



# CEM III/A 32,5 N-MSR

Moderately sulphate resistant slag cement MSZ 4737-1

CEM III/A 32,5 N

Slag cement MSZ EN 197-1

## Vác



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**DUNA-DRÁVA CEMENT**  
HEIDELBERGCEMENT Group



## CEM III/A 32,5 N-MSR

### Moderately sulphate resistant slag cement MSZ 4737-1

**The CEM III/A 32,5 N-MSR type moderately sulphate resistant slag cement as construction binder is suitable for the following applications:**

- concrete, reinforced concrete structures exposed to moderately aggressive chemical environment, sulphate effect
- watertight concretes, concrete structures of hydraulic engineering elements
- "heavy" concreting, large cross section concrete, reinforced concrete structures
- monolithic reinforced concrete structures for structural and underground engineering
- estrich concretes, plasters, mortars
- exposed concretes, aesthetic surfaces

#### Composition, cement components:

Portland cement clinker, additive content according to standard composition between 36-65%, the required amount of setting control material (gypsum, REA gypsum), chromate reducing agent.

#### Key features, areas of application:

The CEM III/A 32,5 N-MSR moderately sulphate resistant slag cement is a special cement. It is characterized by moderate early strength, significant late strength and low heat evolution.

The cement contains a large amount of granulated blast-furnace slag additive, which provides a more dense structure as well as significant chemical and physical resistance to the cement stone. A concrete structure made with this cement can also withstand moderately aggressive chemical environments, in addition to other effects that cause concrete corrosion.

In addition to foundation works it is specifically recommended for use with all concrete structures where the concrete is in direct contact with a sulphate ion-contaminated environment, provided that the amount of  $\text{SO}_4^{2-}$ -ion in the groundwater does not exceed 3,000 mg/l and in the soil 12,000 mg/kg (XA1, XA2).

Due to its low heat evolution, its use reduces the risk of cracks appearing in the concrete due to temperature differences, therefore its use is strongly recommended in summer heat, when large volumes of concrete are applied.

Its use is beneficial in the production of concrete and reinforced concrete with strength classes C 8/10 to C 40/50.

As a result of its bright colour, it is suitable for aesthetic surfaces and "exposed concrete" quality concrete structures. Suitable for the production of adequate quality frost-resistant concrete (XF1 – XF3), abrasion resistant concrete (XK1), watertight concrete (XV1 – XV3), radiation shielding concrete and mass concrete.

#### Suggested use for the production of concrete mix and the construction of concrete structures:

The use of cement requires basic construction knowledge. If you do not have sufficient professional knowledge, consult a concrete technologist.

Basic criteria for the production of durable concrete:

- low water content
- as high density as possible
- meticulous aftercare

When creating the concrete mix, the amount of added mixing water should be as little as possible. To improve the workability of the concrete, it is recommended to add plasticizer additives. In order to achieve higher strength and a more favourable concrete structure, care must be taken to ensure that the fresh concrete is properly compacted. Aftercare of the concrete must be started immediately after placing, by spraying and flooding it with water, covering it with plastic, keeping it in the formwork, and applying a vapour barrier coating. It is advised to keep the concrete moist for 7-21 days without interruption, depending on the composition of the concrete mix, the type of concrete structure and the ambient temperature. In the event of low ambient temperatures, the frost protection and thermal insulation of the concrete structure must be ensured until the critical strength required for the concrete's resistance to freezing is reached. Recommended placing temperature: above +5 °C daily average temperature

Technical characteristics: /DDC, Labor-MEO/

	Standard requirement	Average value Vác Plant
Compressive strength (MPa)		
■ at 7 days	≥16	26,2
■ at 28 days	≥32,5≤52,5	44,1
Setting time (min)		
■ beginning	≥75	234
■ end	-	310
Specific surface area (cm <sup>2</sup> /g)	-	3795
Water demand (%)	-	30,9