Flat woven Steel Slings

Type 1 – Cradle lift applications – typical configurations

Design Number	Graphic representation of sling	Description and usage
1-A	**Type 1 Standard, (1-A, 1-B, 1-C,)** machine made woven flat cable 	U Termination both ends. This provides the slimmest woven steel sling. Slides easily under loads. Made from machine woven flat cables. For general lifting of bundles of tubes, bars, timber, roofing steel in cradle lift.
1-B		U Termination one end and lapped eye with ferrules on the other end. Economical sling with slim end to slide easily under loads. Made from machine woven flat cable and used for general work. End with ferrules remains on the crane hook during rigging.
1-C		Lapped eye with ferrules both ends. Lowest cost sling where clearances under loads are adequate. Made from machine woven flat cable. For general lifting of steel bars etc. in cradle lift.
1-E	**Type 1 Special, (1-E, 1-G)** hand made – cost more, longer delivery, lower WLL 	U Termination one end and hand formed soft eye other end. Very thin sling, the soft eye is useful where clearance between bundles is limited. Hand made form cord feedstock. More expensive, slow delivery.
1-G		Lapped eye with ferrules one end, and other end hand formed soft eye. Entirely hand made from cord feedstock. More expensive, slow delivery.

General information about Andromeda Flat Woven Steel Slings

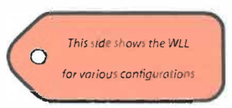
1. **Ferrules**:

Unless otherwise specified all FWS are fitted with aluminium alloy ferrules to EN 13411 standard. These have a chamfer at both ends to make for easier handling in tight places. This is accomplished by use of special dies.

Also available are our low deformation (LD) steel ferrules as fitted to Superflex sling.

2. **Fibre jackets:** The standard jacket is tightly woven Polyester sleeve that looks very much like a fire hose, and provides a good level of protection for the wires in the sling. Double thickness jackets can also be provided for extra heavy duty applications. For heavy duty work lay-flat hose can also be specified. These are available in a number of different grades. Jackets are fitted loosely over the slings, and can be removed for inspection.

3. **The tag system:**



The standard tags are made from 1.0mm steel, and permanently fixed by means of steel cord swaged into the ferrule.

The following information is provided on each tag: a) Manufacturers name (Andromeda – no phone number), b) size and type of the sling, i.e. nominal width, c) WLL in various applications, d) Test number and the date of test if proof loaded. Tags are strongly and permanently attached.

4. **Proof Loading**: Carried out at extra cost when requested by the customer. Performed to the requirements of AS 1666.1 and treating these slings as wire rope slings. Usually carried out with the sling in Single Fall configuration and loaded to the force as shown in the relevant table. When proof loaded, the sling tag will carry the Test Number for the batch, as well as the date. The Test Certificate will show the invoice number, proof load applied, date of test, declaration of compliance with NATA and AS 1666.1 the WLL of the woven strap, the size of the sling, number of slings in test series, the manufacturer and the test house.
5. **Stainless Steel Slings:** Available in some sizes, usually fitted with copper ferrules, although steel ferrules are available for some sizes.
6. **U Terminations:** This fitting provides a hard and very durable termination for frequently used slings. Its associated manufacturing and assembly methods, has been developed by Andromeda over the last fifteen years. It is usually made in alloy steel, but some sizes can be made in Stainless Steel.
7. **Nominal size:** this is a calculated width and depends on the cord size (eg 24x3=76). The width can very depending on the tightness of the weft (whether made by hand or machines). However the strengths of the cable depend on the cord diameter and not the width of the strop.

Andromeda Industries Pty Ltd Brochure & technical sheet # 081-10

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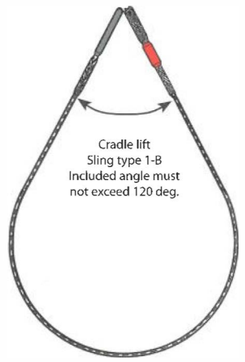
Type 1 – Cradle lift standard – WLL and weight tables - Designs # 1-A, 1-B, 1-C

Size Nominal size of sling = width mm	Woven flat cable: 24 ply warp, fine cords, 2 ply weft, fine cords					Sling WLL in tonnes: Cradle lift Included angle at the hook			Proof load
	Flat cable thickness mm	Generic cord size mm	Weight Kg/m	Woven jacket nom. dia	WLL in single fall kN	< 30 deg	60 deg	120 deg	Straight pull in single fall
50	5	2.0	0.4	32	10.2	1.9	1.7	1.0	kN 20.4
64	7	2.5	0.6	38	16.0	3.0	2.7	1.6	32.0
76	8	3.0	1.0	52	23.8	4.5	4.0	2.3	47.6
88	10	3.5	1.3	62	31.6	6.0	5.3	3.1	63.2
100	11	4.0	1.6	70	42.5	8.1	7.1	4.1	85.0
112	12	4.5	2.1	76	53.4	10	9.0	5.2	107
125	14	5.0	2.7	102	71.4	13	12	7.0	143
160	17	6.5	4.3	120	114	21	19	11	228
200	20	8.0	6.9	150	170	32	28	17	340
250	25	10.0	10.3	170	255	48	43	25	510



Weight table for completed slings in Kgs

Sling width mm	Sling length in metres									
	1	2	3	4	5	6	7	8	9	10
50	0.7	1.1	1.5	1.9	2.3	2.7	3.1	3.5	3.9	4.3
64	0.9	1.5	2.1	2.7	3.3	3.9	4.5	5.1	5.7	6.3
76	1.6	2.6	3.6	4.6	5.6	6.6	7.6	8.6	9.6	11
88	2.3	3.6	4.9	6.2	7.5	8.8	10	11	13	14
100	3.0	4.6	6.2	7.8	9.4	11	13	14	16	17
112	4.2	6.3	8.4	11	13	15	17	19	21	23
125		9	11	14	17	19	22	25	27	30
160		14	18	22	27	31	35	39	44	48
200			32	39	45	52	59	66	73	80
250			55	65	75	85	95	105	115	125

Notes

The nominal size of these slings is just that, a nominal size. It is calculated from 24 plies laid parallel as a warp. That is the nominal size 24 x X (being the generic cord size in millimetres). Variations inevitably occur in the tension applied to the weft (transverse cords) and this in turn leads on to variations in width. A nominal size can vary from actual nominal to nominal minus 10% and will still posses the same UTS and WLL.

Proof loading FWS with trapezoidal links requires a proof loading rig that transfers the force into the outer corners of the link. This is important because if the force is applied at a single point in centre of link it will bend.