

<p>Department Cast Products</p> <p>Approver's Title VAP Superintendent</p> <p>Author's Title Shipping Supervisor</p>	 <p>TOMAGO ALUMINIUM Company Pty. Limited</p> <p>STANDARD OPERATING PROCEDURE MANUAL LOAD DESCRIPTION AND WEBBING RESTRAINT REQUIRED FOR TYPICAL PACKS & PACK GROUPS LASHING TABLES</p> <p><i>Controlled copy on day of printing 28/09/2015 only</i></p>	<p>Document No: SOP40a DMS: 120000004778 Version 02</p> <p>Original date: Aug 2008 Previous date: 23/01/15 Issue date: 10/09/15</p> <p>Page 1 of 1</p>
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Minimum 4000kg LC strap & geared winch assemblies required for max row weights:

<p>Ingot Packs:- <u>Most critical pack</u> with a narrow base of 430mm x 1150 mm H. (small footprint)</p> <p>Loaded as a group of 3 across the trailer floor Typical pack weight = 985 kg to 1060 kg Typical average row weight = 2955 kg to 3180 kg In front of all rows place a floor timber 1 Strap per row</p>	
<p>Short Billets: - base of 920mm x 700 H, 2 pack row</p> <p>Loaded as a group of 2 across the trailer floor Typical pack weight = 1020 kg to 1150 kg Typical average row weight = 3060 kg to 3450 kg 1 Strap per row</p>	
<p>T Bar: - base of 460mm x 883 H, 2 H & 4 per row</p> <p>Loaded as a group of 4 across the trailer floor Typical item weight = 1020 kg to 1160 kg Typical average row weight = 4080 kg to 4640 kg Strap protection must be placed under each strap 2 straps per row</p>	
<p>Slabs: - 2840mm L x base of 1300mm W x 900 H, 3 H per row Small: - 1800mm L x base of 1300mm W x 900 H, 3 H per row</p> <p>Loaded as a group of 1W x 3H across the trailer floor Long slabs = 2800 kg to 3000 kg Short slabs = 1800 -1900kg Long row = 8400 kg to 9000 kg Short row = 5400 – 5700kg 4 Straps per LONG group 3 straps per SHORT group</p>	<p>Always place timbers on the FLAT</p>  <p>Long slabs = 4 straps Short slabs = 3 straps</p>
<p>Long Billets: - 5800mm L x base 460mm x 883 H, 4 H (max)</p> <p>Loaded as a group of 2 across the trailer floor Typical pack weight = 1500 kg to 2500 kg Typical average row weight = 3000 kg to 5000 kg Maximum group weight up to 16000 kg 4 Straps per group</p>	

Webbing strap, geared ratio winch, lashing angle, hook and keeper (*minimum component LC fitted is 4000kg*) assembly LC rating determines the maximum load one strap can be expected to hold – 80% of the forward direction load weights on this page. The value of friction has been omitted from calculations as it is not always reliable, however there will always be some additional restraint value gained from friction present, supplying an additional margin of restraint. Higher LC and higher clamping force is applied using an additional strap on the T Bar, Slabs and long billets as well as using high pre-tension levels of 1000kg (min) per geared ratio under floor winches on relatively low load heights.