HAVex Application Note

The Exposure Points System and Ready Reckoner

About The HAVex

The use of hand-held power tools in many industries can result in Hand Arm Vibration Syndrome (HAVS) which is painful and disabling disorders of the blood vessels, nerves and joints of the hand. The HAVex Tri-Axial hand arm vibration meter allows you to measure the levels of vibration that can be transmitted to the hand from power tools.

The HAVex Tri-Axial Hand Arm Vibration Meter has been specifically designed for Hand Arm Vibration Measurements. It's a simple to use meter allowing you measure the levels of vibration that can be transmitted to the hand from power tools.

- Simple 3 button operation
- Large dynamic range
- Easily view, export & report data
- Includes software

Exposure Points System and Ready-Reckoner

The table below is a 'ready reckoner' for calculating daily vibration exposures. All you need is the vibration magnitude (level) and exposure time. The ready-reckoner covers a range of vibration magnitudes up to 40m/s^2 and a range of exposure times up to 10 hours.

The exposures for different combinations of vibration magnitude and exposure time are given in exposure points instead of values in m/s^2 A(8). You may find the exposure points easier to work with than A(8) values:

- Exposure points change simply with time; twice the exposure time, twice the number of points
- Exposure points can be added together, for example, where a worker is exposed to two or more different sources of vibration in a day
- The exposure action value (2.5m/s^2 A(8)) is equal to 100 points
- The exposure limit value (5m/s^2 A(8)) is equal to 400 points

Vibration Magnitude m/s²	5 min	15min	30 min	1hr	1hr 30 min	2hr	3hr	4hr	5hr	6hr
40	265	500								
30	150	450	900							
25	105	316	825	1250						
20	67	200	400	800	1200					
19	60	180	360	720	1100	1450				
18	54	160	325	650	970	1360				
17	48	145	290	580	855	1150				
16	43	130	255	510	770	1000				
15	38	115	225	450	675	900	1350			
14	33	98	195	390	590	765	1260			
13	28	85	170	340	505	875	1000	1350		
12	24	72	145	290	480	575	865	1150	1450	
11	20	61	120	240	385	485	725	970	1200	1450
10	17	50	100	200	300	400	600	800	1000	1200
9	14	41	81	160	245	325	485	650	810	970
8	11	32	64	130	190	255	385	500	640	770
7	8	25	49	98	145	195	295	390	490	590
6	6	18	36	72	110	145	215	290	360	430
5.5	5	15	31	61	91	120	180	240	305	385
5	4	13	25	50	75	100	150	200	250	300
4.5	3	10	21	41	61	81	120	160	205	245
4	3	8	16	32	48	64	95	130	160	190
3.5	2	6	13	25	37	49	74	98	125	145
3	2	5	9	18	27	36	56	72	90	110
2.5	1	3	6	13	19	25	38	50	63	75
2	1	2	4	8	12	16	24	32	40	48
1.5	0	1	2	5	7	9	14	18	23	27
1	0	1	1	2	3	4	6	8	10	12

	Above exposure limit value
	Likely to be at or above limit
	Above exposure action value
	Likely to be at or above action value
	Below exposure action value

Exposure Time, T

http://www.casellasolutions.com **Using The Ready Reckoner**

1) Find the vibration magnitude (level) for the tool or process (or the nearest value) on the grey scale on the left of the table
2) Find the exposure time (or nearest value) on the grey scale across the bottom of the table
3) Find the value in the table that lines up with the magnitude and time.
4) Compare the points value with the exposure action and limit values (100 and 400 points respectively)
5) If a worker is exposed to more than one tool or process during the day, repeat steps 1-3 for each one, add the points and compare the total with the exposure action value (100) and the exposure limit value (400).

For more information about the HAVex vibration meter, please visit us at:

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