FORMWORK PRODUCT TECHNICAL GUIDE

Acrow Slim-Max Soldier System

General Technical and Application Manual





Ø

ø

Ø

0,0,0,0,0,0,0

Important

The erection and application instructions contained in this manual are the recommended methods to be used for Acrow Slim-Max products.

The technical function related instructions must be accurately followed to obtain the correct performance of the product. Any deviation from the recommended usage will require a separate design and/or verification by Acrow's Engineering department. The safe use and application of the Acrow Slim-Max Soldier must be in accordance with Australian Standard AS 3610 Formwork for Concrete, Occupational Health & Safety regulations, approved industry codes of practice and relevant regulatory authority requirements.

The illustrations in these assembly configurations are minimum guidelines only. The combined use of the Acrow Slim-Max Soldier with equipment from other suppliers may entail performance problems and therefore requires a design check and/or verification by Acrow Engineering or suitably qualified and experienced engineer. Safe Work Methods Statements and Hazard Identification/Risk Assessments for the erection and dismantling of the Acrow Slim-Max Soldier are available from Acrow branches.

Site specific Hazard and Risk assessments may need to be generated for specific projects.

Safety Warning

This warning is to draw the users attention to possible musculoskeletal injury as a result of manual handling during assembly and dismantling of Acrow Slim-Max Soldiers. It is recommended that users of the Acrow Slim-Max Soldier employ and implement appropriate procedures and control measures to eliminate or control any risk of musculoskeletal injury while manually handling Acrow Slim-Max Soldier. Refer to Code of Practice on manual handling published by your local WorkCover Authority or other approved and recognised guidelines for correct and appropriate manual handling procedures.

Product Features

The Acrow Slim-Max Soldier is a versatile galvanised steel soldier with the capability of being used as a soldier, vertical shore, raking shore, turnbuckle or as a beam. The high strength of the Slim-Max Soldier makes it ideal for large crane handled formwork shutters with accessories to enable a range of types of walers to be attached to it. The Soldier can be used for single lift, full height or jump forms for single or double face formwork arrangements.

The Slim-Max Soldier can also be used in the construction of heavy duty shoring, overhead protection structures and platforms or simply as a high strength beam.



1 Photographs/illustrations shown within this brochure are intended as expressing the diversity and possible applications of the product and as such must not be used as assembly instructions.

- 2 In line with Acrow Formwork & Scaffolding Pty Ltd's commitment to continuous product development and improvement, the information contained in this brochure may be changed without notice.
- 3 Every effort has been made to give appropriate guidelines for the use of this product, however, Acrow Formwork & Scaffolding Pty Ltd accepts no responsibility for any loss or damage suffered by any person acting or refraining from action as a result of this information.

Should the users require any further information or guidance, they are encouraged to contact their local Acrow Formwork & Scaffolding Pty Ltd outlet.

Product	Description	Code No.	Mass kg (nom.)						
	Acrow Slim-Max Soldiers Can be connected to each other to form the required shutter height. Diameter 17mm and 21mm holes spaced at 180mm centres, are used to connect accessories. The soldiers are hot-dip galvanized.								
	Acrow Slim-Max Soldier 3600	SMS36	84.1						
<u>, a sia a sia a sia a si</u> a a si	Acrow Slim-Max Soldier 2700	SMS27	64.5						
	Acrow Slim-Max Soldier 2160	SMS216	52.9						
	Acrow Slim-Max Soldier 1800	SMS18	45.3						
A A A A A A A	Acrow Slim-Max Soldier 1260	SMS126	33.7						
	Acrow Slim-Max Soldier 900	SMS09	25.8						
	Acrow Slim-Max Soldier 720	SMS072	22.0						
and the second sec	Acrow Slim-Max Soldier 540	SM054	17.8						
	Acrow Slim-Max Soldier 360	SMS036	14.1						
	Acrow Slim-Max Soldier 180	SMS018	10.5						
	Acrow Slim-Max Soldier 90	SM009	8.6						

