

MATERIAL STORAGE AND HANDLING - IN BRANCH

This Material Storage and Handling - In Branch document is only meant to be guidance and each member should ensure that the risks at their own branches are identified and assessed appropriately. Further information can also be found on the HSE website - just search on the topic you need information on. All HSE guidance documents can be downloaded for free.

This document examines a specific subject/operational aspect and defines “target industry standards”, “enhanced standards” and “acceptable reduced standards”.

- **Target Industry Standard** requirements define the standards and controls that represent the good practice standard that BMF members would be expected to meet. Achievement of the target standard should be sufficient to achieve legal compliance and satisfy EHO requirements in most circumstances. They should be seen as the default standard for all BMF member organisations and should be presented by the industry as being the standard against which EHOs judge performance (More suited for large sites with external storage areas)
- **Enhanced Standards** define a higher standard of control to which member businesses should aspire to gain an additional, higher degree of control. Enhanced standards may be required in circumstances of particularly high-risk, as determined by assessment, but

may specify industry-leading “gold” standards, representing the highest level of control achievable within the test of “reasonable practicability”. Member organisations would not routinely be expected to achieve the enhanced standards, but should be encouraged to work towards these where possible

- **Acceptable Standard** requirements define lesser standards and controls that may be acceptable, depending upon specific circumstances. The acceptable reduced standards are likely to meet legal requirements in most cases, but should be viewed as representing the absolute minimum standard for BMF member organisations to meet. Wherever reasonably practicable the reduced standards should be operated in limited circumstances and should be viewed as a stepping stone to meeting the Target Industry Standard. If no acceptable reduced standard is defined, then members must meet the requirements of the Target Industry Standard.

INFORMATION FOR:

Business owners
Directors
Health & Safety Managers
Branch Managers
Operations Managers

WHAT IT COVERS:

This business guide was put together by senior health and safety representatives from merchant, supplier and service member companies including BMF Safety Plus providers Southalls.

The guide outlines the proposed standards to be defined and adopted for BMF member organisations. The intention is that such standards and guidance will create a more formal definition of what constitutes “standard industry practice” or “industry best practice” and will eventually lead to the development of an HSE-agreed Approved Code of Practice (ACoP).

This BMF Business Guide has been produced with the assistance of:



It is proposed that, once agreed, these standards be enhanced with additional explanation and guidance before being shared with BMF member organisations and adopted as informal industry standards until the ACoP can be fully developed and validated.

All BMF member organisations are reminded that UK health and safety legislation defines the specific legal requirements in relation to the protection of employees and others; and it is the responsibility of each member organisation to ensure compliance with the law.

HSE Approved Codes of Practice and Guidance Notes exist in relation to a number of issues covered by this document and member organisations are advised to consult such guidance where they are in doubt about the effective management of hazards and risks. All HSE guidance publications can be found on the HSE website www.hse.gov.uk (search by topic) and can be downloaded for free.

Notes:

- Any health and safety risk control measures will only be effective if they are understood, used and complied with. Thus, there will always be a need to:
 - o Ensure the employees (and non-employees as far as reasonably practicable) are provided with adequate information, instruction and training regarding the risks and use of specified controls and procedures

- o Supervise employees and others; monitor their behaviour, the use of controls and compliance with rules and requirements; and enforce compliance. Under health and safety law, such monitoring and enforcement is a general requirement for employees and must be undertaken.

Monitoring and enforcement for non-employees is less-easily achieved as it could, potentially, lead to a breakdown in customer-relations (with consequential loss of business). However, member organisations need to make a determination of the extent to which they will attempt to control the behaviour of non-employees.

Whilst the behaviour of a customer may put the customer himself at risk, it may also put branch employees and other customers at risk and cannot, therefore, be completely disregarded.

In most cases, if branch colleagues make approaches to customers and other non-employees in a non-confrontational way, in the spirit of being concerned for their safety, rather than for the purpose of "enforcing rules", the likelihood is that the majority of people will respond positively. It may, however, to provide branch colleagues with guidance on how to approach customers to have conversations about safety concerns.

