

DECIDAMP® DC06

This Installation Guide provides recommendations to maximise the service life in various applications.

KEY INSTALLATION REQUIREMENTS

Personal Protection Equipment (PPE) including eye protection, gloves and safety clothing are highly recommended.

Decidamp® DC06 is a two-component water-based damping compound supplied in a single pail:

- Part A: Decidamp DC06 Paste
- Part B: Decidamp DC06 Powder

PRE-TREATMENT OF SURFACES

All substrates must be prepared to the yard standard:

- Clean, dry and free of any contaminants such as liquid, dirt, oil, flaky paint, rust, wax, grease or fibreglass release agents
- Clean surfaces using a suitable water-based or solvent-based cleaning agent. Compatibility with cleaning agents must be tested beforehand. Priming is recommended on steel surfaces (a silane based primer is best).
- Smooth surfaces: must be scuffed back to ensure a good bond. Rough surfaces only need to have dust and grease removed.

NOTES PRIOR TO APPLICATION

- Ensure substrate temperatures are 5 to 35 °C (based on cure of bulk material in a single kit mix).
- Measure and mark the grid that Decidamp DC06 product and counter-plates will be installed in.
- Bond strength: a correctly mixed product will be able to hold a 2 mm thick steel or aluminium counter-plate in both a vertical or horizontal position without the use of props or temporary mechanical fastening. Heavier counter-plates can be bolted on to the substrate without compromising performance, however, individual tests are recommended.
- Installation on fire rated boundaries: take extra care in measurements. On structural fire protection boundaries, insulation pins should be installed before applying Decidamp DC06. Installation in such areas should also be approved by the surveyor prior to installation.



Both parts are supplied in the required ratio of ingredients with a weight based mixing ratio of 1:1.65 of part A and B. Mix product thoroughly inside the pail before use.

Decidamp® DC06 works best in a constrained layer configuration (sandwich system), where the product is applied to the substrate and counter-plates are bonded onto it.

applications

- Marine: hulls, decks and bulkheads to reduce vibration and structure-borne noise
- Propeller and bow thruster areas
- Transport: automotive and rail industry
- Industrial: earthmoving equipment, portable generator and pump units
- Suitable flooring systems to reduce impact noise

Tools can easily be washed with warm water due to the water-based nature of the product.

MIXING

- Add Part B to Part A and thoroughly mix together using a power drill on low speed with a ribbon or paddle mixer.
- Allow approximately 5 to 10 minutes of mixing time for a full kit. Make sure to scrape the sides of the container allowing a better mix and dispersion of the curing agent (Part B).
- If mixing in smaller quantities, precise measuring of DC06 paste versus curing agent is essential in establishing the correct viscosity and ensuring proper curing and a good bond between substrate and counter plate.

Do not overwork as this will start curing process.

APPLICATION

- Apply using a 4 mm notch trowel onto the substrate before applying the perforated counter-plate. Float tool or trowel can be used to flatten Decidamp DC06.
- Once applied to the substrate, position the counter-plate on to the substrate. Apply firm, even pressure, whilst gently sliding the counter plate back and forth a few times (within a small field of movement less than 1 cm) and give a firm tap with a hammer to avoid air-pockets and ensure the product has spread evenly. This is essential for a good bond, and for maximising performance. Make sure that final thickness of Decidamp DC06 between substrate and counter-plate is not less than 1 mm.
- If there is any slumping or slippage on the initial application of product, allow the mixed product to set for a further 5 minutes. Please note that you will have less working time if this approach is used.

Failure to follow these guidelines may result in a poor bond, and may affect vibration damping performance.

TILE SPACING

- A sufficient gap between counter plates (5 to 10 mm) is recommended
- Ensure the counter-plates do not come in direct contact with each other, or any structural component of the vessel/ equipment, as this can adversely effect the performance
- Tile spacing also allows for expansion gaps during vibration, heat induced expansion or substrate swelling
- Counter plates can be mounted with or without spacers. However, 1 mm tee spacers if used for vertical surfaces would effectively support and accurately space each plate



4 mm notched trowel used on substrate

PRODUCT COVERAGE

Decidamp DC06	
Mix ratio A:B	1:1.65
Typical recommended thickness	2 mm DFT
Consumption	Approx. application with 2mm notch trowel: 2.5 kg/m² (wet) provides 1 mm DFT Approx. application with 4 mm notch trowel: 5.0 kg/m² (wet) provides 2 mm DFT
Weight	1.75 kg/m ² for 1 mm DFT 3.5 kg/m ² for 2 mm DFT

1mm thick coverage using 15kg kit will give you 6m² coverage total



COUNTER-PLATE TO SUBSTRATE RATIO

- It is recommended that perforated counter-plates are 1/3 the thickness of the substrate, but other thicknesses can be used depending on performance requirements (e.g. for a 6 mm steel substrate use a 2 mm perforated steel counter plate). A thicker counter plate up to 1:1 thickness ratio may be used where a higher acoustic damping is desired. Perforated counter-plates should have a minimum of 15% open area to allow the compound to set. For acoustic performance the open area should be no greater than 35%.
- For GRP/FRP sandwich substrates, it is recommended that the counter-plate thickness should be equal to the thickness of the glass skin in contact with the product.
- The counter-plate dimensions should be as large as possible, with a recommended range of 200 x 200 to 500 x 500 mm. Large counter-plates or plates over 2mm thickness may require mechanical fastening.
- Pre-forming of counter-plates may be necessary before application, particularly when installed on bow thruster tubes or on any curved surface.

PRODUCT INFORMATION

Substrates: Can be used on steel, aluminium, GRP/FRP laminate, GRP/FRP sandwich and wooden structures, using the counter-plates mentioned.

Counter-plates: Depending on the structure, counter-plates would normally be steel, aluminium, glass laminate, or plastic. Refer to the "counter-plate to substrate ratio" section for more information.

Water-resistant: Decidamp DC06 is water-resistant, however where regular exposure is expected, Decidamp DC06 and its counter-plate should always be sealed with a suitable commercial waterproofing sealant/coating, applied well after complete curing of the material. This is to prevent corrosion of metal counter-plates and/or ingress of water behind the plates.

Cure time and process: Decidamp DC06 takes approximately 24 hours to fully cure. Once the two components are mixed, the pot life will be approximately 45 minutes depending on environmental conditions. Working in warmer climates with lower humidity will shorten curing times.

Operating temperature range: Once cured, Decidamp DC06 can be used over a temperature range from -40 °C to 120 °C.

Shelf life and Storage:

- Decidamp DC06 **Part A:** 36 months from date of manufacture under recommended storage conditions
- Decidamp DC06 **Part B:** 24 months from date of manufacture under recommended storage conditions
- Un-opened kits to be stored between 10 and 30 °C. Do not allow to freeze
- Opened kits (unmixed) must be resealed and used within 2 months
- Frequent opening of seal must be avoided
- Mixed kits must be used immediately

Clean up and Safety:

- Uncured material can be cleaned up with warm water
- Once cured, Decidamp DC06 can only be removed mechanically

Please contact Pyrotek® for further information or detailed advice on your specific application.