BAKHTI Software Ltd
Civil engineering software development
Website: https://www.bakhtisoftware.com
Email: bakhti@bakhtisoftware.com/ support@bakhtisoftware.com

Project: RN 18 | Project No.: Ref 004/2022

Client: SARL EGN
Location: Medea
Date: 2026-10-06
Réalisé par: BAKHTI

Vérifié par: LAIB

CONCRETE MIX DESIGN

ACI Method

A- Compressive strength required at 28 days = 32 MPa

B- Cement :
Description :
Relative density = 3,1

C- Coarse aggregate :
Description : gravel discrip
Type : Angular gravel
Relative density = 2,85
Density = 1600 kg/m³
Maximum size of aggregate = 21 mm
Moisture content = 2 %
Absorption = 0,5 %

D- Fine aggregate :
Description :
Relative density = 2,65
Fineness modulus = 2,63
Moisture content = 6 %
Absorption = 0,7 %

E- Air-entraining :
Description :
Dosage = 0,5 g/kg

F- Water reducer :
Description :
Dosage = 3 g/kg
Reduce water by 10 %

G- Exposure condition :
Concrete exposed to freezing and thawing in a moist condition or deicers
Level of exposure : Moderate exposure

H- Additional information :
Air-entrained concrete : Yes
Statistical data available : No
Sulfate exposure : Severe
Underwater concrete : No
Desired workability (Slump) Between 75 and 100 mm

Material	Volume /1 m³	Weights before trial mixing /1 m³		Weights after trial mixing /1 m³
		Dry aggregates	Wet aggregates	
Water	0,163	163 kg	113 kg	**115**
Cement	0,156	485 kg	485 kg	**485**
Coarse aggregate	0,367	1046 kg	1067 kg	**1070**
Fine aggregate	0,245	650 kg	689 kg	**680**
Air-entraining	/	0,242 kg	0,242 kg	**242 g**
Water reducer	/	1,454 kg	1,454 kg	**1454 g**
Air content	0,068	/	/	**/**
Concrete density	/	2354 kg	/	**2350**

Slump = 70 mm || Water-soluble sulfate (SO4) in soil (percent by mass) = 0.20 to 2.00
Cement type = V, HS || Sulfate (SO4) in water (ppm) = 1500 to 10,000