



SNS COLLEGE OF TECHNOLOGY

Vazhiyampalayam, Coimbatore, Tamil Nadu, 641035

An Autonomous Institution

**Approved by AICTE New Delhi & Affiliated to Anna University Chennai
Accredited by NBA & Accredited by NAAC with “A++” Grade, Recognized by UGC**

DEPARTMENT CIVIL ENGINEERING

19CEE409 – REPAIR AND REHABILITATION OF STRUCTURES

III YEAR / V SEMESTER

Unit 1 : SERVICEABILITY AND DURABILITY OF CONCRETE

Topic 3-Cracking of Concrete





Cracking in Concrete

Definition: a complete or incomplete separation of either concrete or masonry into two or more parts produced by breaking or fracturing

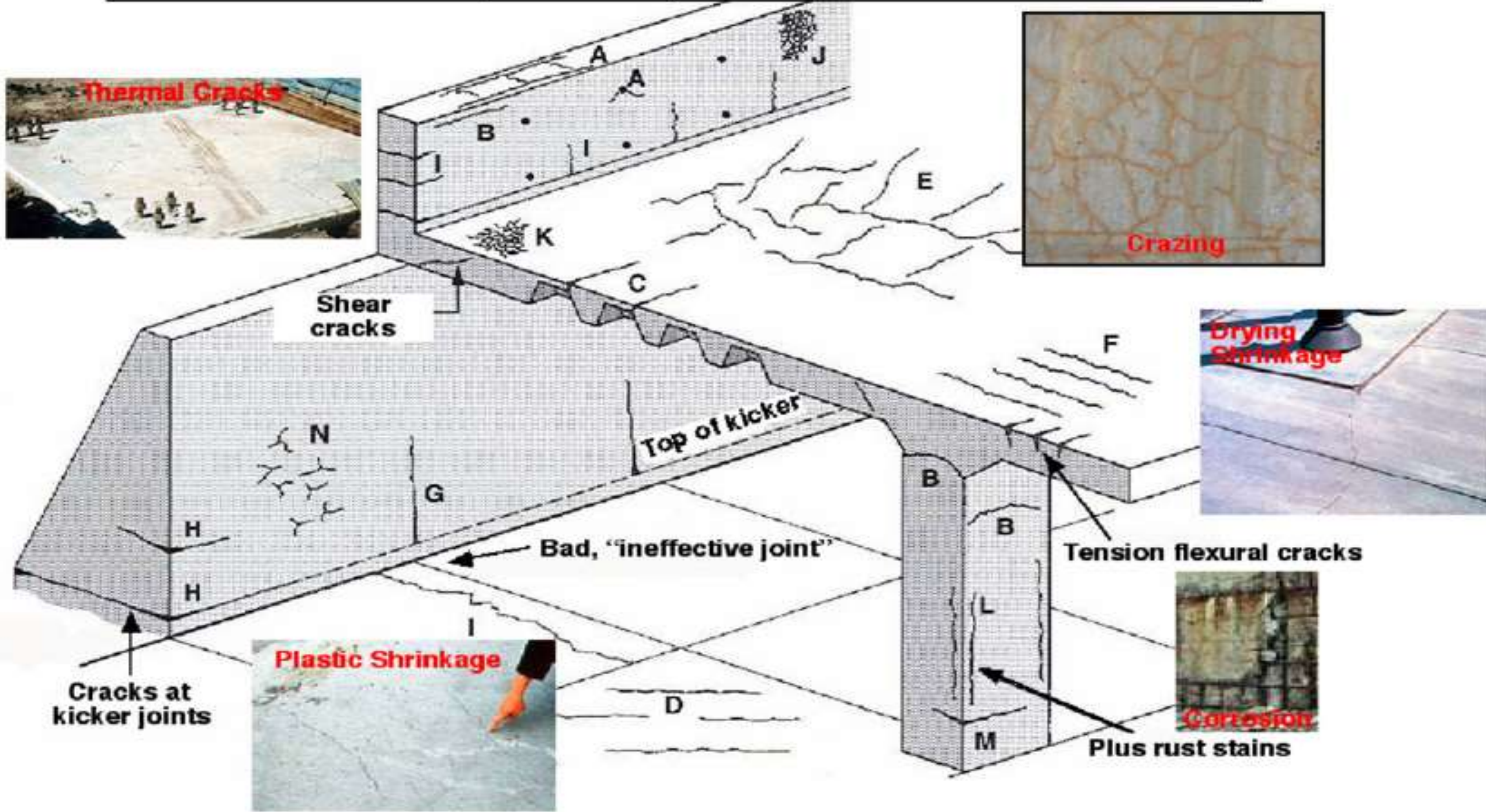
- Cracks are categorized as occurring either in plastic concrete or hardened concrete.
- The causes of each type of cracking depend on many different factors, and may affect appearance only, or they may indicate significant structural distress or a lack of durability.

