

CERTIFICATE

Client: Hengelhoef Concrete Joints NV (HCJ)
Hengelhoefstraat 158
Poort Gent 0420
BE-3600 Genk
Belgium

Reference: Certificate 2010/1-2824

Tested object: HCJ Cosinus Slide® joints

Requirements: vibration levels when passing a concrete joint
not exceeding EU Directive 2002/44/EC

I undersigned, Stefan Milis, can certify and confirm that the **Cosinus Slide® joints** from Hengelhoef Concrete Joints (HCJ) when installed and finished properly accordingly the rules of good craftsmanship, can guarantee **vibration- and shock free forklift wheel crossings**.

This important quality characteristic is the relevant conclusion from our test report "Evaluation of whole body vibrations when passing concrete joints with material handling equipment" from 20th of September 2010 (ref. 8-2034,01).

General conclusion of this test report:

- We can conclude that passing the HCJ Cosinus Slide® joints with a material handling truck, no increase in vibration levels is detectable. Several types of material handling trucks were tested, with different loads.
- As no increase in vibration level is detectable, passing of the HCJ Cosinus Slide® joints will not lead to a violation of European directive 2002/44/EC.
- We also examined straight joints in the same testing conditions. In some cases, peak vibration levels when passing the straight joint were very high ($> 5g$ or $50m/s^2$), as measured on the rubber of the standing platform! Therefore we believe that vibration levels on the freight itself may even be much higher. This may cause damage to the freight and increased wear and tear on the handling equipment.



Ir. Stefan Milis