

*Carter-Dal AF50
Decoupling and Waterproofing
Super Thin Mat
for under tile and stone*

Technical Performance

Heavy Commercial Durability

Achieved a highly rigorous "Heavy Commercial Rating" in the ASTM C 627 Robinson Wheel test, proving its ability to withstand intense foot traffic and heavy physical loads.

Complete Waterproof Tanking

Fully watertight at 1.5 bar pressure for 24 hours with zero leakage, serving as a complete moisture and vapour migration barrier for walls and floors.

CE Certified Reliability

Officially tested and CE marked to ETAG 022 standards. The membrane accommodates substrate cracks up to 0.4 mm without transferring stress to tiles above. Beyond 0.4 mm, tiles may crack, but waterproofing integrity is maintained - the membrane remains intact as a continuous waterproof barrier.

Advanced Decoupling

Features an exceptionally flexible core with >50/60% elongation under maximum load, effectively absorbing lateral substrate movement and preventing hairline cracks from telegraphing to your tiles.

Underfloor Heating & Natural Stone Protection

Fully temperature resistant and highly flexible, making it the perfect slip plane to absorb thermal expansion and screed spider cracks beneath underfloor heating systems, whilst providing robust support for brittle natural stone installations.

Ultra-Low Profile

At just 2.5 mm off the roll and a composite thickness of only 0.6 mm under load, it provides premium heavy-duty decoupling and waterproofing without adding unnecessary height to your floor build-up.

Lower Environmental Impact:

- Reduced weight means lower transport emissions
- Fewer delivery trips per project
- Lower embodied carbon through material efficiency



Why Specify Carter-Dal Decoupling Membrane HD?

At just 2.5 mm, Carter-Dal's decoupling membrane is up to 29% thinner than standard decoupling mats - giving architects the design freedom they need and installers the speed they want, without compromising on crack protection or waterproofing performance.

For Architects:

- Minimal floor height build-up - maintains door clearances and thresholds
- Critical for renovation projects with tight height constraints
- Greater design flexibility in multi-room installations

For Installers:

- Faster installation - easier to cut and lay
- Reduced adhesive use - up to 30% less material needed
- Fewer site complications with doors, skirtings and transitions

Installation Guide

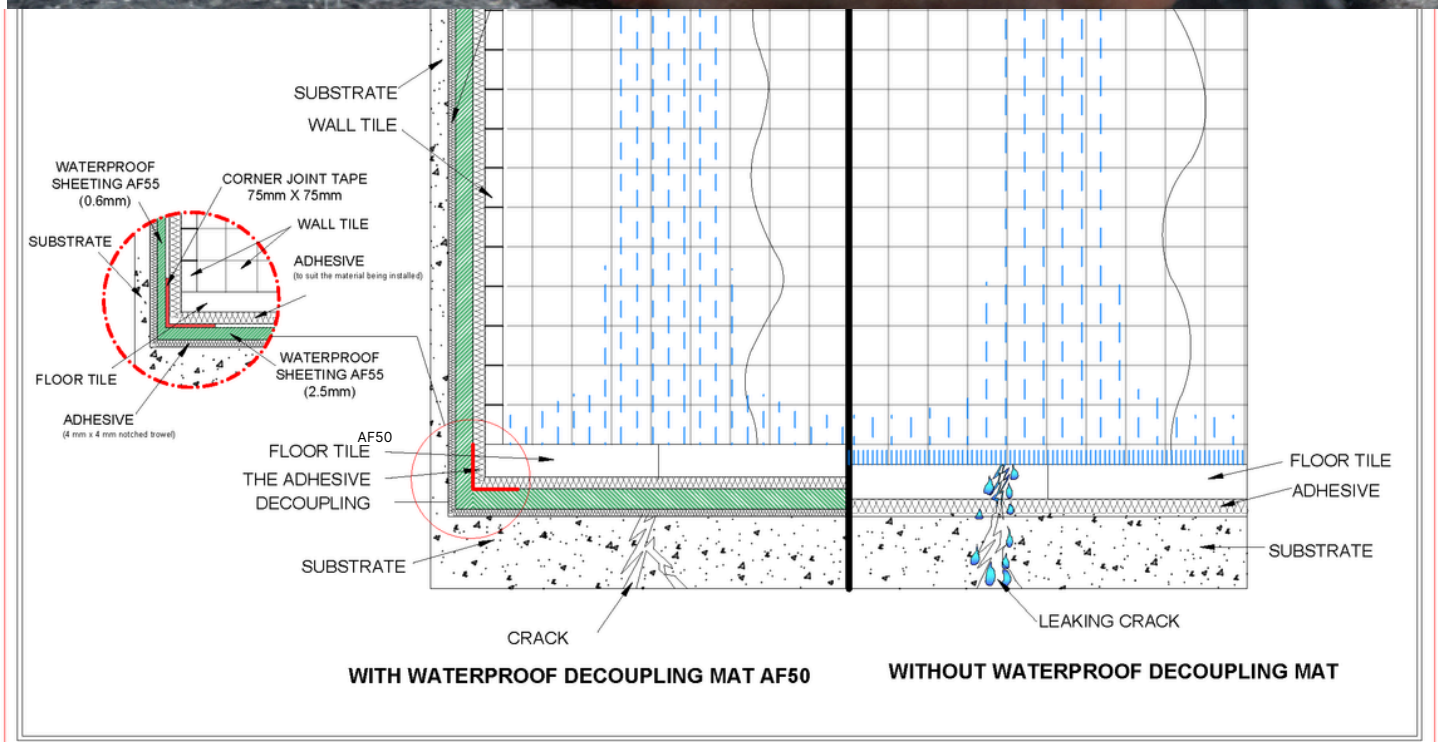
1. Prepare the substrate: Must be dry, clean, level, structurally sound and free of dust, grease, laitance, sealers or anything that could inhibit adhesion. Substrate must be rigid and deflection-free. Suitable substrates: concrete, screed, cement board, exterior grade ply, anhydrite screed. Correct uneven floors with levelling compound before installing the mat. Prime if required.

