TECHNICAL BULLETIN No 3

Expansion Joints

OBJECTIVE

To allow for movement in structural members whilst maintaining waterproofing/fireproofing and sound insulation integrity

STRUCTURE

Various, they can include car parks, bridges and commercial/corporate buildings

OVERVIEW

Joints in structures are often ignored, or indeed misunderstood, they are provided to allow movement within the structure and as such need waterproofing. It is essential that the full movement characteristics are understood, in terms of differential movement, in both the horizontal and vertical planes and indeed the total movement anticipated. Inadequate allowance and incorrect choice will lead to early failure and indeed a waste of valuable funding.

Failure of a jointing system allows water, sometimes chloride laden, to go down the joint and finish up leaking to decks below and on to cars. The water running down through the joint faces also finishes up at the soffit of the slab and here corrosion of the embedded steel reinforcing can occur due to the continued accumulation of chloride and the drying/wetting cycle. Joints fall in to many categories and types, the main ones being sealant and mechanical.

Sealant type joints are adequate where movement is limited and where the duty is not too arduous, the sealant needs to be carefully selected for the application.

Mechanical type joints are seen as accommodating greater movement and providing longer life in service. The Emseal range of jointing systems cover all possible movement characteristics and are designed to be trafficable joints and suitable for car parks. They have a capability to remain completely watertight in transitions, be they in the vertical or horizontal plane. Within the range there is a system to suit every application, ensuring complete waterproofing to structures.