

A quick guide: D.fab raw material selection

Selecting the appropriate raw materials is crucial for the success of your project. COBOD can assist you with this, but you need to provide the technical data sheets of the raw materials that can be sourced locally.

► Cement

Ask your cement supplier:

“I need cement for general concrete use, with a target strength of 40 MPa (5800 Psi) at 28 days. I prefer using blended cement with fly ash but slag, limestone or other pozzolana extenders are also suitable. Please see below a table with suitable cement types.”

Table 1: Suitable cement types of D.fab.

Extender	EN 197-1 2011 standard	US ASTM C595 standard
Slag	CEM II A or B – S	Type IS (up to 40% replacement)
Other pozzolanas	CEM II A – P or Q	
Fly ash	CEM II A or B – V	Type IP (up to 40% replacement)
Limestone	CEM II A – L or LL	Type IL (up to 20% replacement)
Composite	CEM II A – M	Type IT (up to 20% replacement)

► Sand requirements

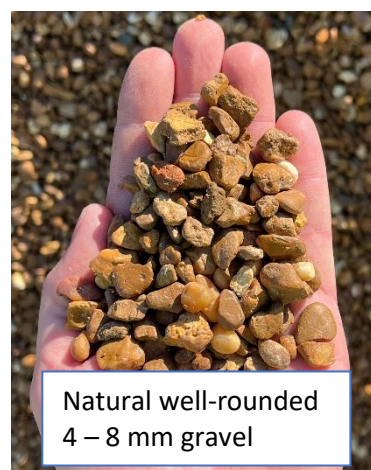
Ask your supplier for sand that meets the following requirements:

- Typically used by concrete producers.
- 0 – 2 mm or 0 – 4,75 mm.
- 15% – 30% passing the 0,3 mm (US No. 50) sieve.
- 5% – 15% passing the 0,15 mm (US No. 100) sieve.
- <5% passing 0,075 mm (US No. 200) sieve.
- Water absorption value below 1%

► Gravel requirements

Ask your supplier for gravel that meets the following requirements:

- Typically used by concrete producers.
- If the gravel is naturally well-rounded (preferred):
 - the maximum particle size should be limited to 8 mm.
- If the gravel is artificially crushed (second option):
 - the maximum particle size should be limited to 6,5 mm.
- If a 0 – 2 mm sand is used:
 - at least 30% of the gravel should pass the 4,75 mm (US No. 4) sieve.
- If a 0 – 4,75 mm sand is used:
 - at least 20% of the gravel should pass the 4,75 mm (US No. 4) sieve.
- The gravel should be washed or double-washed to remove dust.
- <2% passing 0,075 mm (US No. 200) sieve.
- Water absorption value below 1%.



Natural well-rounded
4 – 8 mm gravel

► Fibre requirements

Fibres to prevent early-age cracking in concrete. Polypropylene or acrylic fibres with a length between 10 and 12 mm are recommended.