

Technical Information

GENERAL GUIDELINES - MIXING RESCO CASTABLES USING A CONCRETE MIXER TRUCK

Conventional castables may be mixed using a concrete mixer truck or trailer mounted rotary drum type mixer. This type of mixer is generally used when large quantities of castable need to be mixed in a short period of time. Batch sizes vary depending upon the size of the mixer, but are generally in the 4,000 to 10,000 lbs (1800 to 4500 kg) range. For a successful installation of conventional castables using a concrete mixer, the following guidelines should be followed.

1. Use CLEAN mixing equipment. This point cannot be over emphasized. All equipment must be free of hardened concrete (either calcium aluminate or Portland based). Do not use a mixer truck that has been used to mix a Portland based cement within the preceding 24 hour. Any Portland cement that is less than 24 hours old can and will cause flash setting in refractory concrete's. Partially set calcium aluminate cements can also cause flash setting. Flash setting in this manner is more likely to happen in hot weather. During very hot weather (90°F/32°C and above) it is recommended that the mixer be thoroughly rinsed between batches to minimize the risk of a flash set in the next batch. During hot weather (85°F/29°C and above) the mixer should be rinsed or "hosed down" periodically to keep it cool.
2. Add approximately 90% of the required water to the mixer before putting any dry castable in the mixer. After the castable has been placed in the mixer, the remaining water should be added to adjust the mix to the desired consistency. Consult your local Resco representative for the water level necessary for use with the particular castable being installed.
3. In hot weather (85°F/29°C and above), cold water (less than 45°F/7°C) should be used for mixing the castable. This will minimize the possibility of flash setting.
4. In hot weather (85°F/29°C and above), the dry castable should not be stored in direct sunlight. This will heat the material and increase the chances of flash setting. If possible, the dry castable should be cooled to 70°F (21°C) or below prior to mixing.
5. The maximum mix temperature should not exceed 85°F (29°C). If the temperature of the wet castable is higher than 85°F (29°C), the "working time" (i.e. time required to properly place the castable) can be shortened to the point that it will not be properly placed. In extreme cases flash setting can occur.