

Floor Joint System Specification

1. System Requirements

Floor Joint System: Provide a heavy-duty sinusoidal armoured movement joint with **three-dimensional rebar anchorage**, such as the **Cosinus Slide®** or **an approved equivalent**. The joint system shall provide high-performance load transfer across the slab and be suitable for environments subject to heavy static and dynamic loading, including areas with intensive vehicular traffic and material handling operations.

2. Technical Documentation & Compliance

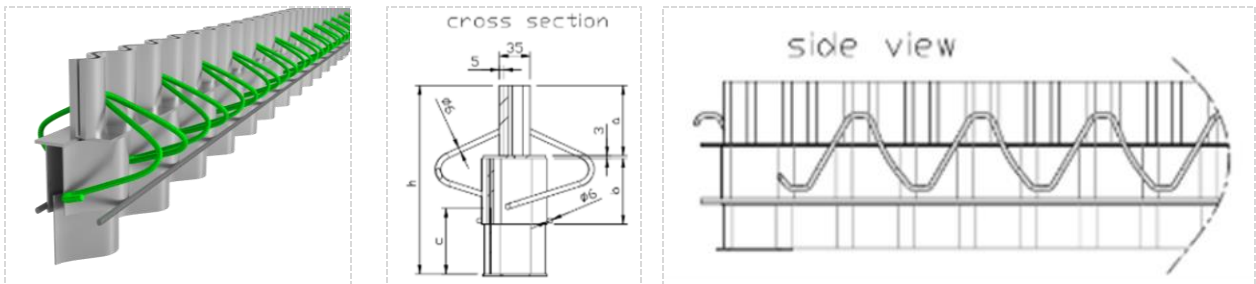
The manufacturer or specialist contractor shall must provide load transfer calculations and supporting documentation demonstrating compliance with the project performance requirements, such as **for the load transfer according TR34, 4th edition as well as for the deflection limitation according ACI360-R10, chapter 6.2.**

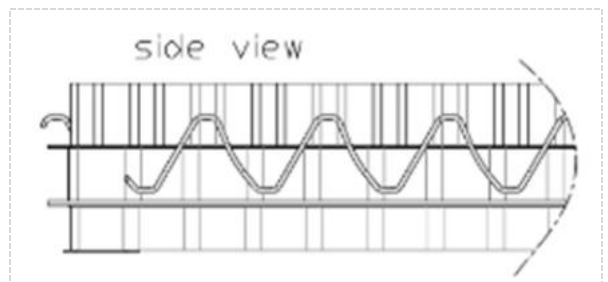
3. Structural Serviceability

The joint system must be designed to maintain adequate static load-bearing capacity throughout the service life of the floor, permitting the unrestricted relocation and installation of racking legs, including positions immediately adjacent to or directly over the joint, without compromising structural performance or serviceability.

Reference Technical Illustration & 3-D Anchorage System

Cosinus Slide® Jointing Technology





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1. System Requirements

Heavy-Duty Sinusoidal Armoured Joint with 3D Rebar Anchoring (e.g., Cosinus Slide® or equivalent performing system). The floor joint system must be a heavy-duty sinusoidal armoured joint utilizing a uniform load distribution approach. The installed joint system must meet the following facility operational criteria:

- **Impact Neutralisation:** The geometry must support constant contact between Material Handling Equipment (MHE) wheels and the floor surface, neutralizing impact loads to minimize MHE maintenance costs and protect sensitive cargo.
- **Automation Compatibility:** The transition should be vibration-free to support maximum operational speeds for AGVs and robotics without sensor disruption or navigation errors. Recommended joint opening max. 15mm
- **Asset Flexibility:** The joint must possess sufficient static load-bearing capacity to allow unrestricted repositioning of racking legs during the lifecycle of the floor, including placement directly adjacent to or directly over the joint.
- **Mandatory Structural Calculation & Load Transfer**
- **Minimum Load Transfer:** According to TR34 - 4th edition

2. Technical Documentation & Compliance

To satisfy the operational requirements above, the proposed joint system must demonstrate sufficient load transfer across the joint under peak static and/or dynamic loading conditions. The contractor must submit a verified structural floor slab calculation report that explicitly incorporates the verified load transfer capacity of the proposed joint system.

- **Proof of Performance:** The contractor must submit an independent, third-party physical test report verifying the product capacity including the limitation of differential deflections in accordance with ACI 360R-10, chapter 6.2: small hard wheels (Vulkollan, polyimide, ...) < 0.25 mm; large cushioned rubber wheels < 0.51 mm.
- **Design Optimization/ Optional** Where the verified load transfer of the joint allows, the Engineers should demonstrate optimizations in slab thickness and concrete volume to reduce the project's CO2 footprint and material costs.

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