










<p><b>Department</b> Cast Products</p> <p><b>Approver's Title</b> IMF Superintendent</p> <p><b>Author's Title</b> Shipping Supervisor</p>	 <p><b>TOMAGO ALUMINIUM</b> Company Pty. Limited</p> <p><b>STANDARD OPERATING PROCEDURE MANUAL PRODUCT LOADING AND WEBBING RESTRAINT FOR INGOT PACKS LOADERS AND DRIVERS</b></p> <p><i>Controlled copy on day of printing 28/09/2015 only</i></p>	<p>Document No: SOP40a DMS: 12000004779 Version 03</p> <hr/> <p>Original date: July 2008 Previous date: 22/01/15 Issue date: 10/09/15</p> <hr/> <p>Page 1 of 2</p>
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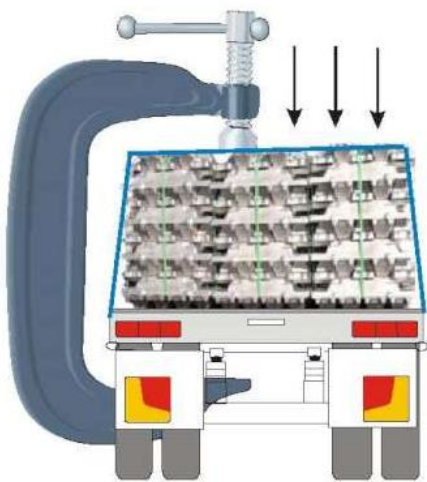
<p><b>VEHICLE</b></p> 	<ul style="list-style-type: none"> <li>• Use suitable vehicles, prime-movers &amp; B Doubles as specified.</li> <li>• Do not overload the vehicle, see approximate load weight spacings over page.</li> <li>• Ensure the vehicle floor is clean and free from debris.</li> <li>• Ensure all fittings &amp; restraint equipment are serviceable &amp; in good order.</li> </ul>
<p><b>RESPONSIBILITY?</b></p>	<ul style="list-style-type: none"> <li>• Who is the person in charge and responsible for loading/unloading?</li> <li>• Both the loader &amp; driver must know the person responsible for this task.</li> <li>• Take care in respect to 'Working at Heights', always follow site safety rules.</li> <li>• Ensure only sound packs are loaded and placed correctly. Report any failures.</li> </ul>
<p><b>LOAD PLACEMENT</b> (A LOADER RESPONSIBILITY)</p> 	<ul style="list-style-type: none"> <li>• Place packs close to each other with the next packs up close to the one in front.</li> <li>• Remember to load within legal axle weight limits. Follow the driver's directions.</li> <li>• The driver may request a product placement position be adjusted.</li> </ul>
<p><b>UNLOADING</b></p> 	<ul style="list-style-type: none"> <li>• Ensure the forklift or loader has sufficient load-centre lifting capacity for each lift.</li> <li>• Keep all other persons well clear and always within your line of sight.</li> </ul>
<p><b>RESTRAINT EQUIPMENT</b> (A DRIVER RESPONSIBILITY)</p>  <p>A typical webbing tag with required markings, as per Aust Standard 4380</p>  <p>4344 is the Aust Std No, 4 represents 4000 kg LC</p>	<ul style="list-style-type: none"> <li>• All webbing or chain lashing assemblies are marked with the manufacturer's minimum load rated lashing capacity (LC) of not less than 4000 kg LC (Reference; AS/NZS 4344 for chain and AS/NZS 4380 for webbing).</li> <li>• The LC is limited by the lowest LC component in the system assembly.</li> <li>• PFA &amp; Ingot packs in this SOP <b>require a single 4000kg LC strap</b> for each row.</li> <li>• Place winch &amp; anchor hooks just rear of floor cross-bearers. (see over page).</li> <li>• Always apply firm pre-tension of the webbing without overstressing equipment.</li> <li>• Place the single timber at the front of each group of ingots as per the diagram.</li> <li>• Always use 'geared' webbing winches (as fitted) when using webbing straps.</li> </ul>

