

Work/warm-up schedule for a 4-hour shift

Air temperature – Sunny sky		No noticeable wind		8 km/h wind		16 km/h wind		25 km/h wind		30 km/h wind	
°C (approx.)	°F (approx.)	Max. work period	No. of breaks	Max. work period	No. of breaks	Max. work period	No. of breaks	Max. work period	No. of breaks	Max. work period	No. of breaks
-26° to -28°	-15° to -19°	(Norm. breaks)	1	(Norm. breaks)	1	75 min	2	55 min	3	40 min	4
-29° to -31°	-20° to -24°	(Norm. breaks)	1	75 min	2	55 min	3	40 min	4	30 min	5
-32° to -34°	-25° to -29°	75 min	2	55 min	3	40 min	4	30 min	5	Non-emergency work should cease	
-35° to -37°	-30° to -34°	55 min	3	40 min	4	30 min	5	Non-emergency work should cease		Non-emergency work should cease	
-38° to -39°	-35° to -39°	40 min	4	30 min	5	Non-emergency work should cease					
-40° to -42°	-40° to -44°	30 min	5	Non-emergency work should cease							
-43° & below	-45° & below	Non-emergency work should cease									

NOTES:

- Schedule applies to any 4-hour work period with moderate to heavy work activity, with warm-up periods of 10 minutes in a warm location and with an extended break (e.g., lunch) at the end of the 4-hour work period in a warm location. For light-to-moderate work (limited physical movement), apply the schedule one step lower in the table. For example, at -35° C (-30° F) with no noticeable wind (Step 4), a worker in a job with little physical movement should have a maximum work period of 40 minutes with 4 breaks in a 4-hour period (Step 5).
- The following is suggested as a guide for estimating wind velocity if accurate information is not available:
8 km/h – light flag moves; 16 km/h – light flag fully extended; 25 km/h – raises newspaper sheet; 30 km/h – blowing and drifting snow.
- If only the wind chill cooling rate is available, a rough rule of thumb for applying it rather than the temperature and wind velocity factor given above would be: (1) special warm-up breaks should be initiated at a wind chill cooling rate of about 1750 W/m²; (2) all non-emergency work should have ceased at or before a wind chill of 2250 W/m². In general, the warm-up schedule provided above slightly under-compensates for the wind at the warmer temperatures, assuming acclimatization and clothing appropriate for winter work. On the other hand, the chart over-compensates for the actual temperatures in the colder ranges because windy conditions rarely prevail at extremely low temperatures.
- TLVs apply only to workers in dry clothing.

Refer to the “Cold Stress” section of the current *Threshold Limit Values and Biological Exposure Indices* publication for further information.