

No. 64 of 2019

4 December 2019

To: Port Users

Dear Sir/Madam,

## **BEST PRACTICE GUIDELINES FOR STOWAGE AND SECURING OF STEEL CARGO**

We refer to Port Circular No. 49 of 2018 dated 1<sup>st</sup> Nov 2018 on “*Best Practice Guidelines for Stowage and Securing of Steel Cargo*”.

This set of industry best practice guidelines was developed to spearhead improvements for steel cargo handling in the ports to bring about a safer work environment for stevedores and port workers, improved cargo integrity and enhance productivity. It has received global support from port authorities, shipping associations, maritime insurance groups and regional ports who have participated in the drive for enhanced safety best practices. The draft set of these guidelines that were made available in Port Circulars 49A and 49B of 2018 previously on 2<sup>nd</sup> November 2018 is now considered outdated and will be replaced with a summarized version (along with this Circular) which captures the salient points sufficient for port users’ understanding and compliance.

Jurong Port places great emphasis on safety in port operations and, in this regard, we strongly urge port users to adhere to these guidelines with strict compliance to avoid non-compliant penalties stated in Port Circular No. 60 of 2019 dated 11<sup>th</sup> November 2019.

The full copy of the publication, available in e-copy and hard copy, is available for purchase on Witherby’s website at <https://www.witherbyseamanship.com/best-practice-guidelines-for-stowage-andsecuring-of-steel-cargoes.html> .

Thank you for your continued support and we look forward to working closely with you to realise these improvements that will make an impact in the aspect of steel cargo carriage by sea.

### **RELY ON US**

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Should you require further clarifications, please do not hesitate to contact Jurong Port Customer Service at 64139600.

Thank you.

Yours Sincerely

Walter Lin  
General Manager, Business Units  
For Jurong Port Pte Ltd

*(This is a computer generated circular and does not require a signature.)*

## WIRE ROD COIL

### SUMMARY

<p><b><u>Stowage</u></b></p>	<ul style="list-style-type: none"> <li>✓ All tiers to be stowed level, the face of the stow to be as straight as possible, with sufficient clearance from the adjacent stow to prevent virtual over stows. (Max 12 tiers high)</li> <li>✓ Wire coils may be stowed on top of other steel cargoes (plate, pipe, section, H-beam, etc.) but not be over-stowed by other cargo</li> <li>✓ Safe passage shall be provided directly from the ladders to the top of the cargo stow. Safe access shall also be provided from the tank-top to the top of the cargo stow.</li> </ul>	
<p><b><u>Lashing</u></b></p>	<ul style="list-style-type: none"> <li>✓ Lashing of the top 3 tiers is not required for a full stow of WRICs.</li> <li>✓ For under-coaming stows: The top 3 tiers shall be lashed in a group and separated from open hatch stow.</li> <li>✓ For open hatch stows: It may not be lashed if the stow is across the full length of the tank-top.</li> <li>✓ It is a good practice, however, for the top three tiers to be lashed in a group.</li> </ul>	
<p><b><u>Dunnage</u></b></p>	<ul style="list-style-type: none"> <li>✓ On the tank-top: 10mm thickness plywood/timber dunnage</li> <li>✓ On bulkheads: 15mm x 100mm cross-section dunnage</li> <li>✓ Tank-top to be prepared with appropriate dunnage to prevent steel-to-steel contact.</li> </ul>	
<p><b><u>Bundling</u></b></p>	<ul style="list-style-type: none"> <li>✓ Bundling wires: 5 nos. equally spread with double wires</li> <li>✓ Twisting: at least 4 twists</li> <li>✓ Bundling wire size: at least 6mm diameter.</li> </ul>	


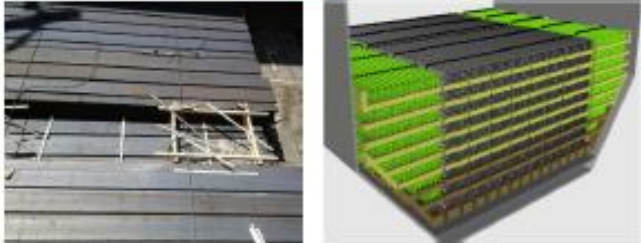
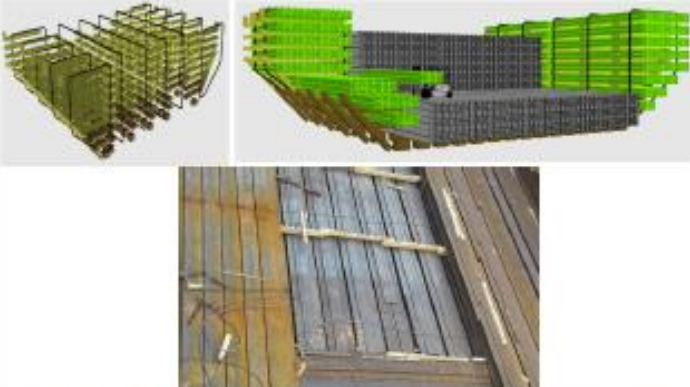

