ARTECH TECHNOLOGIES INC
Superior Abrasion Resistant Materials

ACTCHEM® VC

Mixing and Installation Instructions

The mixing of ACTCHEM® VC products is critical to its performance, and particular attention must be paid to the following procedures. This procedure provides the mixing and installation instruction for the following ACTCHEM® CASTABLES:

ACTCHEM® 45 VC
ACTCHEM® 75 VC
ACTCHEM® 85 VC
ACTCHEM® 100 VC

STORAGE

ACTCHEM® VC Castable Products are supplied as a single component containing aggregate and binder. These castables are packaged in moisture-resistant bags; however, they must be stored on pallets in a dry location to prevent increased aging rates.

Due to pressure and settlement in storage, it is possible for the materials to become compacted. These lumps can be broken down by hand. However, hard lumps indicate some setting has occurred due to moisture. *Do not use partially reacted castable*.

MIXING

A paddle or high intensity pan type mixer must be used. Drum mixers are not recommended for mixing ACTCHEM® VC Castables. The mixer size should be such that each batch of material is installed within 30 minutes after mixing.

All mixing equipment must be clean and dry. Contaminants, such as Portland cement, can adversely affect the setting rate and physical characteristics of ACTCHEM® VC Castables.

For best results, dry material, water, and ambient temperatures should be held between 50°F and 80°F during mixing and curing.

The ACTCHEM® BONDING SYSTEM can accommodate a wide range of water additions without sacrificing the ASTM abrasion resistance values. However the bulk density and cold crushing strength values are reduced at water levels above the optimum.

Installers should check bag weights, then calculate and measure water requirements before mixing. Use only clean, potable water with a pH between 6 and 8. Refer to datasheets provided for respective water requirements.

The mixer operator should add the dry ACTCHEM® VC to the mixer and start the mixer on a low speed. When mixing the first batch, the mixer operator should begin by adding the lowest recommended water amount and wet mix for a minimum of four minutes. If the material appears too dry or does not flow properly, add water in 0.25% increments, staying within the recommended water range for the product. Include another minute of mixing after each addition. Once the desired consistency is reached, note the water level as a starting point for subsequent batches.

The proper test for water content is to take a handful of mixed material and vibrate it in your hand. The material should start to flow, knit and level off.

A vibrator can also be used to test water content. Place the small amount of material in a metal container. When vibrated at the right water content, the material should begin to flow, knit and level off.

When the proper water content is reached, the surface will look slick. Furthermore, during mixing ACTCHEM® VC Castables will begin to adhere and fall off the paddles when the proper water content is reached. Best results are obtained when installers use just enough water to allow the castable to flow properly. Water additions beyond the levels specified will adversely affect the physical properties of the castable.

INSTALLATION

ACTCHEM® VC Castables are to be installed by pouring and vibration casting only.

Vibrators should have variable controls. Excessive vibration may cause a rolling of the castable that will lead to increase porosity and air voids. Do not attempt to produce a smooth surface with high vibration or troweling. This will cause the fines to rise, seal the surface and slow down the drying process.

GENERAL

1. Any porous backup material should be waterproofed to prevent absorption of water from the ACTCHEM® VC Castable.

2. The surface against which the ACTCHEM® VC Castable is to be applied must be cleaned of all oil, grease, rust, loose mill scale and any foreign matter that might contaminate the castable.

3. ACTCHEM® VC Castables must be protected from freezing from the time of placement until the full thickness has been dried to a minimum 250°F (120°C). ACTCHEM® that freezes prior to the removal of the free moisture can crack.

4. All metallic anchoring should be coated to allow for expansion of the metal.

5. Cover all exposed surfaces of the lining with a plastic film, or spray it with a curing compound. This will prevent water evaporation for proper cement hydration and maximum properties.

6. Forms should not be removed and the lining should not be disturbed until the material has cured for a minimum of 18 hours.

DISCLAIMER