Groups at Risk			
Customers	Suppliers	Contractors	Branch Staff
<ul style="list-style-type: none"> • Domestic • Jobbing builders • Large nationals 	<ul style="list-style-type: none"> • Primary • Secondary 	<ul style="list-style-type: none"> • Many and varied 	<ul style="list-style-type: none"> • Our branch • Shared sites

Loading and Unloading Using MHE	Industry Standards			
	Acceptable Standard	Target Industry Standard	Enhanced Standard	Further Guidance
General controls	Refer to Workplace Traffic Management for controls relating to loading and unloading areas etc.			
	Safety Zones implemented where space and risk assessment determines.	All MHE displays sign/labels clearly identifying the “segregation” rules and warning “do not approach”. Minimum “safe zone” of 2m from the MHE.		
Loading/ unloading – general controls for all scenarios		Loading and unloading is carried out in a designated area most appropriate for the material being delivered.		If more than 1 vehicle is being loaded or unloaded at the same time consideration will need to be given for additional controls to minimise the risks associated with possible interaction between the 2 operations.
		A pre-unload assessment is conducted on the load stability – e.g. visual check carried out by the MHE operator.		
		Defined methods for dealing with unsafe loads (e.g. reject load or define safe method of unloading).		
		Load distribution on the vehicle bed is continually assessed to avoid overloading or uneven/unsafe weight distribution. The load plan/load configuration includes consideration of the loading/ unloading sequence, so as to maintain safe weight distribution throughout the whole delivery round and minimise the need for load re-distribution during the delivery round.	The load is assembled at the loading area prior to loading to the vehicle.	Pre-assembly of the load may help to reduce the number of significant FLT movements; however, an assessment will need to be made of the balance between the risks created by vehicle movements and the risks created by the pre-assembly (e.g. restricting space in the loading area).
	Where product weights are not available for all materials best efforts are used to establish the weight of each product pack. This may be achieved by: <ul style="list-style-type: none"> • Contacting suppliers • Using local knowledge and experienced staff • Using vehicle load weighing systems 	Load weights are identified for all elements of the load prior to loading (e.g. on the sales docket or delivery instruction note) to ensure the vehicle can be loaded evenly and without overload.		
	Defined unloading areas are provided	Dedicated unloading areas are provided and clearly marked and signed.	Unloading areas are physically segregated from other activities.	

Loading and Unloading Using MHE	Industry Standards			
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Loading/ unloading carried out by merchant (driver not present)	Defined unloading areas are provided.	Dedicated unloading areas are provided and clearly marked and signed.	Unloading areas are physically segregated from other activities.	
		Drivers are not allowed to remain in the cab during unloading. Defined safe areas are provided for drivers to wait during unloading.		A "safe area" is an area away from traffic movement and other hazards that has been assessed and determined to be a suitable area in which a driver can wait safely. In any situation in which a child has accompanied the driver, ensure that the child remains with the driver under close supervision at all times. In such cases feedback should be provided to the supplier about the presence of the child and instruction given that children must not be allowed to accompany drivers.
	Drivers are instructed not to move the vehicle until instructed.	Specific control methods are used to prevent the driver from driving off during unloading (e.g. signage in cab or in front of vehicle).	More robust methods are used to prevent drive-off.	A variety of methods may be used to prevent drive-away before unloading is complete; these may include: <ul style="list-style-type: none"> Physical controls such as wheel chocks or steering-wheel locks/covers Key control by branch staff (keys handed in and held in a controlled area).
Driver supervised load/unload (Driver is not required to assist directly)		The driver stands away from the vehicle in a designated safe area. A method is agreed for communicating with the driver whilst he remains in the safe area.		
Driver assisted load/unload (Driver is required to assist directly)		A pre-load/unload discussion is held to agree the process or "rules" to ensure the driver is kept away from moving loads and MHE.	A formal safe system of work is defined for the activity.	
Driver load/ unload (e.g. tipped aggregate, Moffett truck etc.)		Unloading is performed in a clearly defined unloading area with a defined "safe zone" around it.		
		The unloading area has suitable and firm surface.		
		A pre-load/unload discussion is held to agree the process or "rules" to ensure the driver is kept away from moving loads and MHE.	A formal safe system of work is defined for the activity.	
		An assessment is made of the most appropriate method of unload - site MHE or vehicle-based MHE.	The use of supplier MHE is prohibited and all unloading is conducted using site-based MHE.	In general, unloading using site-based MHE will be preferred over the use of lorry-mounted MHE, such as Moffett trucks.

Materials Handling and Movement	Industry Standards			
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Putting loads away		MHE used is suitable for the weight and type of load and is capable of handling the load safely.		
		Only 1 pack/pallet/bulk bag is handled at a time.		
		Loads are secured whilst being mechanically handled.		
		The need for handling and the travel distances to the point of storage are minimised.		A balance needs to be struck between the need for unloading in a safe area and the need for unloading close to the storage location. An assessment of the relative risks should be undertaken.
Breaking down loads		Measures are taken to ensure that loads can be handled safely after breakdown (e.g. loads are palletised or put into a brick bin before breaking down).		
		Loads are broken down at the point of storage or merchandising so as to minimise the need to handle broken-down loads.		
		All loads are broken-down at ground level.		
		All broken-down loads are re-secured before being stored at height.		
Picking and assembling loads		Loads are planned so as to maximise stability and security when the load is assembled.		
		Assembled loads are secured.		

