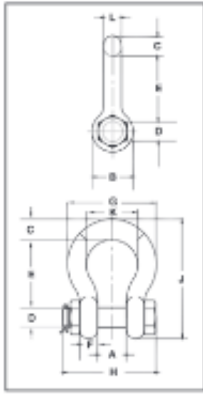


Crosby® Alloy Bolt Type Shackles

loy Steel 250 thru 400 metric tons. Meets
 ry shackle.
 available galvanized or self colored with
 p galvanized; bolts are Dimetcoated® and
 lts are Dimetcoated® and painted red.
 F) to 204 degrees C (400 degrees F).
 meet DNV impact requirements of 42
 es the Working Load Limit.
 les that meet the additional requirements



G-2140 / S-2140 Crosby® Alloy Bolt Type Anchor Shackles

Nominal Shackle Size (in.)	Working Load Limit (t) ¹	Stock No.			Weight Each (kg)	Dimensions (mm)											Tolerance ±1-	
		G-2140	S-2140	S-2140OC		A	B	C	D ±.5	E	F	G	H	J	K	L	A	E
3/8	2	1021015	-	-	0.15	16.8	23.1	9.7	11.2	36.6	9.7	45.2	55.1	63.2	26.2	9.7	1.5	3.3
7/16	2 2/3	1021020	-	-	0.22	19.1	26.9	11.2	12.7	42.9	10.4	51.6	63.8	29.5	11.2	1.5	3.3	
1/2	3 1/3	1021029	-	-	0.36	20.6	30.2	12.7	16.3	47.8	11.7	58.7	71.1	33.3	12.7	1.5	3.3	
5/8	5	1021038	-	-	0.76	26.0	38.1	17.5	19.6	60.5	14.7	74.7	90.4	42.9	16.0	1.5	3.3	
3/4	7	1021047	-	-	1.23	31.8	46.0	20.8	22.9	71.4	17.5	88.9	105.4	50.8	19.1	1.5	6.4	
7/8	9 1/2	1021056	-	-	1.79	36.6	53.1	24.6	25.9	84.1	20.6	102.4	122.4	57.9	22.4	1.5	6.4	
1	12 1/2	1021065	-	-	2.57	42.9	60.5	26.9	29.2	95.3	23.4	119.1	136.9	66.6	25.4	1.5	6.4	
1 1/8	15	1021074	-	-	3.75	46.0	68.3	31.8	31.8	108.0	26.4	131.1	149.9	73.9	28.7	1.5	6.4	
1 1/4	18	1021083	-	-	5.31	51.6	76.2	35.1	35.6	119.1	29.5	146.1	160.9	82.6	32.8	1.5	6.4	
1 3/8	21	1021092	-	-	7.18	57.2	84.1	38.1	38.9	133.4	32.5	162.1	183.1	92.2	36.1	3.3	6.4	
1 1/2	25	1021100	1021129	1262407	8.52	60.5	91.9	41.1	41.4	146	35.3	175	196	254	38.9	3.3	6.4	
1 3/4	30	1021108	1021147	1262416	15.4	73.2	106	52.2	50.8	178	44.5	224	237	313	42.7	3.3	6.4	
2	35	1021156	1021165	1262425	23.8	82.6	122	61.0	57.2	197	50.8	258	264	347	46.7	3.3	6.4	
2 1/2	45	1021164	1021183	1262434	43.5	106	148	70.2	69.9	267	66.5	324	345	455	58.4	6.4	6.4	
3	55	1021192	-	1262443	61	127	165	82.2	82.6	330	76.2	371	394	546	200	29.2	6.4	
3 1/2	70	1021218	-	1262452	120	133	203	111	95.3	372	95.3	432	448	632	229	91.9	6.4	
4	85	1021236	-	1262461	153	140	229	116	108	388	102	457	517	652	254	102	6.4	
4 3/4	100	1021234	-	-	209	184	267	127	121	388	116	529	611	706	270	121	6.35	
5	125	1021243	-	-	276	216	305	143	127	470	123	600	632	828	300	127	4.0	
6	150	1021252	-	-	362	213	330	154	152	475	134	629	696	871	300	149	4.0	
7	175	1021478	-	-	500	210	356	184	178	572	165	680	728	1022	300	152	6.4	

* Note: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Load is 4.5 times the Working Load Limit on 2 thru 21 metric tons. For sizes 30 thru 175 metric tons, Minimum Ultimate Load is 5.4 times the Working Load Limit for 200 thru 400 metric tons, Ultimate Ultimate Load is 4.5 times the Working Load Limit. ** Cast Alloy Steel.
 † Furnished with rounded ends with a radius of 1/4 inch for handling. For Working Load Limit reduction due to side loading applications, see page 94.

