Causes of Cracks in Concrete

Types of Concrete Cracks

Cracks in Immature Concrete

Cracks in Harden Concrete
Cracks in Immature Concrete

**Plastic Cracking**
- Plastic Shrinkage Cracks
- Plastic Settlement Cracks

**Construction Movement**
- Movement of Formwork
- Movement of subgrade

Reasons for Cracking of Hardened Concrete

**Physical Reasons for Cracking**
- Shrinkable aggregates
- Drying shrinkage
- Crazing
- Chemical attack to concrete
- Corrosion of Reinforcements
- Alkali aggregate reaction
- Cement carbonation shrinkage
- Thermal Effects - Thermal Cracking of Concrete

**Thermal Effects - Thermal Cracking of Concrete**
- Freeze/thaws Cycles
- External seasonal temperature variations
- Early thermal Contractions
- Cracking of concrete caused by the rise of core temperature resulting to form delayed ettringites

**Structural Design Issues**
- Accidental overload
- Cracking due to creep
- Cracking due to the consideration of incorrect design loads
- Cracking due to Wrong Construction Practices
Thank you