

METRO MATERIALS

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Cement Treated Base Fully Supports Retaining Walls

A retaining wall's primary function is to create a vertical plane, but the backfill plays a critical role in the wall's performance. In the Mid-South, hydrostatic pressure is the primary reason walls fail. However, issues like soil migration, liquefaction, or changes in dynamic or seismic loads also cause failures. These problems can be prevented by using a structurally sound and impermeable backfill, such as Cement Treated Base (CTB).

Benefits of Using Cement Treated Base:

- **Hydrostatic Pressure Prevention:** CTB's impermeable properties prevent water infiltration, minimizing the risk of hydrostatic pressure build-up behind the retaining wall. This keeps the wall safe from water-induced stress, reducing the potential for cracking or movement over time.
- **Load Distribution:** CTB effectively distributes lateral pressures across the wall, thereby increasing its structural stability. By evenly spreading the loads, CTB reduces concentrated stresses that could otherwise lead to deformation or collapse, enhancing the overall sustainability of the wall.
- **Strength and Durability:** By reinforcing the wall section, CTB significantly improves resistance to dynamic forces, such as vehicular traffic or seismic activity. This added strength makes the wall more durable and better equipped to handle unexpected loads.
- **Drainage Efficiency:** CTB allows for efficient drainage systems outside the wall perimeter, diverting water away from the structure. This drainage strategy helps protect the wall from moisture accumulation and subsequent damage, ensuring the wall structure remains intact over time.
- **Long-Term Stability:** CTB's non-permeable, structurally sound backfill properties ensure the wall's durability, preventing erosion or instability. This long-term stability results in reduced maintenance needs and a longer lifespan for the retaining wall, making CTB an essential choice for sustainable construction.
- **100% Success:** Metro Materials of Memphis has supplied CTB for backfill on numerous projects over the past 40 years, consistently delivering excellent results.

Why CTB is Essential:

- **Fluid Migration:** Hydraulic build-up behind the wall can cause failure. CTB is impermeable ensuring that hydrostatic pressure does not build up.
- **Enhanced Stability:** CTB reduces overall lateral load while evenly distributing lateral pressures, significantly increasing wall stability.
- **Complementary Backfill:** The wall provides essential vertical structure and resistance, performing best when paired with an impermeable, complementary backfill such as CTB.

In summary, while the vertical wall structure is essential, however a non-permeable structural backfill is crucial for the retaining wall's long-term stability, durability, and resilience against generated pressures. CTB not only reinforces wall integrity by resisting these challenges but also ensures long lasting performance. Choosing CTB as backfill material will significantly enhance the longevity and stability of any retaining wall.