

ULTIMAT

UP

**SULPHATES ULTRA-RESISTANT
PORTLAND CEMENT**

TUNNELS, MASSIVE STRUCTURES AND CIVIL ENGINEERING



AREAS OF USE



TUNNELS
HIGH PERFORMANCE CONCRETES



CIVIL ENGINEERING STRUCTURES
CONCRETES WITH LOW HYDRATION HEAT EMISSION



RE-USING AND RECYCLING
CONCRETE WITH RECYCLED
OR POTENTIALLY REACTIVE AGGREGATES



SPECIAL WORKS
CIVIL ENGINEERING MORTARS AND CONCRETES



DEVELOPED EXCLUSIVELY
BY VICAT, **ULTIMAT**^{UP}
IS A PREMIUM TECHNICAL
CEMENT BRINGING:

▼ **High resistance in aggressive environments**

ULTIMAT-UP offers a long term solution against Delayed Ettringite Formation (DEF) and external sulphate attack reactions because it doesn't contain C_3A (SR0 cement) and emits low hydration heat.

▼ **High mechanical performances**

Because of its very good adaptability, ULTIMAT-UP offers robust formulations of high-performance concretes. ULTIMAT-UP allows rapid formwork removal that improves productivity and makes building easier for construction companies.

▼ **Optimal intrinsic chemistry**

Gypsum-free and with low alkaline and sulphate content, ULTIMAT-UP offers a wide range of solutions for formulators.

▼ **Recycling and re-using capacity**

ULTIMAT-UP allows recycled or potentially reactive aggregates to be used for the production of high-performance concretes.

52,5
MPa



SEA WATER RESISTING /
MARINE RESISTANT



SULPHATES RESISTING



CIVIL ENGINEERING STRUCTURES

Guaranteed C_3A -free and with low alkaline and sulphate content, **ULTIMAT-UP** increases many-fold the strength of massive concrete to delayed ettringite formation and external sulphate attack reactions and to aggressive environments (frost, gypsum soils, etc.)



A71 MOTORWAY
Clermont-Ferrand, France

TRICALCIUM ALUMINATES (C_3A)

0% measured by diffraction
0% according to Bogue

ACTIVE ALKALINES (Na_2O_{eq})

maximum
0,6%

SULFATES (SO_3) DATA IN %



▼ Developing low hydration heat, both short term (41 hours) and longer term (120 hours), **ULTIMAT-UP** adapts perfectly to mass-pouring concrete works.

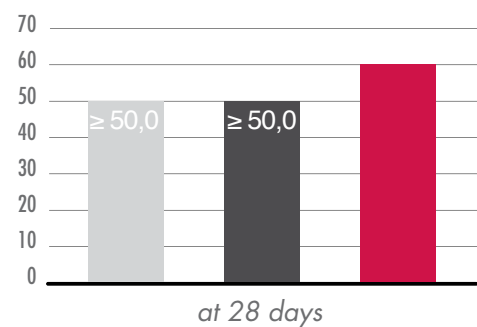
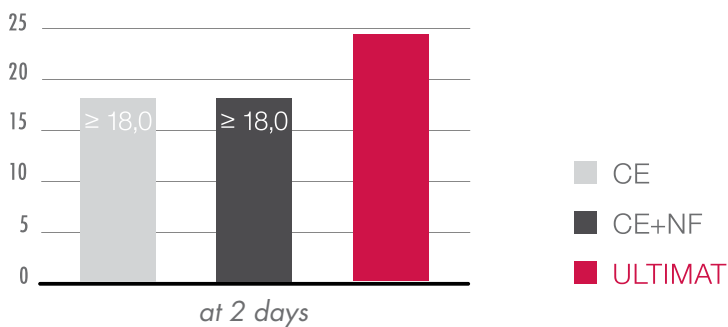
HYDRATION HEAT AT 41 HOURS (ACCORDING TO EN 196-9)

Q41 average < 270 J/g

▼ **ULTIMAT-UP** cement brings high mechanical performances and very good adaptability in robust formulations of high-performance concretes.

▼ Benefitting from initially high mechanical performances, **ULTIMAT-UP** allows rapid removal of formwork for poured concretes, improving productivity and making easier construction work for contractors.

MECHANICAL STRENGTHS MEASURED ON STANDARD MORTAR (IN MPa)

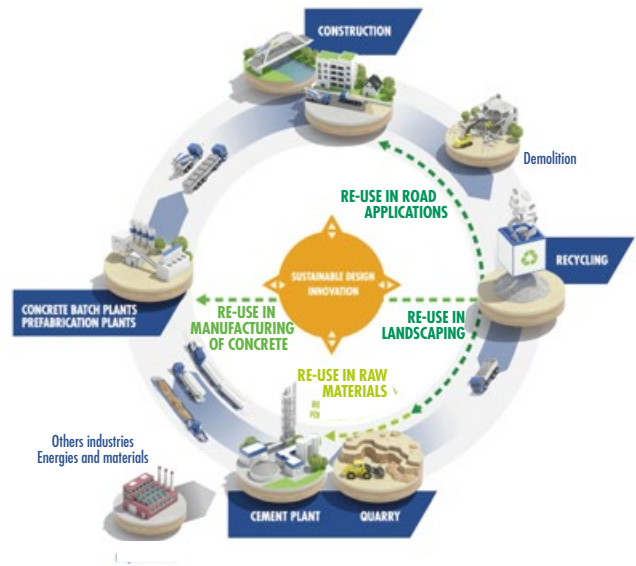


INITIAL SETTING TIME

Around 160 minutes

RE-USING AND RECYCLING

With low alkaline and sulphate content, **ULTIMAT-UP** offers very good resistance in aggressive environments and can be used with recycled or potentially reactive aggregates for the creation of high-performance concretes.



SPECIAL WORKS

ULTIMAT-UP is characterized by optimal intrinsic chemistry: gypsum-free, low alkaline and sulphate content and high mechanical performances (CEM I 52,5). This chemistry is ideal for formulators, specialized in products used specifically in civil engineering (special mortars and concretes and/or repair mortars and concretes).



GOTTHARD BASE TUNNEL
Zürich, Switzerland

VICAT'S EXPERTISE

- ▼ **ULTIMAT-UP** is an exceptional cement made from a unique resource extracted from the Sassenage quarry (Isère, France) and produced by expert, high-performance cement plant from VICAT in Saint-Égrève (Isère, France).
- ▼ Centre Technique Louis Vicat in Isle d'Abeau (Isère, France) helps its customers in their formulation works.
- ▼ A guarantee and certifications (**ULTIMAT-UP CEM I 52,5 N SRO CE PM-CP2 NF**): NF EN 197-1 standards, AFNOR NF mark - Hydraulic binders, sea water resisting or marine resistance characteristics (PM) and reduced sulphur content (CP2).





UP ULTRA-HIGH PERFORMANCE THE VICAT WAY

The Vicat Group's technical expertise, combined with its innovative spirit, means you benefit from exceptional solutions based on cement and concrete for anything involving high technicity, high creativity or high environmental demands.

VICAT

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