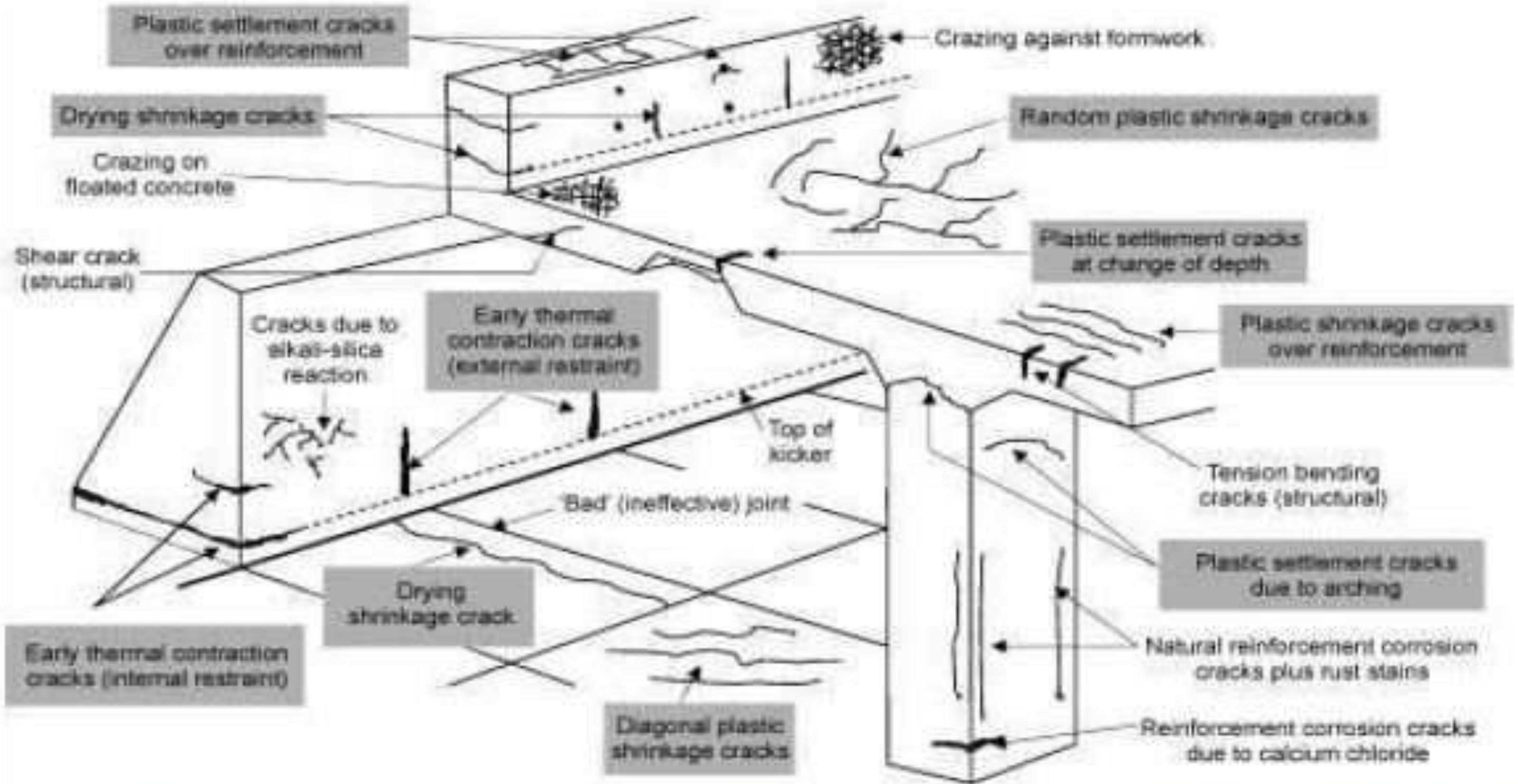


Various Types and Causes of cracks in Concrete

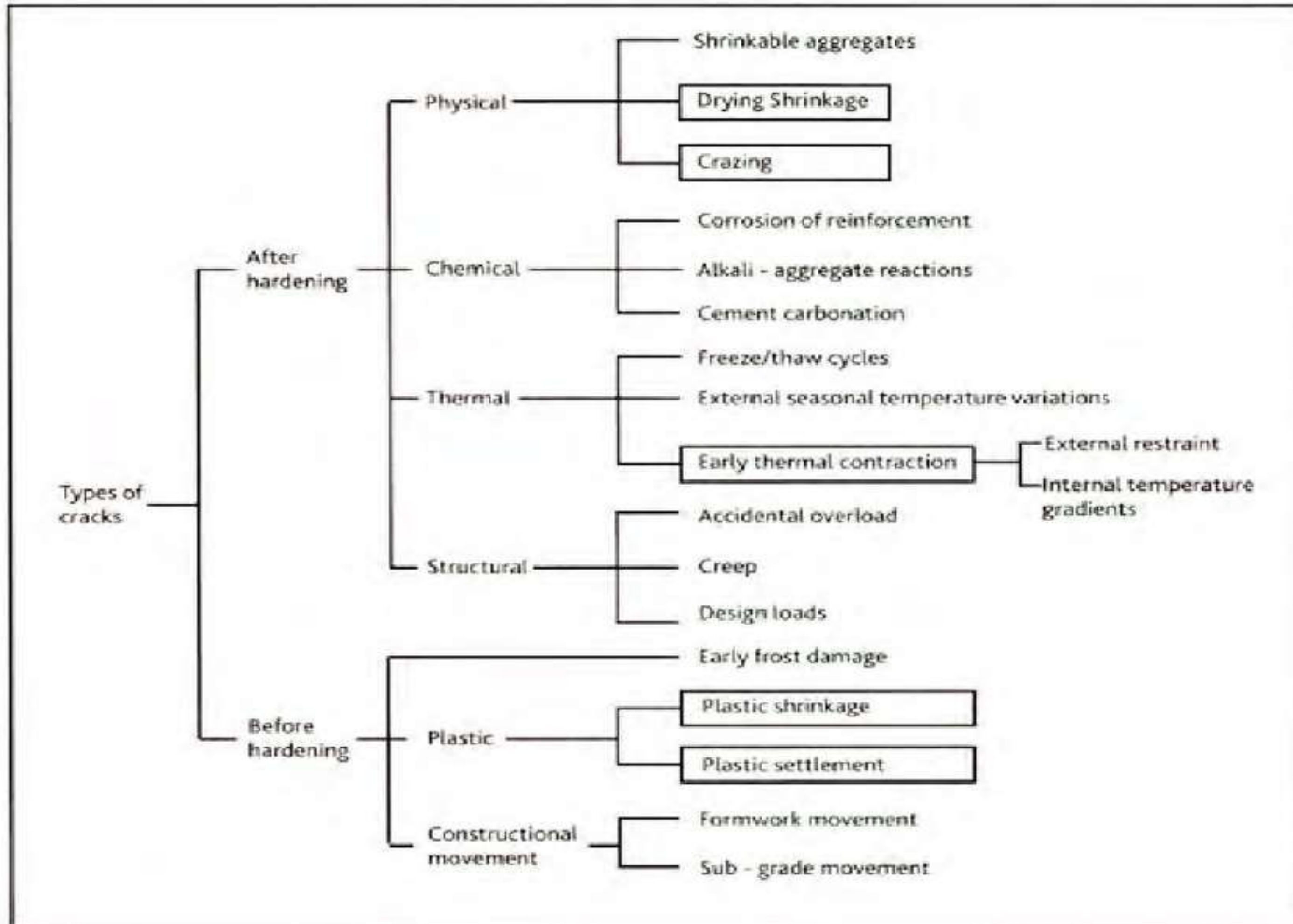


Type of Cracking	Designation	Time of Occurrence
Plastic settlement	A, B, C	Ten minutes to three hours
Plastic shrinkage	D, E, F	Thirty minutes to six hours
Early thermal contraction	G, H	One day to two to three weeks
Long-term drying shrinkage	I	Several weeks or months
Crazing	J, K	One to seven days - sometimes much later
Corrosion of reinforcement	L, M	Several years, but may be sooner
Alkali-aggregate reaction	N	More than five years