2. Apply adhesive (to bond the mat to the substrate): Use appropriate Carter-Dal flexible adhesive - contact us for recommendations. Spread using a 4x4 mm notched trowel and key the mortar into the substrate first. Do not use a larger notched trowel for this step - the 4x4 mm is specifically for bonding the mat to the substrate only.

3. Lay the mat - fleece side down: Cut to size, place fleece side into adhesive bed, press firmly with float or roller centre outward. Do not stretch. Leave 5-8 mm expansion gap at walls and fixed edges.

4. Joints and edges: Overlap seams or cover with Carter-Dal Sealing Tape if waterproofing is required. Use prefabricated corner pieces where appropriate.

5. Tiling onto the mat: Indoors, tile immediately after laying. Outdoors, wait until adhesive has hardened. Use the appropriate size notched trowel for the tile/stone being laid - not the 4x4 mm trowel. Refer to tile/stone manufacturer guidelines for correct trowel size.



Expansion Joints (BS 5385-3:2024)

Movement Joint Requirements:

- Perimeter joints: Minimum 6 mm flexible joint where tiles meet walls, columns, thresholds or fixed units
- Field joints (internal floors): Every 8-10 m in any linear direction
- Field joints (underfloor heating): Every 6 m in both directions
- External floors: Every 3-5 m

Critical Requirements:

- All substrate expansion joints, control joints and structural joints must be continued through the tile covering mat, which may have a relief wrinkle/stress relief bellows.
- Do not cover any substrate joint with mortar or tiles
- Carter-Dal Decoupling Mat must be separated at expansion joints
- Install compressible backer rod and flexible sealant (e.g. silicone) in all movement joints
- Movement joints must pass through tile, adhesive, membrane and substrate

Maintaining Waterproofing at Expansion Joints:

Where waterproofing is required, maintain continuity by applying Carter-Dal Sealing Tape (min. 125 mm wide) centered over the separated joint, overlapping the decoupling mat by 50 mm each side, fully embedded in appropriate Carter-Dal flexible adhesive.

Note: While decoupling mats absorb lateral shear stress and reduce cracking from minor substrate movement, they do not eliminate the need for movement joints or extend BS 5385 spacing requirements. Carter-Dal reserves the right to change technical details at any time.