Materials Storage	Industry Standards			
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General standards	Materials are stored in an organised manner in designated locations.	Designated storage locations are identified with signage or other marking.	An overall storage plan defines storage locations for all materials across the site.	
		Free-standing storage areas have firm, level ground - adequate to support the weight and type of materials.	All materials are stored on concrete ground.	An assessment of ground conditions will be required when defining storage locations and plans.
Storage of bricks and blocks		Maximum stack heights are defined - no more than 4 high - no more than half a pack above the boundary fence height. Product/pack instructions are followed if these define a more rigorous standard Reduced stack heights are used wherever possible (space allowing).	All product packs are stored at ground level if space allows.	
		All broken-down packs are stored at ground level.	Packs to be broken down are located within brick bins before being opened.	
	Note: The above standard applies to full, banded packs stored on stable, level hardstanding. Assessment must be undertaken for any situation that deviates from this ideal			

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Storage of bulk bags		<p>Maximum stack heights are defined:</p> <ul style="list-style-type: none"> - no more than 2 high if stacked directly above one-another, - no more than 3 high if the 3rd layer is staggered/off-set/pyramid-stacked - no more than half a bag above the boundary fence height <p>Product/bag instructions are followed if these define a more rigorous standard.</p> <p>Reduced stack heights are used wherever possible (space allowing).</p>	All bulk bags are stored at ground level if space allows.	The defined stack heights may be exceeded where the bags have been designed to be stacked higher and where safe stack heights are indicated on the bags.
			Stock is rotated regularly to prevent deterioration of bags.	
			Where bags are to be handled by FLT, tunnel bags are used in preference to loops only.	Bags have both tunnels and loops for ease of handling.
Timber packs		All storage on racking is within the defined SWL for each rack location (allow for 15% weight increase for wet timber).		
		<p>Packs are banded or wrapped when stored above head height (1.8m).</p> <p>Note: Options for securing packs are:</p> <ul style="list-style-type: none"> - 2 straps or bands as a minimum - Ratchet straps or fixed banding - Shrink-wrapping <p>Note: Ideally, full packs should be stored at higher levels, with open/working packs stored below 1.8m.</p>	Packs are double-banded and re-banded tightly after every time a length of timber is removed.	
	Maximum stack height ratios are defined for free-standing stacks	Maximum stack height ratios are defined for free-standing stacks:		Note: when determining safe stack heights it is important to assess ground conditions, traffic movement, wind and weather conditions etc.
	<ul style="list-style-type: none"> • height: base ratio of no more than 3:1 outdoor (only if ground and weather conditions allow) • - height: base ratio of no more than 4:1 indoor (where ground conditions allow) 	<ul style="list-style-type: none"> • 2:1 height to base outdoors • 3:1 height to base indoors (as far as possible where space allows) 		Timber may need to be re-stacked when conditions become less than ideal.
	Note: The above standard for free-standing stacks applies to full, banded packs stored on stable, level hardstanding. Assessment must be undertaken for any situation that deviates from this ideal			
Timber packs		Stack heights do not exceed the boundary fence height.	Timber packs are stored at least 3m from the boundary fence; or the boundary is protected against toppling stacks.	
		Bearers used between packs or layers are of even dimensions, evenly distributed and visible from ground level.	Bearers are of hardwood Bearers are strapped to the pack or removed once exposed.	