## STEEL PIPES

### SUMMARY

<p><b><u>Stowage</u></b></p>	<ul style="list-style-type: none"> <li>✓ All tiers to be stowed in fore-and-aft direction and level.</li> <li>✓ In the cargo compartments, where possible, safe passage shall be provided directly from the Australian ladders to the top of the cargo stow. Safe access shall also be provided from the tank-top to the top of the cargo stow.</li> <li>✓ The lashing arrangement shall be uniform.</li> </ul>	
<p><b><u>Lashing</u></b></p>	<ul style="list-style-type: none"> <li>✓ Lashing material: Wire rope or nylon web lashings</li> <li>✓ Lashing requirement: Secure in a single block with provision for adjustment of the turnbuckle during the passage.</li> <li>✓ Lashing for the under-coaming: lashed separately</li> </ul>	
<p><b><u>Dunnage</u></b></p>	<ul style="list-style-type: none"> <li>✓ Dunnage distance: Max. 3 metres. 1 metre from both ends for the first and last row of dunnage</li> <li>✓ Dunnage size:               <ul style="list-style-type: none"> <li>○ On the tank-top: 75mm x 75mm hardwood dunnage</li> <li>○ Subsequent 2 tiers: 75mm X 75mm hardwood dunnage.</li> <li>○ Remaining tiers: 75mm x 75mm softwood dunnage</li> </ul> </li> <li>✓ Dunnage requirement: in way of bulkheads and other structures.</li> <li>✓ For large diameter pipes: wedges nailed to the underlying dunnage on the tank-top, and fitted to both sides</li> <li>✓ For small-diameter pipes in bundles: dunnage shall be used between every cargo tier.</li> <li>✓ Alternative option: pipes to be pre-slung</li> </ul>	
<p><b><u>Bundling</u></b></p>	<ul style="list-style-type: none"> <li>✓ For small diameter pipes: steel strapping tightly applied. No loose bundles with failed hexagonal shape.</li> <li>✓ For bundling of square shape: dunnage used between the tiers within the bundle.</li> <li>✓ For medium size pipes: may not in a bundled form and may be as single pipes.</li> <li>✓ For large diameter pipes: usually in an unbundled form and as single units.</li> </ul>	


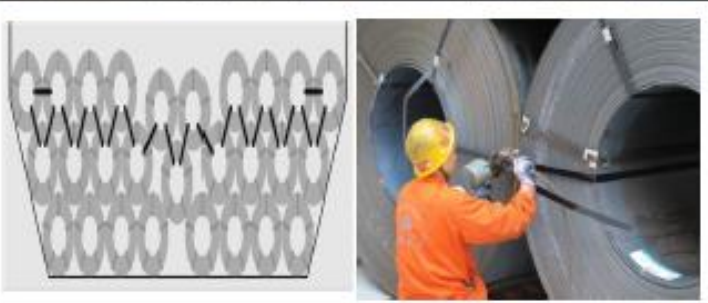

## STRUCTURAL STEEL

### SUMMARY

<p><b><u>Stowage</u></b></p>	<ul style="list-style-type: none"> <li>✓ All tiers to be stowed level. The face of the stow is to be as straight as possible, with sufficient clearance from the adjacent stow to prevent virtual over stows.</li> <li>✓ Longer units are to be stowed under shorter units.</li> <li>✓ For two horizontally separated stows, the clearance between the stows shall not be less than 1 meter.</li> </ul>	
<p><b><u>Lashing</u></b></p>	<ul style="list-style-type: none"> <li>✓ For cargo not fully stowed: Wire lashings are used to secure the stow in a single block</li> <li>✓ Number of wires: Min. 2 wires per 6 meter length / Min.3 per 12-meter length of bundle</li> <li>✓ The upper tiers shall be properly secured by dunnage and wedges prior to the lashing.</li> </ul>	
<p><b><u>Dunnage</u></b></p>	<ul style="list-style-type: none"> <li>✓ The distance between dunnage rows: not exceed 3 metres. The first and last rows of dunnage approximately 1 meter from the ends of the cargo units.</li> <li>✓ For dunnage on the tank-top: At least 75mm x 75mm hardwood</li> <li>✓ For dunnage in the first 6 tiers: 60mm x 60mm hardwood</li> <li>✓ For dunnage in subsequent tiers: 60mm x 60mm softwood</li> </ul>	
<p><b><u>Bundling</u></b></p>	<ul style="list-style-type: none"> <li>✓ Bundling wire size: 6mm wire with double strapping</li> <li>✓ Bundling wire spacing: at intervals of approximately 2 to 3 metres, and at 0.5 metres from the ends.</li> <li>✓ Bundling wire twisting: At least 3 times</li> </ul>	




