



TOWN & COUNTRY VIBRO LTD

Vibrodisplacement Ground Treatment - Noise Assessment

Recording Method: NO5CC Sound Meter

Environmental Noise- Vibro Compaction Rig

Distance	Noise Level DB		Comments
	Min Level	Max Level	
1-3 metres	84	87	
4-9 metres	85	83	
10-15 metres	83	77	
15-25 metres	77	74	
25-35 metres	74	70	

Persons Exposed	Control Measures
Rig Operator	Issue appropriate ear protection, close cab door, training to be provided.
Loading Shovel Operator	Issue appropriate ear protection, close cab door, training to be provided.
Persons Walking By	Warning signs to be posted by Principal Contractor.
Visitors To Site	Site induction to be carried out by Principal Contractor, appropriate ear protection.
General Public	Warning signs to be posted by the Principal Contractor, screens or barriers between noise sources.
Process Worker	Site induction by Principal Contractor, follow noise policy.
Adjacent Worker	Site induction by Principal Contractor, follow noise policy.

NOTE:

The noise levels in the table are for general guidance only.

In practice, each site must be considered individually taking into account all known adjacent boundaries, structures, and services.

VIBRODISPLACEMENT GROUND TREATMENT – NOISE ASSESSMENT.

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39. Noise

- Reason:** Noise-induced hearing loss is the most common occupational health hazard.
Why: There is no satisfactory treatment for noise-induced hearing loss. When you're deaf, you stay deaf.
Outline: This talk will cover: hazards, controlling noise and ear protection.

Hazards

- Some of the following things used on site can be harmful to your hearing: compressors, breakers, circular saws, concrete mixers, chainsaws, generators, vibrating rollers and excavators.
- Even if you are not using the noisy piece of equipment, someone using it close by could affect you.
- Look out for noise hazard signs on site and obey them.
- It's not only on site that you have to remember to protect your hearing but after work also - noisy clubs, hi-fis, etc.

Q: Name some of the noise hazards to be found on site.

Controlling Noise

- Use a less noisy process if possible.
- If shouting is necessary in order to be heard, the noise level is high and you should wear ear protectors.
- keep compressor covers closed when in use.
- Ensure breaker mufflers are correctly fitted.

Q: When should ear protection be worn?

- Don't keep machinery running unnecessarily.
- Ensure you don't expose workmates to your noise.
- Move noise source away from work area or move work area away from noise.
- If possible, shield noisy processes. Work behind a wall or some other sound-absorbing material.

Q: Name two precautions you can take with machinery to reduce noise.

Ear Protection

- Ensure ear plugs are a good fit and correctly inserted.
- Regularly clean reusable ear plugs.
- Use disposable ear plugs once only.
- Clean your hands before touching all types of ear plugs.

Q: What should not be used instead of ear plugs?

Do you have any questions for me?

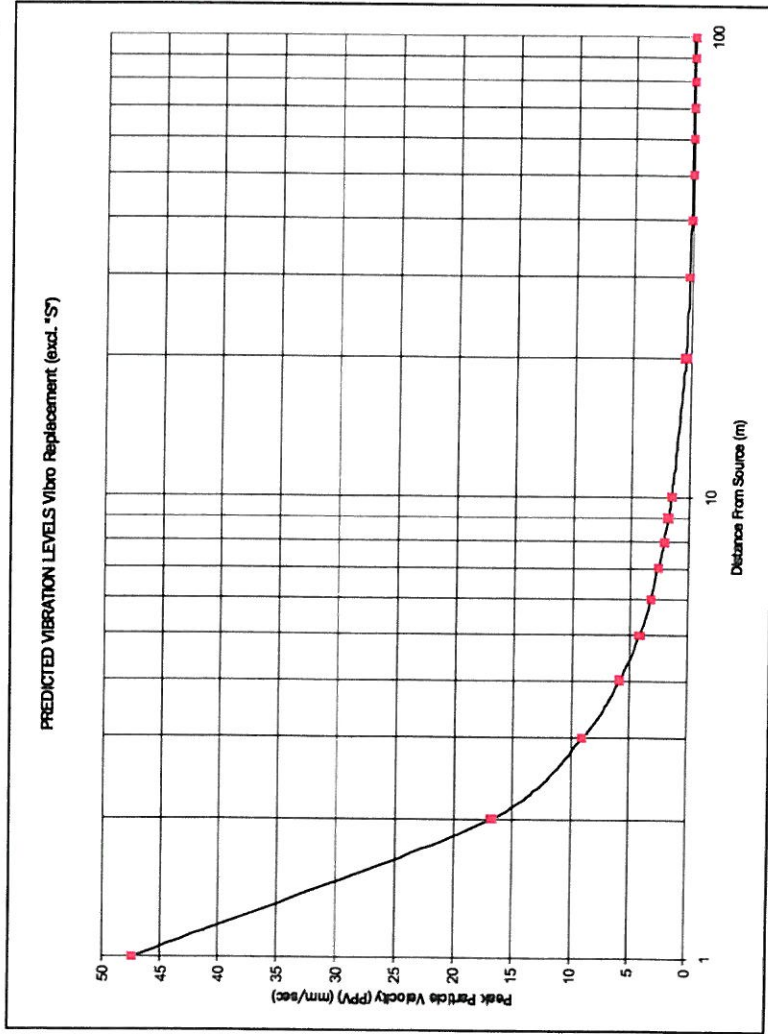
Questions for you

Q: How can you reduce noise levels from a machine?