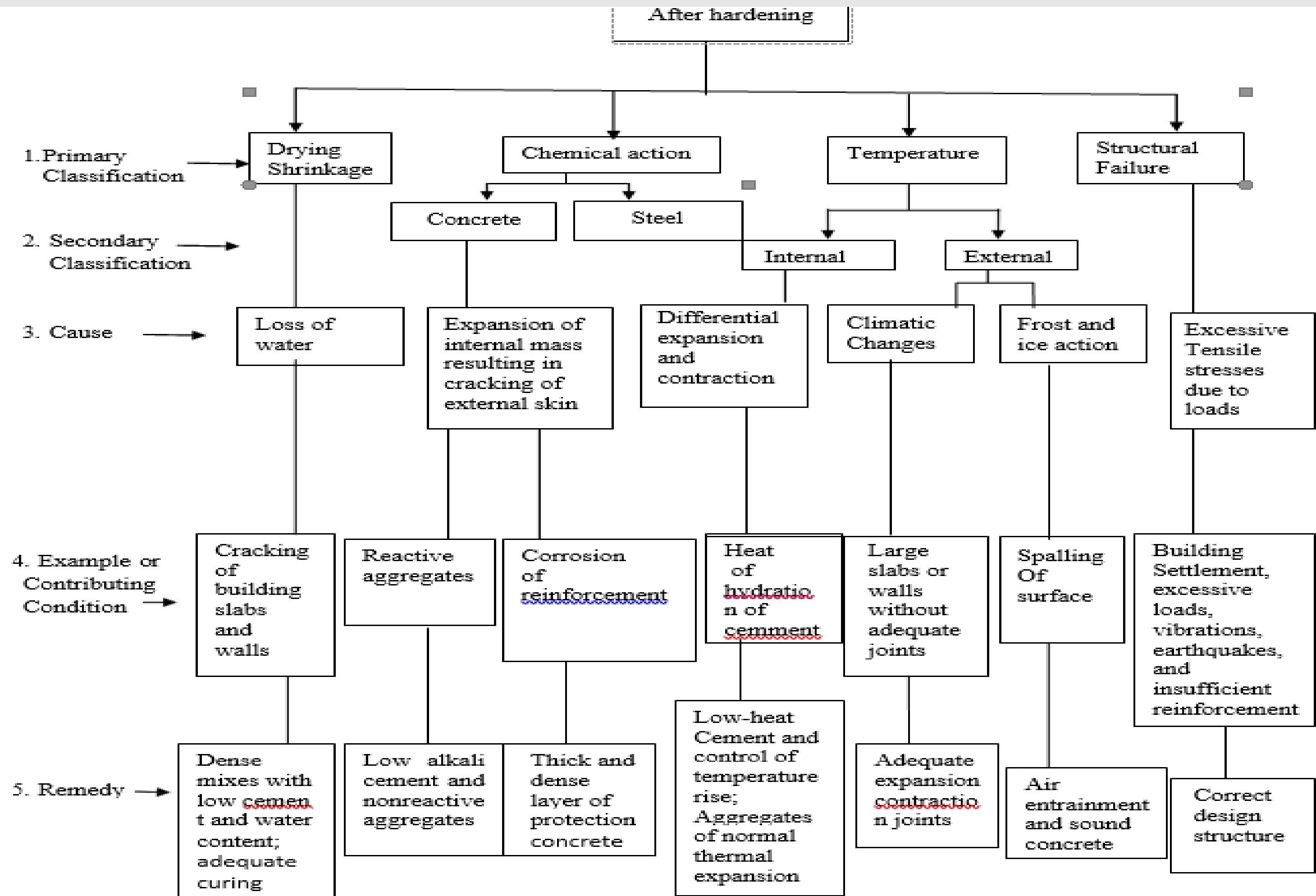


3.19 Examples of intrinsic cracks in a schematic concrete structure (Concrete Society, 1992. Adapted from 'Non-structural cracks in concrete', Technical Report No. 22, Third Edition, Slough, UK, The Concrete Society).





Other Properties, types and causes of concrete cracking





Thank you !!!