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CENTER LIFTER.liml - Mecway

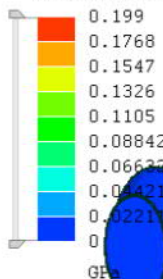
File Edit View Mesh tools Solution Tools Help



Configuration

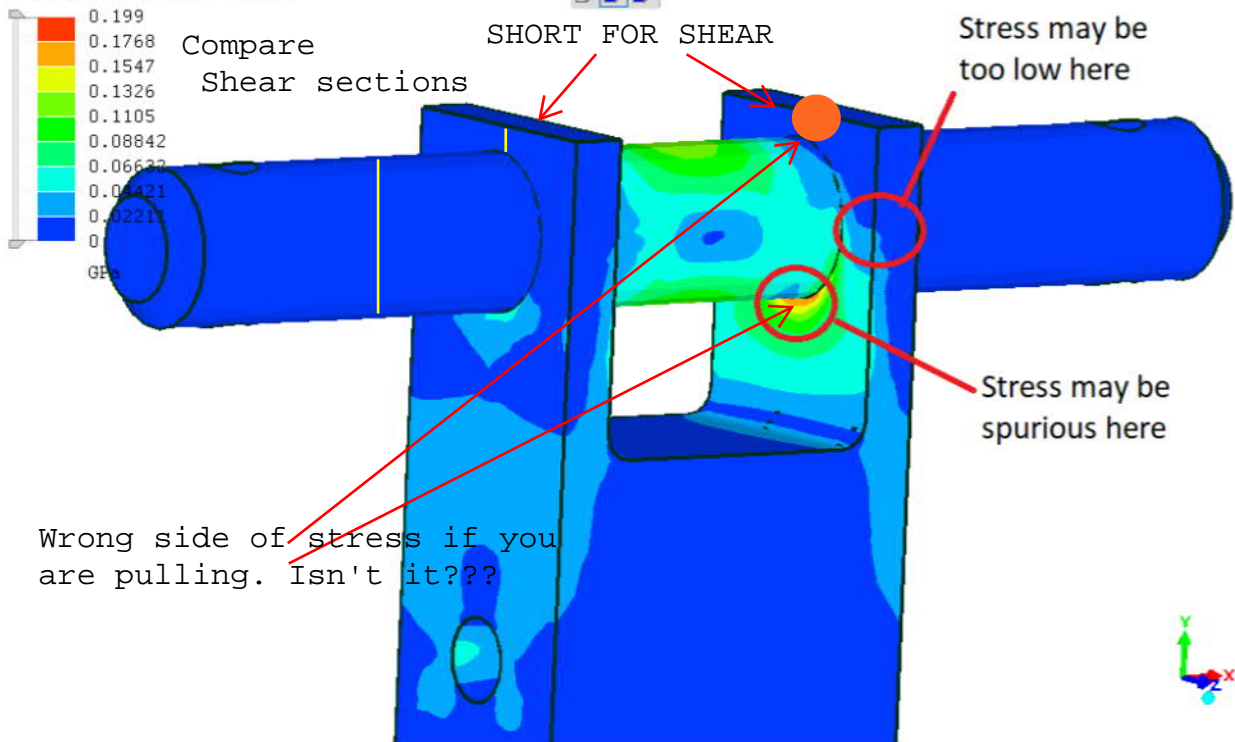
- Analysis <Static 3D>
- Geometry
 - BLOCK.stp
 - LIFTER.stp
 - PIN2.stp
- Components & Materials
 - BLOCK <34335 elements link>
 - Material
 - Default <0 elements>
 - LIFTER <10241 elements link>
 - Material
 - PIN2 <6850 elements link>
 - Material
- Loads & Constraints
 - fixed support
 - bonded contact
 - TOP_PIN_CONTACT <221>
 - TOP_BLOCK_CONTACT_1
 - bonded contact
 - LOWER_PIN_CONTACT <221>
 - LOWER_IN_CONTACT <221>
 - force <29.4 kN>
- Named Selections
 - FORCE <445 nodes>
 - LOWER_IN_CONTACT <244 f>
 - LOWER_PIN_CONTACT <623>
 - TOP_BLOCK_CONTACT_WIT
 - TOP_PIN_CONTACT <2280 f>
- Solution
 - Components
 - von Mises stress
 - Node values
 - Element values

von Mises stress solids



Compare Shear sections

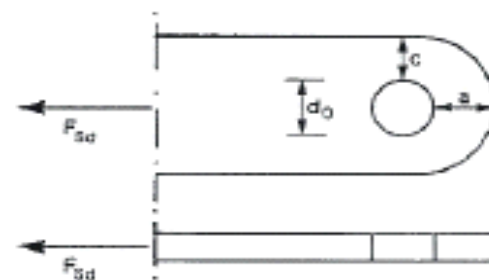
Wrong side of stress if you are pulling. Isn't it???



Elements: 51426 Nodes: 82827 Selected faces: 0

X: -0.04828577 m Y: 0.08742204 m Z: -0.04790925 m

• Dado el espesor



As a first approach try to follow minimum distances a and c.

$$a \geq \frac{F_{sd} \gamma_{MO}}{2t f_y} + \frac{2d_0}{3} \quad ; \quad c \geq \frac{F_{sd} \gamma_{MO}}{2t f_y} + \frac{d_0}{3}$$