



SNS COLLEGE OF TECHNOLOGY
(AN AUTONOMOUS INSTITUTION)
COIMBATORE-35

III YEAR CIVIL ENGINEERING
19CEO304-BUILDING MAINTENANCE



EXPANSIVE CEMENT

Concrete made with ordinary Portland cement shrinks while setting due to loss of free water. Concrete also shrinks continuously for long time. This is known as drying shrinkage. Cement are used for grouting anchor bolts or grouting machine foundations or the cement used in grouting the prestress concrete ducts, if shrinks, the purpose for which the grout is used will be some extent defeated. There has been a search for such type of cement which will not shrink while hardening and thereafter. As a matter of fact, a slight expansion with time will prove to be advantageous for grouting purpose.



ADVANTAGES OF EXPANSIVE CEMENT

- Shrinkage of cement upon hydration can be avoided
- A small expansion after hydration proves beneficial
- Type K expansive cement has increased resistance to sulphate attack



DISADVANTAGES OF EXPANSIVE CEMENT

- Usage of expanding cement requires skill and experience
- Accurate proportioning of materials taken properly is essential



USE OF EXPANSIVE CEMENT

Expansion cement uses are

- It is used for grouting anchor bolts
- It is used for grouting machine foundations
- It is used for grouting prestressed concrete ducts
- It can be used to prevent water leakage
- It can be used to reduce the shrinkage cracks in concrete slabs, pavements, and other structure

Most common use of expansive cement is for grouting. If shrinkage occurs in grouting, then it goes against the purpose for which it is done. Hence, it is a suitable choice for this operation.



APPLICATION OF EXPANSIVE CEMENT

- ✓ Grouting
- ✓ Prevention of drying shrinkage cracks
- ✓ Water retaining structures
- ✓ Repair of damaged concrete surface



THANK YOU...