## HOT AND COLD STEEL COIL

### SUMMARY

<p><b>Stowage</b></p>	<ul style="list-style-type: none"> <li>✓ Coils cannot be stowed on the 'tween deck but only on the tank-top in the cargo holds.</li> <li>✓ The stowage shall be uniform and compactly arranged</li> <li>✓ In the cargo compartments, safe passage shall be provided directly from the ladders to the top of the cargo stow. Safe access shall also be provided from the tank-top to the top of the cargo stow.</li> </ul>	
<p><b>Lashing</b></p>	<ul style="list-style-type: none"> <li>✓ Lashing material: 25-40mm steel strapping bands SWL 4T</li> <li>✓ Lashing tools: pneumatic tools and never by hand.</li> <li>✓ For heavy coils above 15 tonnes: Lashing material and size to be doubled</li> </ul>	
<p><b>Dunnage</b></p>	<ul style="list-style-type: none"> <li>✓ Dunnage size: 2 - 4 wooden planks on the tank-top with size of 150mm x 25mm (6" x 1").</li> <li>✓ Wooden wedges: Nailed on wooden planks to lock the coils</li> <li>✓ Requirement for coils on the first tier:             <ul style="list-style-type: none"> <li>• each end coil resting on dunnage placed on the side bulkhead and the adjacent coil.</li> <li>• 1<sup>st</sup> tier of coils shall be locked with one or two locking coils, depending on the space. If not, to use hardwood dunnage between two adjacent coils</li> </ul> </li> <li>✓ Requirement for other coils: shall rest on two adjacent coils. No dunnage required.</li> </ul>	

## INGOTS. BILLETS. BLOOMS. SLABS

### SUMMARY

<b><u>Stowage</u></b>	<ul style="list-style-type: none"><li>✓ In the cargo compartments, safe passage shall be provided directly from the ladders to the top of the cargo stow. Safe access shall also be provided from the tank-top to the top of the cargo stow.</li><li>✓ The stow shall be kept level throughout, with timber dunnage used to fill any gaps in the stow.</li><li>✓ All gaps in the top tier of pallets shall be chocked with timber dunnage to provide a secure, tight and level stow across the full width of the cargo hold.</li></ul>	
<b><u>Lashing</u></b>	<ul style="list-style-type: none"><li>✓ Lashing wires spacing on tank top: not more than 3 metres</li><li>✓ For full stow box-type cargo compartment with proper chocking, lashing may not necessarily be used.</li><li>✓ Choking requirement for full stow: proper vertical dunnage to choke</li></ul>	
<b><u>Dunnage</u></b>	<ul style="list-style-type: none"><li>✓ Dunnage size on tank top and between tiers: Plywood sheets of minimum 25mm thickness to be used. Length dependent on cargo dimension.</li><li>✓ Dunnage material between bulkheads/frames and stow: Softwood dunnage or proper dunnage structure</li></ul>	

## COMBINED STOWAGE OF DIFFERENT STEEL PRODUCTS

The matrix below indicates which cargoes may be considered for loading on top of other cargoes, provided that the total upper stow weight is not dangerously higher to present a risk of shifting, collapse and damage to the lower stow. The table also provides guidance as to which cargoes must never be loaded on top of other cargoes.

		Upper Cargo					
		Steel Plates	Reinforced Bars	Wire Rods in Coils	Steel Coils	Steel Pipes	Structural Steel Products
Lower Cargo	Steel Plates						
	Reinforced Bars						
	Wire Rods in Coils						
	Steel Coils						
	Steel Pipes						
	Structural Steel Products						
	The loading is possible.						
	Special considerations are required.						
	The loading is not allowed.						
	Homogeneous loading and stow.						