Betonpav

Concretes with guaranteed performance
Specifically for flooring
Compliant with standards UNI EN 206 and UNI 11104 and CNR DT 211:2014

DESCRIPTION

Concrete specifically for indoor and outdoor flooring that has to withstand static and dynamic loads, with a minimum compressive strength class of C25/30.

- floors of industrial factories and artisanal workshops;
- floors for storage and goods handling areas;
- floors with high traffic flow (shopping malls, garages, car parks, ...)

Betonpav is a concrete specially formulated for making concrete floors laid both manually and mechanically with a wear layer applied green on green using 'topped' or 'finished' techniques.

Thanks to its special composition and the use of specific additives, **Betonpav** is able to reconcile the workability and finishing time requirements of the construction phase with the performance required in the service phase.

Betonpav has the following characteristics due to its special composition:

- easier laying and compaction;
- reduced setting times compared to concrete of the same strength class but not specifically for floors;
- reduction, under normal conditions of temperature, radiation and wind, of the "crust" effect linked to the premature evaporation of water from the cortical layer of the pavement during the waiting period between pouring and finishing. (In the event of conditions of unusually high temperature, radiation and/or wind, adequate protection should in any case be provided for the poured material in the phase preceding finishing, or laying of the floor should be postponed).

Betonpav enables the wear layer to be produced quickly even at relatively low temperatures. For example, at a temperature of 10°C, it is generally possible to start the trowelling process after about 6 to 8 hours, depending on the strength class of the mix. Generally, by using **Betonpav**, the construction site can be organised in such a way as to start the pouring in the early morning hours, and then finishing operations can be completed within the working day even in relatively cold climates, resulting in considerable financial savings.

By way of example, Table 1 shows the finishing times of **Betonpav** in standard conditions compared to those of ordinary concrete of the same strength class. As you can see, thanks to using **Betonpav**, the finishing times can be reduced, on average, by about 3–5 hours.

Table 1:
Approximate finishing times of **Betonpav** C25/30 depending on temperature

FINISHING OPERATIONS	START		END	
	10°C	20°C	10°C	20°C
Betonpav C25/30	8 h	6 h	10 h	8 h
Ordinary C25/30 concrete	12 h	9 h	15 h	11 h

Note:
In addition to the temperature, the trowelling start and end times depend on the ambient relative humidity, radiation and wind conditions.

Attention: Do not rely on these data alone to establish the trowelling times for the flooring.

Betonpav is available in a wide range of strength and exposure classes for ensuring durability in accord with the environmental conditions. **Betonpav** is also available in consistency classes S3, S4 and S5. We strongly recommend the use of consistency class S5 when laying concrete by hand.

The following table can help to define the **Betonpav** characteristics that should be included in the specifications.

Parameters to be defined when specifying BETONPAV	STRENGTH CLASS	CONSISTENCY CLASS	EXPOSURE CLASS	MAXIMUM DIAMETER
	from C25/30 to C35/45	S3, S4, S5	XC, XD, XA, XF	16, 32

Table 3:
Guideline compressive strengths of **Betonpav C25/30** depending on temperature

TIME (DAYS)	COMPRESSIVE STRENGTH (MPA) 20°C	10°C
3	15	10
7	25	21
28	37	38

Note:
The values were obtained with wet curing (R.H. = 95%) in the laboratory and on specimens compacted to minimise trapped air content. The values actually obtainable on site depend on the temperature and relative humidity conditions to which the structure is exposed, as well as the degree of compaction of the structure.

Attention: given the variability of the environmental conditions to which the paving may be subjected, do not rely on these data alone to establish when the paving can be walked on or entered into service.

Table 3:
Principal characteristics of **Betonpav C25/30** (guideline values)

NORMAL STRENGTH	PROCTOR SETTING TIME START AT 20°C	PROCTOR SETTING TIME END AT 20°C	28-DAY HYGROMETRIC SHRINKAGE (R.H.=50%)	60-DAY HYGROMETRIC SHRINKAGE (R.H.=50%)	SECANT ELASTIC MODULUS AT 28 DAYS (AT 20°C AND RH>95%)
MPa	**min**	**min**	**µm/m**	**MPa**	**MPa**
30	390	500	450	480	30000