Product	Description	Code No.	Mass kg (nom.)					
	Acrow Slim-Max Soldier Plumbing Thrust Jack Used for vertical plumbing of soldiers when used in a jump wall form arrangement.	SMSPTJ	6.8					
	Acrow Slim-Max Soldier Lifting Bracket Attached to the Slim-Max Soldier at either ends of the formwork shutter.	SMSLB	5.0					
	Acrow Slim-Max Soldier Lifting Beam Connector Used at each end of a Slim-Max Soldier to convert it into a lifting beam.	SMSLBC	9.0					
	Acrow Slim-Max Soldier Brace Connector The brace connector provides positive connection of a horizontal scaffold tube brace to tie soldiers together.	SMSBC	2.3					
	Acrow Slim-Max Soldier Tilt Base Plate Secured to the base slab to provide attachment for turnbuckle, raking soldier or push-pull prop through the Ø 21mm hole or attachment of the RH/LH jacks through the Ø 26mm hole.	SMSTBP	6.4					

Product	Description	Code No.	Mass kg (nom.)					
6-5-	Slim-Max Soldier Turnbuckle 920-1240mm Used as a plumbing brace and also used when converting the platform bracket into an adjustable platform when soldiers are used on sloping faces.	SMST124	10.0					
	Slim-Max Soldier Turnbuckle 1510-1840mm Used as a plumbing brace or as a load bearing strut for single sided forms.	SMST184	12.0					
	Slim-Max Soldier Push-Pull Prop 1696-3100mm Used as a plumbing brace or as a load bearing strut for single sided forms.	SMSPPP	19.3					
	Acrow Slim-Max Soldier Right and Left Hand Jacks The right and left hand jacks can be attached to the ends of a Slim-Max Soldier to convert it into a high load capacity turnbuckle. The right hand jack can be used at the top or bottom of a soldier when the soldier is used as a vertical support member.							
	Left Hand Jack Right Hand Jack	SMSLHJ SMSRHJ	17.0 17.0					

Product	Description	Code No.	Mass kg (nom.)						
	Acrow Slim-Max Soldier Strut Connector Can be attached to the soldier to provide connection for RH or LH Jacks when the jacks are being used with a soldier to create a turnbuckle.	SMSSC	4.2						
	Acrow Slim-Max Soldier Platform Bracket When attached to soldiers will provide a continuous working platform. Accepts 3 planks plus a toe board with provision for guardrails. Can be used as a fixed platform or as an adjustable platform when used with the 920-1240mm turnbuckle.	SMSPB	10.0						
	Slim-Max Soldier High Load Washer Specially design for use with the Slim-Max Soldier, this washer features plates that fit into the gap between the channels of the soldier to prevent web buckling enabling a higher tie load to be achieved.	SMSHLW	5.2						
	Slim-Max Soldier HL Washer Clamp and Bolt Assembly The HL Washer Clamp and bolt is used at the ends of the High Load washer to clamp it to the top flange of each channel section of the soldier to prevent movement of the flange and to hold the HL Washer in place.	SMSHLWCB	0.4						
	Acrow Slim-Max Soldier Post Adaptor Inserted and secured between the channel sections of the soldier to provide fixing for a guardrail post.	SMSSPA	2.8						

