The essential of the "MBE" sand

Equivalent Concrete Mortar method

There is a correlation between the concrete rheological properties and the mortar that makes it.

The behavior of concrete mainly depends on the properties of:

- **The type and volume of aggregates**
- **Free mortar in the concrete which plays a fluidifying role.**

The method will consist of recreating the equivalent particle size area of the aggregates with sand while maintaining the same water/cement ratio.

There is therefore a "MBE" sand formula by concrete formula!

One can nevertheless use the same formula to carry out comparisons of concrete behavior, particularly by changing the admixture or the cement at constant dosage.

1) What can be obtained with the MBE method?

The mortar thus obtained with MBE sand will allow:

- Measurement of the spreading and subsidence of the mortar with a mini Abraham cone
- Measurement of mortar resistances at a very young age (resistance and thermal)

Once the correlation is established, it allows to anticipate the behavior of the concrete

- Predict the rheology of concrete, particularly for self-compacting concretes
- Simplify laboratory tests (mortar is easier to test than concrete)
- Model the flow of concrete in formworks or pumps.

2) The information necessary for the realization of the MBE sand

The Société Nouvelle du Littoral proposes :

- ✓ Its own MBE sand
- ✓ Produce the MBE sand according to the client's specifications, which thus remains the owner of its formula.
- ✓ Elaborate the MBE sand based on your concrete recipe.

For this we will need the following information:

- ✓ Concrete recipe:

Component/ grain size	Dosage in kg	Additional information
Cement	X	
Water	X	Rapport E/C
Adjuvant	X	Free water
Sand (0-4)	X	Absorption coefficient
Aggregates (4/8, 8/12, 12/20)	X	Absorption coefficient

- ✓ The type of Concrete: Classic, Self-leveling, ..
- ✓ The volume of the desired mortar mixture in liters: allows to determine the weight of the ready-to-use MBE sand bag.

3) Other option: the SNL test sand

Note: the SNL offers a “test sand” more specifically to test cement-adjuvant pairs or to compare the characteristics of cements obtained with multiple addition materials (see SNL test sand)