

coolceil radiant chilled ceilings chilled acoustic ceilings (profile suspension)



System Description

SAS CoolCeil Radiant Chilled Ceilings have emerged as an alternative to traditional air conditioning systems, incorporating a single piece copper element into the rear of a standard ceiling tile.

Chilled Ceilings are durable and visually indistinguishable from standard metal suspended ceilings. Using water as the heat transfer medium, heat is absorbed and removed from the occupied space as water flows through the system.

Chilled Ceilings provide between 45 and 65 W/m² (net) of cooling capacity. They radiate cooling downwards and provide quiet, draft free comfort cooling to occupants.

Chilled Ceilings can be used in conjunction with Chilled Beams to meet additional cooling requirements, for example solar gain around glazed elevations.

System Features

- Energy efficient – low operating temperatures
- Silent operation
- No moving parts / low maintenance requirements
- Accommodates future layout requirements including demountable partitioning
- Single piece continuous copper element contained within each Chilled Ceiling tile
- Can be installed with voids less than 100mm

Ceiling Type

SAS Chilled Ceilings are normally specified within System 330 incorporating mega-panels or planks see page 77. Other shapes can be manufactured to meet specific requirements.

Finish

Polyester Powder coated supplied as standard with a RAL 9010 smooth finish; a fine textured finish (SAS FT), anti-bacterial coating (SAS AB) and other colours are available. See page 36 for a full range of paint finish options.

Grid System

Profile suspension, C-Profile and Omega C-Profile, see pages 151–155 for components.

