

## RaMeC - Sheet-Pile Driver's (= vibrator) "competitiveness" in max SPT 40 soil hardness

Note: The "winner" = RED COLOUR

(If RaMeC UP/DOWN hammer is uswd, very good penetration of the pile even in hard soil or silt are achieved - see point 6)

Pos.	The application	RaMeC = 2nd generation of Side-Grip Pile-Driver		1st generation of Side-Grip or Other Side-Grip vibrators	Excavator - mountable vibrator	Piling rig	Crane suspensible vibrator
		SGV-vibra	UP & DOWN Hammer				
1.	Low headroom	OK	NO	OK	NO	NO	NO
2.	Soft / middle-hard soil	Even >1000m / a day	100-200m / a day	700-800	300-400	400-600	400-500
3.1	5-6m sheet long piles	OK, 600-700	OK, much less	OK, 500-600	300-400	OK, 300-400	OK, 200-300
3.2	12m sheet long piles	OK, 900-1000	OK 12)	OK, 700-800	NO, 0-200 1)	OK, 400-600	OK, 400-500
3.3	14-16m sheet long piles	OK 1) 800-900	OK 12)	OK 0-600 2)	NO, 0-200 1)	OK, 600-700 4)	OK, 600-700
3.4	16 → 30 meter	Not possible	OK 12)	No possible	not possible	4)	800-1000 m/a day
3.5	Double Sheet-piles	NO problem	OK 12)	Only 1st generation can somehow	NO	OK	OK
3.6	Double Z-profiles	NO problem 3)	OK 12)	NO	NO	OK	OK
3.7	Steel - pipes	NO problem 3)	OK 12)	Only special 1st generation can do	NO	Problems	special clamps needed
3.8	H-beams	NO problem 3)	OK 12)	ONLY 1st generation can do	Short piles	OK	OK
3.9	Plastic piles	OK / 8 5)	NO	ONLY 1st generation can do / 5 5)	NO	OK / 4 5)	OK / 4 5)
3.10	"Dam" piles = 1400-1600mm wide but thin	OK / 9 3)	NO ???	NO	NO	problems	problems
4.1	Straight piles	OK / 10	OK / 5 5)	OK / 4-8 5)	OK / 4 5)	OK / 6-10 7)	OK / 4 5)

Pos.	The application	RaMeC SGV-vibra	RaMeC UP & DOWN Hammer	1st generation of Side-Grip or Other Side-Grip vibrators	Excavator - mountable vibrator	Piling rig	Crane suspensible vibrator
4.2	Pile wall "falling" down problem	<b>OK - no problem</b>	IF down = big, big problems	OK / but difficulties	Big problem	OK / 10 but see 6)	big, big problem
4.3	Driving in angle	<b>OK / 10</b>	OK / 5 5)	<b>ONLY Movax can</b>	NO	NO	NO
6.1	Driving into silt ("London clay")	Problems	<b>NO problems</b>	problems	Problems	problems even with 700 Ps	problems
6.2	extracting "dried" / jammed piles	problems / 4	<b>NO problems</b>	Problems / 4	Problems / 4	Problems / 7 8)	Problems / 7 8)
6.3	<b>IF a VIBRATOR fails --&gt; ONLY RaMeC has UP/DOWN hammer and RaMeC operator can continue and finish the work</b>						
7.1	Driving foundation pipes	<b>RaMeC has the cheapest way</b>	<b>Comination with RaMeC SGV</b>	ONLY Movax can do, but not so economically	NO	NO	NO
7.2	RaMeC foundation pile	<b>YES 9)</b>	<b>Yes 9)</b>	NO 9)	NO 9)	NO 9)	NO 9)
7.3	Compacting	<b>OK</b>	NO	NO	NO	NO	NO
7.4	Piles less than 10CM from the house - wall	<b>YES 10)</b>	NO	NO 9)	NO 9)	NO 9)	NO 9)
8.	Trench applications	<b>ONLY 1x exc. + 2 men needed 13)</b>	<b>2x exc's, 1x w-loader + 4-5 men needed</b>	→ same	→ same	→ same	→ same
9.	Noise level	<b>85 dBA 11)</b>	>100	>100	>100	>100	>100

- 1) If "goose-neck" boom is used, every meter above 8m long pile is reducing the performance by 5-10% - even more
- 2) Over 13-14m long piles are causing problems in absorbing rubbers
- 3) Special RaMeC needed (see banderoll 5)
- 4) Piling rig for longer than 12 meter is very expensive
- 5) OK / .... = shool nr (10 best, 4 worst)
- 6) if used the auto-steer
- 7) Newest, over 1 milj. Euro piling rig can get the piles straight

- 8) To extract "dried" / jammed sheet-piles neither long amplitude or 700Ps is not always helping = ONLY small pc from sheet-pile's head are following along
- 9) RaMeC foundation pile = in > 30-40% of all foundation pile applications RaMeC foundation pile is 40-50% cheaper pile --> RaMeC's patent
- 10) An accessory of RaMeC - patent pending
- 11) Due to RaMeC's unique "Centric-hit" RaMeC can avoid sheet piles shaking = >70% of noice is coming from the shaking of the pile, not from the excavator or vibrator
- 12) To drive / extract Sheet-Piles longer than 5-6 meters RaMeC UP/Down hammer has to crane suspensible
- 13) Possible to save 50% in trench piling working costs