<p><b>SUMMARY CHECK-LIST</b></p> 	<p><i>Do not – allow any person to be on your 'blind' side when loading or unloading.</i></p> <p><i>Do not – overload any vehicle.</i></p> <p><i>Do not – take risks, eg; mixing different sizes in the same load group.</i></p> <p><i>Do not – forget the forklift load guard may reduce access to some load positions.</i></p> <p><i>Do not – forget to 'ASK' or 'CHECK' if you are not sure'.</i></p>
	<p><i>Do – ensure the load rows are grouped closely with all others set close behind.</i></p> <p><i>Do – check the load during the trip, especially after any heavy braking.</i></p> <p><i>Do – check all restraint equipment &amp; timbers are in good working order.</i></p> <p><i>Do – report any packs where the straps or bearers have slipped or broken.</i></p> <p><i>Do – ensure maximum legal axle group loadings are NOT exceeded.</i></p> <p><i>Do – follow all the <b>site safety rules and procedures eg; your PPE &amp; Standing Areas.</b></i></p>

***“All persons handling, loading or transporting loads have a duty to do so carefully and safely”***

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## How Many Lashings?



The “critical lashing feature” for ingot packs is the “clamping effect” for the total block of weight across a load.

Each 75mm or 100mm lashing (stamped 4t LC) provides a minimum of 4000kg LC. All winches have a 4000kg LC.

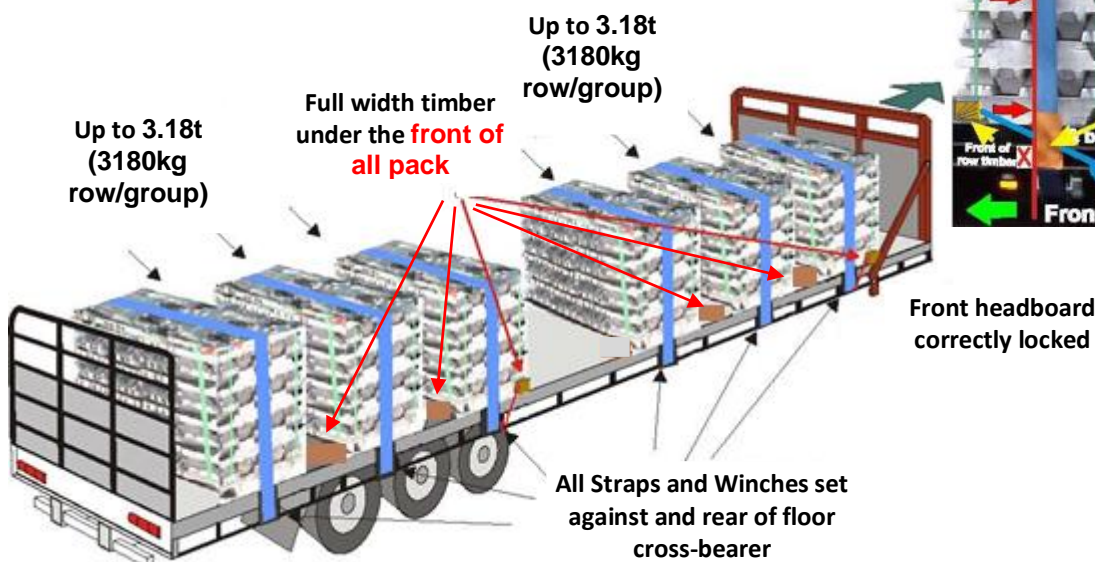
Each pack group (usually 3, firmly against the other) to have at least 1 strap lashed over the top of the group of ingot packs.

Each lashing is tensioned up **using a suitable Tension wrench to a minimum of 200ft lb or 298Nm**, using the geared webbing winch fitted to the under floor track. The combined total of all “clamping” of each lashing is over 1000kg and will exceed 20% of that group of 3 packs weight.

## Forward and Lateral Direction Lashing and Restraint – Ingots

### Row or Group Up to 3180Kg

- Un-locked load section up to 3180kg
- Use 1 x 75mm or 100mm x 4t webbing strap



Total lashing may appear to be excessive, against LRG tables but additional pretension and LC is recommended for relatively unstable packs of this type. Ensure each pack ‘across’ the floor is **firmly against** the next one.

The forward direction restraint required is 80% of each group load weight – add 1 blocking timber under front pack of each ingot group of packs.

*“This SOP is based on the Load Restraint Guide 2<sup>nd</sup> Edition 2004 (LRG) issued by the NTC and Roads & Traffic Authority of New South Wales Ian Wright & Associates Report #384 May 2008.”*