

PARTICULAR SPECIFICATION:

COMPARTMENTALISATION JOINTS FOR FLOOR FINISHES

PREFORMED METAL PROFILES

GENERALLY

The scope for the installation of profiles for the sealing of COMPARTMENTALISATION JOINTS on floor finishes will conform to the recognised international standards whereby defined lines of separation will occur between the built-up of levelling screed, mortar, floor tile adhesives and the ceramic tile or stone finishes. This has been found necessary due to the difference in the coefficient of expansion of the material make up. Cement and sand mortar have a coefficient of expansion different from that of Concrete. Tile adhesives and floor finishes too have differing levels of coefficient of expansion.

As such floor finishes are laid in compartments of 6.96 meters to 7.62 meters in each direction with through gaps or joints occurring from the structural floor slab to the finishing tile works to allow for the anticipated movements within the built-up panels to take place. This practiced mythology prevents the uplifting or cracking of tile works on floors.

The whole compartmentalisation joint system shall be executed in accordance with the details stipulated in the drawings or in specifications herein laid out.

APPROVED COMPARTMENTALISATION JOINT SYSTEM

Compartmentalisation joint profiles are designed for the absorption of anticipated movements and trafficking. These profiles should have published and certified data on movements and trafficking capacities.

The following or its equivalent products will be deemed suitable for use subject to the approval of the design Architect's decision on the choice of use (narrower or bolder profiles.)

- a. MIGUTEC ESF 10 AL Aluminium
- b. MIGUTEC ESF 16 AL Aluminium
- c. MIGUTEC ESF 27 AL Aluminium
- d. MIGUTEC ESF 22 NI Stainless Steel

<u>Profile</u>	<u>Joint Width max (mm)</u>	<u>Movement of Profile (mm)</u>	<u>Visible Width of Profile (mm)</u>	<u>Installation height (mm)</u>	<u>Load Capacity Lorry (kN)</u>	<u>Load Capacity Fork Lift (kN)</u>	<u>Load Capacity Pallet truck (kg/mm Wheel width)</u>
ESF 10/15 AL	10	4(±2)	10	15	600	130	6.5
ESF 10/17 AL	10	4(±2)	10	17	600	130	6.5
ESF 10/25 AL	10	4(±2)	10	25	600	130	6.5
ESF 10/35 AL	10	4(±2)	10	35	600	130	6.5
ESF 10/40 AL	10	4(±2)	10	40	600	130	6.5
ESF 10/50 AL	10	4(±2)	10	50	600	130	6.5
ESF 10/60 AL	10	4(±2)	10	60	600	130	6.5
ESF 16/35 AL	10	6(±3)	17	35	600	130	8
ESF 16/45 AL	10	6(±3)	17	45	600	130	8
ESF 16/60 AL	10	6(±3)	17	60	600	130	8
ESF 27/30 AL	15	10(±5)	27	31	600	130	8
ESF 27/35 AL	15	10(±5)	27	35	600	130	8
ESF 27/40 AL	15	10(±5)	27	40	600	130	8
ESF 27/55 AL	15	10(±5)	27	55	600	130	8
ESF 22/18 Ni	12	4(±2)	22	18	600	130	11
ESF 22/30 Ni	12	4(±2)	22	30	600	130	11
ESF 22/45 Ni	12	4(±2)	22	45	600	130	11
ESF 22/60 Ni	12	4(±2)	22	60	600	130	11

QUALITY AND CONFORMITY FOR ESF 10

Aluminium Grade	:	Al Mg SI 0,5(Alloy 6060)
Dimensional tolerances	:	DIN 17615
Tensile Strength	:	DIN 1748 Part 1 215N/mm ²
Elongation-break	:	DIN 1748 Part 1 12%
Specific weight	:	2,70 kg/dm ³

JOINTING OF PROFILES

In conjunction with the placement and jointing of profiles, it is essential that all terminations at intersections must not be butt jointed on site or with poorly made ad hoc intersections.

Instead, special prefabricated intersection profiles manufactured in the factory shall be used to provide continuity to the adjacent compartments.

Special Intersection profiles such as: “**CROSS,**” “**TEE,**” and “**L**” will be needed to ensure neat finishing to profiled compartmentalisation. Preplanning and scheduling of requirements will reduce interruptions to tiling works.

“**CROSS,**” “**TEE,**” and “**L**” are connected to the straight lengths with side pins to accord closer fixation. MxBond adhesives could be used to provide stronger bondage seals at joints.

FORMATION OF JOINTS WITH CORKFIL

It will be noted that Compartmentalisation joints are formed from the surface of structural concrete floor slabs and terminate at the surface of floor finishing. These open joints are free from any solid projectiles or cement grouts which will hinder movements within the joint.

