

Schedule of Piling Rig Component Weights, Dimensions, Forces and Pressures

Note: The disclaimer on the first worksheet applies to all tables in this workbook

Rig Manufacturer :	Soilmec	Rig Type & Serial No.	SR-30	0
Operation mode:	CFA	Date:	09/12/2019	
Completed by:	SAS	Checked by:	JP	

Main Components - Slewing:

Item	Mass (kg)	Weight (kN)	X - Coordinate	Y - Coordinate	Moment Mx (kNm)	Moment My (kNm)
Slewing Components Totals/Resultant (with θ=0)						
UPPER WORKS	14,255	140	0.00	2.66	-373	0
LOWER WORKS	9,000	88	0.00	-1.00	88	0
SUSPENDED EQUIPMENT CONNECTED TO CROWD SYSTEM	3,580	35	0.00	3.50	-123	0
COUNTERWEIGHT	4,700	46	0.00	-3.60	166	0
OTHER	0	0	0.00	0.00	0	0
TOTAL/RESULTANT (with θ=0)	31,535	309	0.00	0.78	-241	0

Foot Pads - Slewing :

Description (Forces must be -ve)	Bearing Area m ²	Max. Pad Loading kN	X - Coordinate m	Y - Coordinate m	Actual Shape	Actual Dimension
Front Pad 1	2.00	-460	0.00	2.51	0.00	0.00
Front Pad 2	0.00	0.00	0.00	0.00	None	None
Rear Pad 1	0.00	0.00	0.00	0.00	None	None
Rear Pad 2	0.00	0.00	0.00	0.00	None	None

Forces - Slewing

	Force kN	X - Coordinate m	Y - Coordinate m	
Maximum Extraction Force (kN)	380	0.00	3.50	Must be inline with suspended equip't
Maximum Penetration Force (kN)	-37	0.00	3.50	-ve Must be inline with suspended equip't.
Maximum Auxillary Force (kN)	65	0.00	4.12	

Main Components - Non-Slewing:

Item	Mass (kg)	Weight (kN)	X - Coordinate	Y - Coordinate	Moment Mx (kNm)	Moment My (kNm)
Lower Works Non-Slewing (undercarriage/tracks etc)	Undercarriage	10700	0.00	0.00		
			0.00	0.00		
			0.00	0.00		
TOTAL/RESULTANT (with θ=0)	10,700	105	0.00	0.00	0	0
TOTAL RIG MASS	42,235					

Front Foot Pads - Non-Slewing

Description	Bearing Area m ²	Max. Pad Loading kN	X - Coordinate m	Y - Coordinate m	Actual Shape	Actual Dimension
Front Pad 1						
Front Pad 2						
Rear Pad 1						
Rear Pad 2						

Tracks		Slewing	
Track bearing length (m)	3.71	Can the Rig Slew?	YES
Track pad width (m)	0.60		
Distance between centrelines of tracks (m)	3.10		

MODE	Pressure Summary for Platform Design (unfactored)			BRE LOAD CASE (1 or 2)	Eccentricity Index		Winch Forces Algebraic sum of forces (kN)
	Equiv. Track Length (m)	Equiv. Track Width (m)	Equiv. Uniform Bearing Pressure, q _{eq} (kPa)		Eccentricity index - X direction (sideways)	Eccentricity index - Y direction (forwards/backwards)	
Standing	2.70	0.60	152	1	0.38	0.31	0
Travelling	2.70	0.60	152	1	0.38	0.31	0
Handling	3.27	0.60	92	1	0.20	0.17	65
Penetrating	3.66	0.60	79	2	0.02	0.02	-37
Extracting	1.75	0.60	215	2	0.73	0.61	380
Other	Not Used	-	-	0	-	-	0

MODE	ERROR FOR TRACK	Auxiliary Line	ERROR MESSAGES FOR LINE FORCES	
	Zero Pressure		Extraction Force	Penetration Force
Standing	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK
Travelling	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK
Handling	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK
Penetrating	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK
Extracting	Track(s) lifting	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK
Other	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK

MODE	ERROR MESSAGES FOR FOOT PAD FORCES		ERROR MESSAGES FOR FOOT PAD PRESSURES	
	INPUT DATA		OUTPUT DATA	
Standing	Slewing Footpad Forces OK	Non-Slewing Footpad Forces OK	Slewing Foot Pad Pressure OK	Non-Slewing Foot Pad Pressure OK
Travelling	Slewing Footpad Forces OK	Non-Slewing Footpad Forces OK	Slewing Foot Pad Pressure OK	Non-Slewing Foot Pad Pressure OK
Handling	Slewing Footpad Forces OK	Non-Slewing Footpad Forces OK	Slewing Foot Pad Pressure OK	Non-Slewing Foot Pad Pressure OK
Penetrating	Slewing Footpad Forces OK	Non-Slewing Footpad Forces OK	Slewing Foot Pad Pressure OK	Non-Slewing Foot Pad Pressure OK
Extracting	Slewing Footpad Forces OK	Non-Slewing Footpad Forces OK	Slewing Foot Pad Pressure OK	Non-Slewing Foot Pad Pressure OK
Other	Slewing Footpad Forces OK	Non-Slewing Footpad Forces OK	Slewing Foot Pad Pressure OK	Non-Slewing Foot Pad Pressure OK

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Notes
 Re. Soilmec dwg. No. 03391039.
 Max. working radius 3.50m
 Max. allowed weight of auger string depends on working radius. It should never exceed 4500kg.
 Star type cleaner (300kg approx.) included in mast weight.