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Steel Reinforcing Mesh	<p>Merchant pack sizes may be stored upright in a designed, secured rack or A-frame, with secure restraint to prevent the mesh from toppling.</p> <p>Merchant pack sizes may also be stored suspended from cantilever racking. Mesh stored in this way is stored with the bottom of the mesh as close to the ground as possible (no more than 6 inches).</p> <p>Protruding mesh ends/edges are protected (e.g. using a cover or board) to prevent injury from inadvertent contact. This is particularly important in circumstances where injury could be caused to the face or eyes.</p>	<p>Mesh sheets are stored flat on the ground or horizontally in mesh-specific stillages.</p> <p>Stacks of multiple packs are stable and stacked no higher than a base: height ratio of 4:1 (equates to a maximum stack height of 0.5m for merchant packs and 0.6m for full-sized packs).</p> <p>Protruding mesh ends/edges are protected (e.g. using a cover or board) to prevent injury from inadvertent contact.</p>		<p>If mesh cannot be stored safely and securely as described it should not be stored or supplied.</p>
Steel Reinforcing Mesh		<p>“Merchant pack” size mesh sheets (3.6m x 2.0m) are stored and supplied in preference to full-size packs (4.8m x 2.4m)</p>		<p>Note: merchant pack sizes do not normally have the protruding ends on the mesh.</p>
		<p>Sheets are handled using a lorry loader and chains or full steel wire slings, with a tag-line to control the load.</p> <p>A fork lift truck fitted with fork extensions is used as an alternative method for single or small numbers of sheets. Mesh sheets are secured to the FLT using eyelets and chains.</p> <p>Split packs or multiple sheets are re-tied into a single pack before being lifted by crane or FLT.</p>	<p>A specially-designed mesh handling frame is used.</p>	<p>Reference document: The safe off-loading of reinforcement fabric – A code of practice for users, hauliers and suppliers Produced by HSE/ British Association of Reinforcement.</p>
Plasterboard	<p>Packs are stored free-standing at a maximum of 4 packs high.</p>	<p>Packs are stored on pallet racking. An “Eazi-wedge”, or similar, is used to split the pack and allow access by FLT without damaging boards. A stirrup/hook is used to support plasterboard when handling manually.</p>		
Chamber Rings		<p>A forklift truck with ring grab attachment is used for handling rings in the yard. Chains and pins are used for handling onto/off the delivery lorry. Single rings may also be transported on a suitably robust pallet, using a fork lift truck.</p>	<p>A “pincer” or “spider” grab is used for handling rings onto/off the delivery lorry.</p>	<p>Ensure that any MHE used is capable of safely handling the product – consider how the overall weight and size affects centre of gravity and stability.</p>
		<p>Rings are stacked to maximum 4m height (3m on unmade ground).</p>		
Paving and Slabs		<p>Full pack quantities are sold wherever possible to avoid splitting packs. Split packs are stored securely on pallets or in stillages.</p>	<p>Full pallets are transferred to a slab stillage before breaking down the pack.</p>	<p>Split packs stored on pallets can be secured using banding (minimum 2 bands) or shrink-wrapping.</p>
		<p>Follow pack and/or manufacturer guidelines for stack heights. All stacks are square and stable.</p>		

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Roof tiles		<p>Stored in stillages or crates</p> <p>Maximum stack heights</p> <ul style="list-style-type: none"> • 4 high for ridge tiles • 3 high for tiles and pantiles. <p>Free-standing pallets are not stacked at all.</p>		
Kerb stones		<p>Full, unopened packs stacked no more than 3 high</p> <p>Open packs stored at ground level and not stacked.</p>		
Pipes and tube		<p>Pipes are stored in full banded, boxed or secured packs.</p> <p>Open packs are stored at ground level and secured in "toast racks"</p> <p>Any loose-stored pipe is stored either:</p> <ul style="list-style-type: none"> • Horizontally on the ground (where space allows) • Horizontally in suitable racks or cradles • Stacked in securely chocked stacks <p>Loose-stored, lightweight pipe can also be stored upright secured in A-frame racking, depending upon its length and weight.</p>		Reference document: HSG246 – Safe storage and handling of steel and other metal stock.
		<p>Full packs are handled either:</p> <ul style="list-style-type: none"> • Using an overhead crane or lorry loader and slings, with a tag-line to control the load • With a side-loader suitable for handling long lengths • With a forklift truck fitted with suitable fork width extensions • With a forklift truck fitted with a beam and sling attachment <p>Split packs or loose pipes are either:</p> <ul style="list-style-type: none"> • Lifted singly using a crane and slings • Re-secured into a single pack before being lifted by crane or FLT • Handled singly, secured to the forklift truck/side loader using straps. 	<ul style="list-style-type: none"> • With a forklift truck fitted with suitable fork width extensions 	
MDPE Pipe Coils	Coils are stored upright secured against a solid support (eg. Building never against Racking or fencing).	Coils are stored flat on floor or in a sturdy frame.		Where the weight of pipe coils is significant, precautions need to be taken against the risk of product toppling onto anyone.
Manhole and Drain Covers		<p>Full packs are stored unopened on the ground or in racking</p> <p>Packs stored in racking are located on slatted shelving.</p> <p>Open packs are stored at ground.</p> <p>Slow-moving products are stored away from areas of high pedestrian or vehicular movement, with easy access to allow handling.</p>		
	Single products are palletised and moved using FLT. Products are secured to the FLT using straps.	Product-specific clamps or fork truck attachments are used for handling single products.		