

Cold wave

Mean temperatures below 2°C for 48 hours or longer. Typically, heavy snow and/or widespread ice.

Checklist for managing site activities and assets during adverse weather.

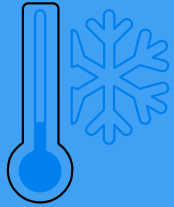
Get ahead in readiness for adverse weather. Improve safety and limit damage.

Key issues: Cold wave

- Workers must take precautions to stay safe (warm-up breaks, additional clothing, appropriate PPE).
- Exposure can lead to injuries, cold-related illnesses and cold stress (where the body loses heat faster than it can produce it). Inadequate clothing, wind chill, humidity and contact with cold surfaces/water increase risk. Illnesses may include hypothermia, frostbite, chilblains and trench foot.
- Cold conditions impact dexterity and morale.
- Icy surfaces increase the risk of slips, trips and falls.
- Buildings under construction and temporary structures are at significant risk from snow loads, more so than finished buildings.
- Low temperatures and frozen ground make some construction tasks, such as excavation, foundation works and pouring concrete, challenging or impossible.
- Special care is needed with concrete, mortar and render to prevent freezing and ensure proper curing.
- Membranes are stiffer and adhesives cure more slowly.
- Snow and ice make it hazardous to operate heavy machinery.
- Engines may have difficulty starting and battery efficiency can be reduced in cold weather.
- Water pipes to temporary site accommodation and hosepipes can freeze and crack.
- Disruption to transportation networks can hinder the flow of materials to construction sites, leading to material shortages, increased costs and delays.

General checklist: Cold wave

- ☐ Emphasise cold work systems and procedures to manage hazards and ensure safe and effective operations.
- ☐ 'Toolbox talk' presentation to the workforce on cold weather.
- ☐ Implement a buddy system because of slip hazards.
- ☐ Grit/salt access routes and paths to maximise traction, ideally in the early evening before frost forms and early morning before workers arrive. Ensure salt is stored under cover.
- ☐ Clear routes of ice and snow where necessary.
- ☐ Assess the risk of workers or members of the public being struck by falling ice or snow (from roofs or canopies).
- ☐ Conduct inspections to identify potential snow load issues. Note: snow load risk is not uniform across the UK.



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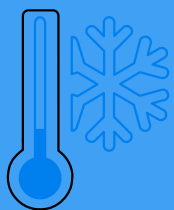
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Worker checklist: Cold wave

- ☐ Discuss safety and schedule with workers. Consider reduced hours. Be prepared to stop work if unsafe or if work would be of poor quality or unproductive.
- ☐ Reschedule work or implement additional safety measures/adapt risk and method statements (RAMS) considering cold weather.
- ☐ Introduce more-frequent rest breaks and provide warm shelters and hot drinks for cold weather respite.
- ☐ Have an emergency response plan for cold-related incidents.
- ☐ Make sure workers can recognise the symptoms of cold stress. Hypothermia symptoms range from fatigue, shivering and confusion to advanced signs such as skin discolouration, pupil dilation and slow pulse. Frostbite begins with pins and needles.
- ☐ Make sure workers are aware of the risks of slippery surfaces, particularly ladders and scaffolding (exacerbated when carrying loads and wearing safety boots) and touching cold surfaces without gloves.
- ☐ Ensure PPE is appropriate. Provide insulated boots, thermal gloves and safety glasses.
- ☐ Ensure PPE is fully understood by site/construction manager. For instance, insulated gloves guard dexterity by keeping hands warm but there is a loss of feel and control. Look for products that balance warmth with flexibility.
- ☐ Encourage workers to wear appropriate clothing: multiple layers, windproof/waterproof clothing, hats, insulated gloves and face coverings/balaclavas where appropriate.
- ☐ Provide a drying room for wet clothes.
- ☐ Inspect and maintain equipment for worker comfort (eg de-misting systems and heating devices). Ensure access to fuel/electricity for heaters.
- ☐ Record temperature and wind-chill factor on site and assess the effectiveness of cold safety measures for future reference.
- ☐ Ensure materials are put away, elevated from the ground and protected from the elements where possible.
- ☐ Manage water runoff to mitigate ice.



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Site checklist: Cold wave

- ☐ Monitor weather conditions closely and make necessary adjustments to the construction schedule to mitigate cold weather risks to workers, materials and equipment.
- ☐ Adjust work schedules for any material shortages/delays. Co-ordinate material deliveries to minimise exposure to harsh weather.
- ☐ Avoid manual excavation and use special equipment to break through frozen ground.
- ☐ Prevent freezing and ensure proper curing of materials sensitive to cold weather. Cover and heat recently installed concrete, brickwork and render where necessary.
- ☐ Refer to suppliers' requirements if pouring concrete, considering air temperature/forecasts and concrete temperature. Rate of strength gain may need to be speeded up (by altering the mix) or frost blankets and insulated formwork may be required. If severe frost is expected day and night, some suppliers of ready-mixed concrete can supply heated concrete.
- ☐ Protect exposed water and gas pipes from freezing by insulating them.
- ☐ Drain and store hosepipes indoors.
- ☐ Store temperature-sensitive materials like adhesives and membranes in a warm, dry location prior to use and allow a longer period for membranes to relax after unrolling.
- ☐ Ensure vehicles are equipped for cold weather. Conduct regular inspections and maintenance of tools and vehicles.
- ☐ Use snow chains and anti-slip additives to help with traction where needed.
- ☐ Use engine heaters and cold-weather oils to help engines start if needed. Conduct pre-start checkups to ensure systems are functioning correctly.
- ☐ Check and charge batteries (cold temperatures can reduce battery efficiency).