

**SECTION 03 30 53
MISCELLANEOUS CONCRETE – STRUCTURAL BACKFILL**

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. PRODUCT: STRUCTURAL BACKFILL

Definition: A formulated mix design of clean stone, cement and water that creates a permeable homogeneous zone (mass) when placed behind the retaining wall units.

B. CEMENTITIOUS MATERIALS

1. Use materials meeting the following requirements
 - a. Hydraulic cement Type I: ASTM C 150 or ASTM C 1157
 - b. Fly ash: ASTM C 618
 - c. Slag: ASTM C 989
2. Normal-weight aggregate: ASTM C 33
3. Water: Potable
4. Chemical admixtures:
 - a. Water reducers, accelerating and retarding: ASTM C 494
 - b. Admixtures with no standard designation shall be used only with the permission of the design professional when its use for specific properties is required.

C. STRUCTURAL BACKFILL

1. Application: Retaining wall backfill
2. Exposure: Possible sulfate, depending on soil-specific conditions
 - a. For Sulfate Resistance, use Type II or Type V Portland Cement
3. Nominal maximum aggregate size: 3/8 to 3/4-inch
4. Air Voids: 15 – 25%
5. Water-cementitious materials ratio by weight: 0.3 – 0.5
6. Aggregate-cementitious materials ratio by weight: 4.5 – 6.0:1
7. Design target unit weight (in-place): 112 pcf (minimum)