

IS 12330: 1988 Sulphate Resisting Portland Cement- Specifications

Sulphate Resisting Portland Cement (SRPC) is a specialized type of Portland cement with low levels of tricalcium aluminate (C_3A) and high levels of tricalcium silicate (C_3S). It is designed to resist sulphate attack in concrete, which can cause deterioration when concrete is exposed to sulphate-rich environments like soil, seawater, or wastewater.

Low C_3A Content in SRPC reduces the likelihood of sulphate compounds reacting with components in the cement, preventing expansion and cracking. SRPC has high durability i.e. it provides long-lasting performance in sulphate-laden soils, groundwater, or environments with wastewater exposure and helps in improved concrete performance by ensuring stability and structural integrity for infrastructure in harsh chemical environments.

SRPC is often used in foundations exposed to sulphate-rich soils, water treatment plants and sewage works, marine structures including docks and coastal construction and underground construction where groundwater has high sulphate content. SRPC play an important role in extending the lifespan of structures in aggressive environments, in reducing the maintenance costs by lowering the need for repairs due to chemical attack.

BIS first published IS 12330 for Sulphate Resisting Portland Cement in the year 1988. This standard has since been reaffirmed in the year 2009.

This standard specifies the manufacturing methods, physical requirements namely fineness, soundness, setting time, sulphate expansion, compressive strength as well as chemical requirements. This standard also lays emphasis on manner of storage in the factory, packaging in bags as well as marking requirements on bags.

By adhering to IS 12330, SRPC manufacturers ensure the production of high-quality, reliable cement designed to perform in sulphate-exposed environments, ensuring longevity and stability for vital infrastructure.