



HYFLEX NS/LM

Epoxy joint sealants

HYFLEX NS/LM are epoxy based, flexible materials, suitable as trafficable joint sealants for low movement expansion and construction joints in pools, tanks, factories, roads, pavements and warehouse floors. HYFLEX joint sealants offer considerable advantages over typical 1 part moisture curing sealants in that they cure fully throughout the joint and do not rely on moisture to form a skin with resultant slow long term cure times. They are ready for service within 24 hours and have typically higher resistance to chemicals as their use in chlorinated swimming pools shows.

USE

HYFLEX NS is recommended for applications where a relatively hard joint sealant, applied flush with the floor level is required to facilitate the movement of vehicles, trolleys, forks, etc. The material can be further filled with rubber aggregate and is designed for low movement joints.

HYFLEX LM is suggested for all applications not requiring resistance to the high flexural strengths exerted by heavily laden steel wheeled trolleys. Both NS and LM have a non sag consistency and can be used to seal cracks, gaps and joints in vertical as well as horizontal applications.

TYPICAL PROPERTIES (CURED FOR 7 DAYS AT 20°C 50% RH)

	HYFLEX NS	HYFLEX LM	SIKA 11 FC
Product Type	2 part flexible epoxy	2 part flexible epoxy	1 part polyurethane
Mix Ratio	1:1 by Volume	1: 1 by volume	Not relevant
Shore A hardness			
Elongation at break			
Tensile strength			
Elastic modulus			
Tensile adhesive strength			
Exposure resistance	7 day immersion	50 x 50 x 10mm sample size	Wt gain in micrograms
Tap water			
5% hypochlorite			
5% nitric acid			
5% caustic soda			
5% ammonia			
Unleaded petrol			
Lubricating oil			

APPLICATION GUIDELINES

Floor Joints

Damaged floor joints need to first be repaired. Cut out existing damaged area by widening the joint to an appropriate dimension. Fill the total cavity with a HYCHEM E300 epoxy mortar prepared by blending 1 volume of HYCHEM E300 with 5 volumes of sand. This is then allowed to cure.

If an epoxy topping has to be placed on the existing floor, mark out the exact position of the filled joint as a new joint will need to be cut in the epoxy topping.

- a) **With epoxy topping** – Complete the epoxy topping and cut a new joint through the epoxy topping allowing for placement of a minimum 5mm polyethylene rod with 5mm head space. Wider joints need to be cut where extensive movement is expected. The joint width should be determined by agreement with the clients consulting engineer. Prime the newly cut joint with HYCHEM E 100S epoxy sealer. Allow the primer to surface dry until tack free. Place appropriate backing rod into the newly cut joint and fill to top with HYFLEX LM or HYFLEX NS depending upon joint design required. Slightly overfill, allow to cure for 24 hours and grind back to a flush smooth finish. Coat jointing compound with HYCHEM E 100S epoxy sealer to prevent dust absorption and possible discoloration due to environmental chemicals and cleaning compounds.
- b) **Without epoxy topping** – Cut new joint in the HYCHEM E 300 epoxy mortar taking into account expected joint movement, type of traffic and sealant movement capability. Prime the sides of the joint with HYCHEM E 100S epoxy sealer and allow to cure to a tack free finish. Fill the joint with HYFLEX to a flush finish.

For very wide joints the addition of rubber crumb to the joint sealant can be considered as a cost lowering exercise.

- c) **Surface cracks** – Any moving cracks penetrating the whole of the slab should be treated with a silane waterproofing impregnation (See HYCHEM Data Sheet for CP 100). Surface cracks can easily be treated by routing out the crack, priming with HYCHEM E 100S sealer and then filling with HYFLEX NS. Once cracks have been sealed, the repaired surface will look unsightly. Coating the whole area with an epoxy sealer such as HYCHEM TL3 is recommended.

Pre-conditioning product

It is important to note that even when the application environment is warm, products which have been stored in cold or cooler conditions should always be pre-conditioned ideally to 20–25°C to ease mixing, application and help avoid other potential issues such as amine bloom or blushing.

Applying a cold product in a warm environment is not recommended.

WARNING - ENVIRONMENTAL CONDITIONS

Temperature and the surrounding atmospheric conditions will play a part in the curing process of all epoxy products. Under conditions of low temperatures and high humidity the final cured surface finish can be adversely affected potentially resulting in poor gloss retention, discolouration over time, poor overcoatability and intercoat adhesion. Quite often these conditions will result in the formation of a white film over the surface often evident after contact with water. This chemical reaction with the atmosphere is commonly referred to as “amine bloom” or “amine blush”.

If this occurs then the existing coating will need to be abraded to completely remove the affected surface to ensure the adhesion of subsequent applications. In some cases partial or complete re-priming may be necessary.

Attention also needs to be paid to the substrate temperature which should be at least 3°C and preferably 5°C above the dew point during the curing phase.

Industry standards recommend the accurate recording of times and dates, batch numbers, consumption rates and environmental conditions including substrate and air temperatures, humidity levels and dew point readings during both the application and curing processes. Full material warranties cannot be provided unless all the relevant data has been recorded accurately.

If in doubt consult the Hychem technical department for advice.

NOTE: Customer responsibility

The technical information and application advice given here is based on the best information available at the time of print. As the information herein is of a general nature, no assumption can be made as to the products suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation.

Field support, where provided, does not constitute supervisory responsibility. Suggestions made by HYCHEM either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not HYCHEM are responsible for carrying out procedures appropriate to a specific application.

If unsure contact Hychem for further technical advice before proceeding.