Product	Description	Code No.	Mass kg (nom.)
	Acrow Slim-Max Soldier End Guardrail Post Bracket Bolts to the end of a soldier being used as a horizontal beam to provide fixing for a guardrail post.	SMSEGPB	4.5
	 Acrow Slim-Max Soldier Connecting Pins Ø 19mm pin used to attach turnbuckles, push- pull prop and accessory brackets to soldiers or tilt base plate. Ø 25mm pin used to attach RH and LH jacks to strut connector. Connecting Pin 19mm diameter Connecting Pin 25mm diameter 	SMSCP19 SMSCP25	0.25 0.4
0	Acrow Slim-Max U-bolt Washer Used to clamp U-bolt against soldier.	SMSUBW	1.2
	Acrow Slim-Max U-bolt Used in conjunction with U-bolt washer to secure tubular walers to soldier.	SMSUB	0.9
	Slim-Max Soldier Timber Hook Bolt Down turn leg fits into hole in timber waler to secure waler to soldier. Thru tie nuts hold hook bolt in place.	SMSTHB	0.8
e e	Acrow Slim-Max Soldier Raker Foot Bracket Secured to the base slab to provide attachment for turnbuckle or push-pull prop through the Ø 21mm hole.	SMSRFB	2.5



1 Maximum capacity may be limited by other components or assembly. See relevant data or consult with a suitably qualified and experienced engineer.

2 Maximum capacity is only applicable for equipment in good condition.

3 LSCF = Limit State Conversion Factor.



1 Maximum capacity may be limited by other components or assembly. See relevant data or consult with a suitably qualified and experienced engineer.

- 2 Maximum capacity is only applicable for equipment in good condition.
- 3 LSCF =Limit State Conversion Factor.

9



 \mathbf{O}



- 1 Maximum capacity may be limited by other components or assembly. See relevant data or consult with a suitably qualified and experienced engineer.
- 2 Maximum capacity is only applicable for equipment in good condition.
- 3 LSCF =Limit State Conversion Factor.

Notes



2 Maximum capacity may be limited by other components or assembly. See relevant data or consult with a suitably qualified and experienced engineer.

- 3 Maximum capacity is only applicable for equipment in good condition.
- 4. Limit State Conversion Factor = 1.5.



1 WLL = Working Load Limit, applies to maximum capacity of specified component in application as shown and not assembly as a whole. If in doubt please ask.

2 Maximum capacity may be limited by other components or assembly. See relevant data or consult with a suitably qualified and experienced engineer.

3 Maximum capacity is only applicable for equipment in good condition.

4. Limit State Conversion Factor = 1.5.

13

Vertical Shore

Axial Compression

Where Soldier is restrained in both directions at top & bottom Eccentricity in xx direction



Axial Compression

Where Soldier is restrained in both directions at top & bottom Eccentricity in yy direction





Notes

- 1 Working Load Limit, applies to maximum capacity of Slim-Max Soldier in application as shown and not assembly as a whole. If in doubt please ask.
- 2 Limit State Conversion Factor = 1.5
- 3 Maximum capacities may be limited by other components or assembly. See relevant data or consult with a suitably qualified and experienced engineer.
- 4. Maximum deviation from straightness = H/300, where H is overall length.
- 5. Allowance shall be considered for self weight of shore and attachments to calculate P. ie: P = (Working Load Limit from Graph) (Self Weight of Shore & Attachments).
- 6. Graph is based on effective lengths of: Lex=H, Ley=H,
- 7. Working Load Limit is only applicable for equipment in good condition.



- 2 Limit State Conversion Factor = 1.5
- 3 Maximum capacities may be limited by other components or assembly. See relevant data or consult with a suitably qualified and experienced engineer.
- 4. Maximum deviation from straightness = H/300, where H is overall length.
- 5. Allowance shall be considered for self weight of shore and attachments to calculate P. ie: P = (Working Load Limit from Graph) (Self Weight of Shore & Attachments).
- 6. Graph is based on effective lengths of: Lex=H, Ley=H,
- 7. Working Load Limit is only applicable for equipment in good condition.

15

	+	For	mw	ork														+	+					+		
	+	Sca	affol	ding	+														A	Hł	{ 	'.'.	51Nc 193	BE B		
	+⁄	Ind	ustr	ial 8	Mi	ning	Sca	affol	ding) +								+		+			+	+		

Contact

Phone: 1300 138 362 or contact your business development manager. www.acrow.com.au