ASSESSMENT OF VIBRATION LEVELS FOR SHEAR WRENCHES

ASSESSMENT BODY	FIVE SIDES INDUSTRIAL LTD
ASSESSOR	MR MARCUS BARHAM
DATE OF ASSESSMENT	14TH JULY 2008
LARSON DAVIS METER	IHVM100 SERIAL # 00124
PCB PIEZOTRONICS TRI AXIAL SHEAR ACCELEROMETER	SEN020 - SERIAL # 00124

In accordance with the Control of Vibration at Work Regulation 2005, TCB have employed a qualified third party to assess the exposure to hand transmitted vibration when using Electric Shear Wrenches.

Five Sides Industrial Ltd carried out a vibration assessment consisting of three 1 minute readings of the $a$hw rms of the three orthogonal axes expressed as a Σ sum m/sec^2 and averaged. From this the touch time required to reach an A(8) 2.5m/sec^2 was produced. This figure is expressed in Hrs & Mins.

The trial was undertaken with the accelerometer configured with the Y axis running through the fingers of the hand in relation to the grip on the individual tools. At the time of the trial the temperature was 18.7ºC and the humidity was 57%.

Tooling		Vibration Test Results					Exposure	Time to reach EAV	Time to reach ELV
Model	Serial No.	X Axis	Y Axis	Z Axis	Vector Sum	Average Vector Sum	Points / Hr	2.5 m/s^2 A(8) (Hrs:Mins)	5 m/s^2 A(8) (Hrs:Mins)
GM161EZ	GM6Z2002	0.666	1.49	0.665	1.76	1.63	5	18:54	>24:00
		0.765	1.19	0.673	1.56				
		0.69	1.26	0.638	1.56				
GM221EZ	GM2Z3090	0.862	1.41	0.58	1.75	2.27	10	9:40	>24:00
		1.02	2.28	0.788	2.62				
		0.985	2.12	0.74	2.45				
GH241EZ	GH4Z8315	0.572	1.03	0.317	1.21	1.25	3	>24:00	>24:00
		0.522	1.04	0.319	1.21				
		0.379	1.22	0.318	1.32				
GV301EZ	GV3Z5058	1.00	1.78	0.756	2.17	2.56	13	7:39	>24:00
		1.38	1.97	0.815	2.53				
		1.72	2.28	0.849	2.97				

Conclusion

Those working with Shear Wrenches supplied by Tension Control Bolts are exposed to very low vibration magnitude. This results in an extremely low exposure points per hour/time to reach the exposure action value (EAV). Time to reach the exposure limit value (ELV) is therefore not applicable.

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