxide (Cr <sub>2</sub> O <sub>3</sub> ) .....	0.035
Manganese Oxide (MnO).....	0.012
Total.....	99.98

Loss on Ignition..... 1.43  
(As received basis; not included in calcined total.)

An SDS is available upon request.

The above properties represent average results of typical data produced from standard ASTM test methods on a 9" straight. Specifications should not be considered guaranteed. Alsey Refractories Company makes every effort to ensure consistency in our products; however, properties may vary due to standard statistical manufacturing deviations. Alsey Refractories Company reserves the right to modify this data at any time without prior notice.