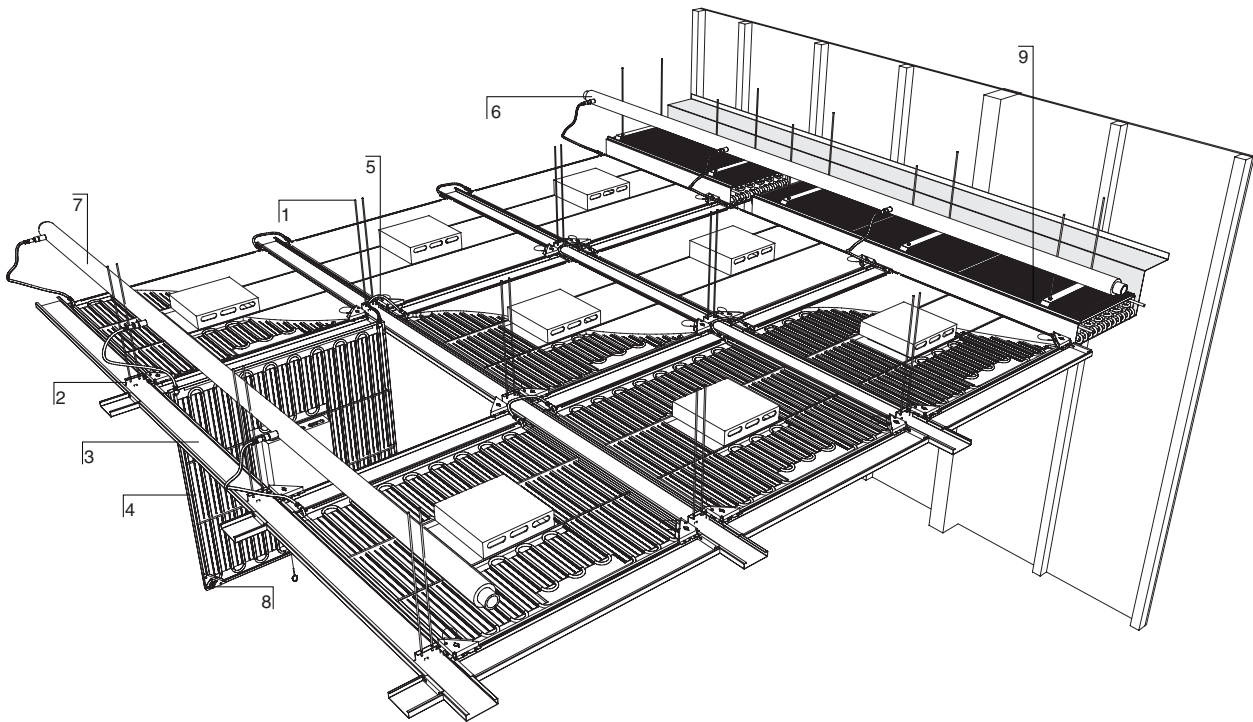
Perforation

Typically supplied with 1522, 1820 or 2516 perforation. See page 103 for full details and perforation options. There is no requirement for larger perforations with a Radiant Chilled Ceiling, please contact the SAS technical department for acoustic performance information.

Weight

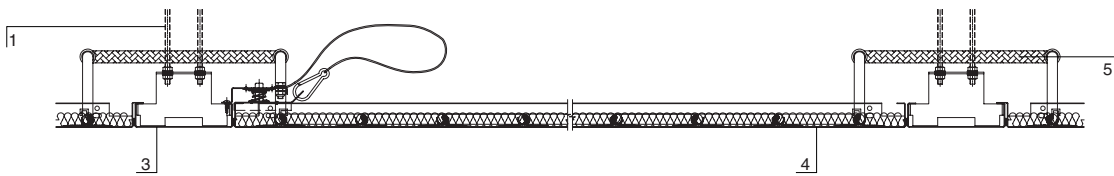
Approximately 20 kg/m² for ceiling tiles, grid, water-filled copper elements, luminaires, acoustic/insulation pad and suspension system – based on a System 330 ceiling system.





- 1] Threaded Rod 2] C-Profile Suspension Bracket 3] C-Profile/Omega C-Profile 4] Chilled Ceiling Tile 5] Flexible Connection Hose
- 6] Primary Flow Pipework 7] Primary Return Pipework 8] Touch Latch 9] Passive Perimeter Chilled Beam

Section Drawing



Performance Data

Chilled Ceiling (gross/net)	Internal cooling range*	Perimeter cooling range (with Passive Chilled Beams)**
Net ceiling plane***	45–65 W/m ²	100–120 W/m ²
Gross Chilled Ceiling output	60–90 W/m ²	120–140 W/m ²

*Performance is dependant on individual system design.

**Chilled Ceilings are often combined with Chilled Beams at the perimeter of a building to offset solar gain.

***Encompassing structural elements, such as columns, and apertures for luminaires and other building services.

Further information is available in the Room Comfort brochure or on the SAS website.

coolceil chilled ceiling features



Service Integration

Lighting, PA systems, smoke detection, passive infra-red sensors and other building services can be integrated within an SAS Chilled Ceiling. Elements are manufactured to encompass each integrated service and ensure cooling outputs are not compromised.

Chilled Beams

Chilled Ceilings are often used in conjunction with Chilled Beams, particularly near glazed elevations, where the solar gain is highest.

Hinge Down Facility

SAS Chilled Ceilings come with easy to use touch latch access panels. These hinge down, allowing easy access to the ceiling void and the building services for planned and unplanned maintenance.

Safety Cables

Large water filled panels can be quite heavy. Chilled Ceiling safety cables avoid the panels swinging down uncontrollably.

Space Saving

Due to the narrow diameter of the cooling element, a ceiling void of 100mm can be achieved. This is particularly relevant when refurbishing 1960s and 1970s buildings.

Durability

Manufactured from aluminium, steel and copper Chilled Ceilings have an expected life cycle of approximately 25 years.

Energy Efficient Operating Temperatures

Chilled Ceilings use water as the heat transfer method. The water supply and return temperatures are typically between 14°C and 17°C, which allows for ground sourcing or free cooling for parts of the year. Energy consumption is less than other cooling methods.

BREEAM

Energy efficient SAS Chilled Ceilings, Chilled Beams and ISMs improve the environmental performance of buildings and will help contribute towards a high BREEAM (Building Research Establishment Environmental Assessment Method) rating.

Additional Information

Further information on the range of SAS Chilled Ceilings can be found in the Room Comfort brochure.