

MAC Tool Assessment 2 – Lowering Operation



This is a standard task in food factories, lowering finished product (either as boxes or crates) onto a pallet that is on the ground. The operative firstly lifts the crate of packaged beef from the roller conveyor at waist height, turns their body and then lowers the crate to the pallet. Each operative performs this task for half of their 8 hour shift, with the overall task frequency of 1 lower every 30 seconds. The load weight is 10kg.

The chart below is a MAC Tool assessment of the lowering task to the pallet.

Risk Factors	Colour Band	Numerical Score	Comments/ Possible Control Measures to Reduce Risk
Load weight/ frequency	G	0	<p>Frequency of 120 lowers per hour (30 seconds per lower) and load weight of 10kg. The Colour Band is Green and the Numerical Score is 0, however performing this task as it stands with the pallet at ground level and with this hazardous lowering practice of forward bending and twisting the back, for 4 hours per shift, is higher risk for musculoskeletal disorders than the MAC Tool represents. The load weight is reasonable but to reduce risk of musculoskeletal disorders, rotating operators every 2 hours (to a task that involves different use of the body) would be better health & safety practice, with a total time of 2 hours per day the maximum performance per day for this task, for each individual operative.</p>
Hand distance from lower back	R	6	<p>Assessing the worst-case scenario (the crate lowering onto an empty pallet), the upper arms are angled away from the torso AND the torso is bent forward. This hazardous posture would immediately be removed by the installation and correct use of a Scissor Lift Turntable (image shown below). If not supplied, task specific (bespoke) Manual Handling Training would be indicated to reduce musculoskeletal disorder risks and change operator habits.</p> <p>For DVD, Online & Bespoke Manual Handling Training Programmes view www.osteopathicsolutions-manualhandling.co.uk</p>

			
Vertical lift zones	A	1	<p>The crates were placed at essentially floor level (empty pallet) up to between elbow and head height. The Scissor Lift Turntable would remove the below waist level handling. With the 10kg weight, referring to Appendix 3 from the Manual Handling Operations Regulations (image below), this is the maximum load weight at this body position that is deemed a 'safe' load weight to handle. Reducing the maximum height to between lower chest to waist level would be better health and safety practice, however this is unlikely in the high production UK Food Industry.</p>

			<table border="1"> <thead> <tr> <th>Height</th> <th>Women</th> <th>Men</th> </tr> </thead> <tbody> <tr> <td>Shoulder height</td> <td>3kg</td> <td>7kg</td> </tr> <tr> <td>Elbow height</td> <td>7kg</td> <td>13kg</td> </tr> <tr> <td>Knuckle height</td> <td>10kg</td> <td>16kg</td> </tr> <tr> <td>Mid lower leg height</td> <td>7kg</td> <td>13kg</td> </tr> </tbody> </table>	Height	Women	Men	Shoulder height	3kg	7kg	Elbow height	7kg	13kg	Knuckle height	10kg	16kg	Mid lower leg height	7kg	13kg
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Torso twisting & sideways bending	R	2	Torso both twisted AND bent sideways. Risk reduction measures mentioned above applicable.															
Postural constraints	R	3	Severely restricted posture. The operative has very little space to move in from the lift of the crate at waist level (from the roller conveyor) to the lower of the crate onto the pallet. There needs to be at least 1 metre for the operative to move (between the conveyor to the pallet) to encourage safer manual handling practice.															
Grip on the load	G	0	Fit-for-purpose handles/ handholds matched to the size and weight of the load.															

Floor surface	G	0	Good floor surface (see Postural constraints). Non-slip, dry, clean, firm, level and undamaged
Environmental factors	G	0	No factors. No extremes of temperature; no strong air movements; no extreme lighting conditions.

Total Score 12

3 Reds

For information on our Manual Handling Risk & Ergonomic Assessment Consultancy please view www.osteopathicsolutions-manualhandling.co.uk/manual-handling-risk-assessment

If you have any comments you want to raise about this task please email me at garethmilner@osteopathicsolutions.co.uk



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