Whilst Compartmentalisation Joint Profiles are manufactured to specific widths, heights or depths, the width and height of the joint is formed only if standard profiles are used.

However, if the bedding screed exceeds the height of the standard profiles, the remaining height of the joint below the profile will be formed with Corkfil a compressible joint former and filler.

As such, pre-cut Corkfil sheets of 12 mm thickness which has compressible and recovery resilience will be used to form such joints.

CORKFIL is manufactured from fine cork granules; these granules are compressed and saturated with binding resins to provide compressibility, recovery resilience, sufficient stiffness and varying thickness to function as joint formers for compartmentalisation joints on floor finishes as well as for the formation of structural expansion joints in building structures.

CORKFIL is generally attached to one side of a cured structure as a mould to form the width and length of compartmentalisation joints.

Cut to size Corkfil is saddled with Fibercap 40 to provide good alignment formation prior to being positioned with mortar bracing supports.

For the formation of joints in split columns (columns abutting each other and separated with an expansion joint gap) formation works should be executed in two stages. No attempt should be made to position Corkfil joint formers in the middle and cast both columns at the same time. This will inevitably cause crooked or misaligned joint formation as Corkfil will not be able to restrain the pressure and weight of the wet concrete being placed.

The formation of the desired width to compartmentalisation joints lies firmly on the use of proper Compressible joint fillers of sufficient stiffness. In view of the said, no polystyrene boards or foam sheets of any density shall be used as they are not designed for the purpose of expansion joint formation. Polystyrene materials have poor recovery possibilities after compression. Polystyrene boards are designed for use as insulation boards and not joint formers.

Corkfil shall be used at all times for the formation of Compartmentalisation Joints as these preformed formers are manufactured from fine granules of cork and bonded with polyurethane adhesives to form tightly bonded sheets having good compressible and recovery rates.

Wood fibre fillers of any foliage extracts shall not be used for the formation of compartmentalisation joints. Wood fibre sheets are manufactured by dipping the fibres into solutions of bitumen or asphalt with other chemical solutions which may be carcinogenic in nature and be hazardous to health.

Wood fibre boards which was once used as ceiling boards for insulation and is still probably used in poorer countries are relatively soft and would break on impact. It will also disintegrate under water immersion or would otherwise degrade upon repeated wetting.

The staining of walls and finishes with bitumen are common occurrences and it takes much time and resources to remove bitumen stains from painted wall surfaces.

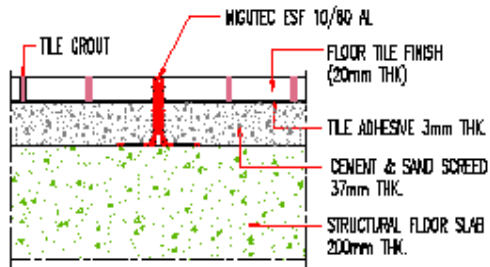
Formed compartmentalisation joints, which are not well aligned, and plum shall be demolished and corrected with a fresh built-up of cement mortar and joint formers.

The current practice of demarking flooring panels with a mount of solid mortar to register the height of the finishing without the formation of 12 mm wide joints at its centres is a grievous mistake and must be avoided.

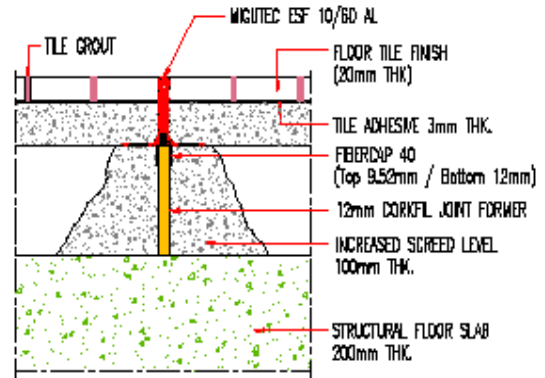
Whilst there are many profile types which may be deemed fitting for use to seal compartmentalisation joints, this project will disallow the use of profiles which have exhibited untold failure while in service.

The following profiles types will not be considered for use:

1. Profiles manufactured from plastic polymers be they hard or soft. (Proven failures in service)
2. Profiles manufactured with Stainless steel, brass or aluminium wall supports and sandwiched with Neoprene pads (Proven failures in service)
3. Profiles manufactured from metal with sealant infills.



WITH STANDARD SCREED LEVELLING HEIGHTS



WITH INCREASED LEVELLING SCREED HEIGHT

INSTALLATION OF MIGUTEC PROFILE ESF 10/60 AL COMPARTMENTALISATION JOINT PROFILE