Q: What must you remember when handling ear plugs?

REMEMBER PROTECT YOUR HEARING

PREDICTED VIBRATION LEVELS. Vibro Replacement (excl. "S")



GUIDANCE FOR ACCEPTABLE LEVELS CAN BE FOUND IN CIRIA TECHNICAL NOTE 142 - 1992

Examples from table 9 of this report are;

Commercial & Industrial Buildings
20 to 40 mm/sec

Dwellings / Buildings of Similar Design
5 to 15 mm/sec

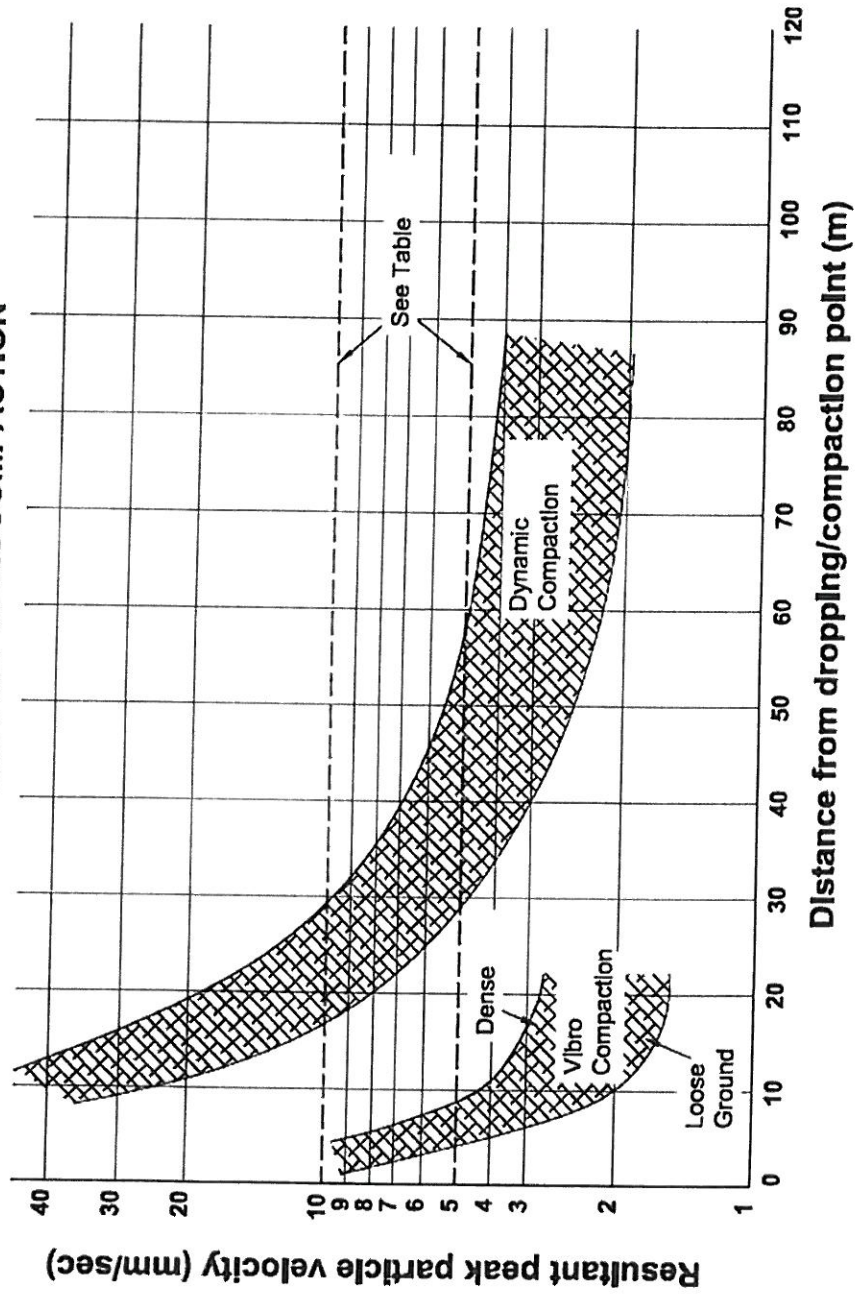
Structures of Great Intrinsic Value
(e.g buildings under a preservation order)
3 to 8 mm/sec

IMPORTANT NOTE; Above values are guidelines only. The maximum / acceptable PPV on any structure is to be specified by the Structural Engineer

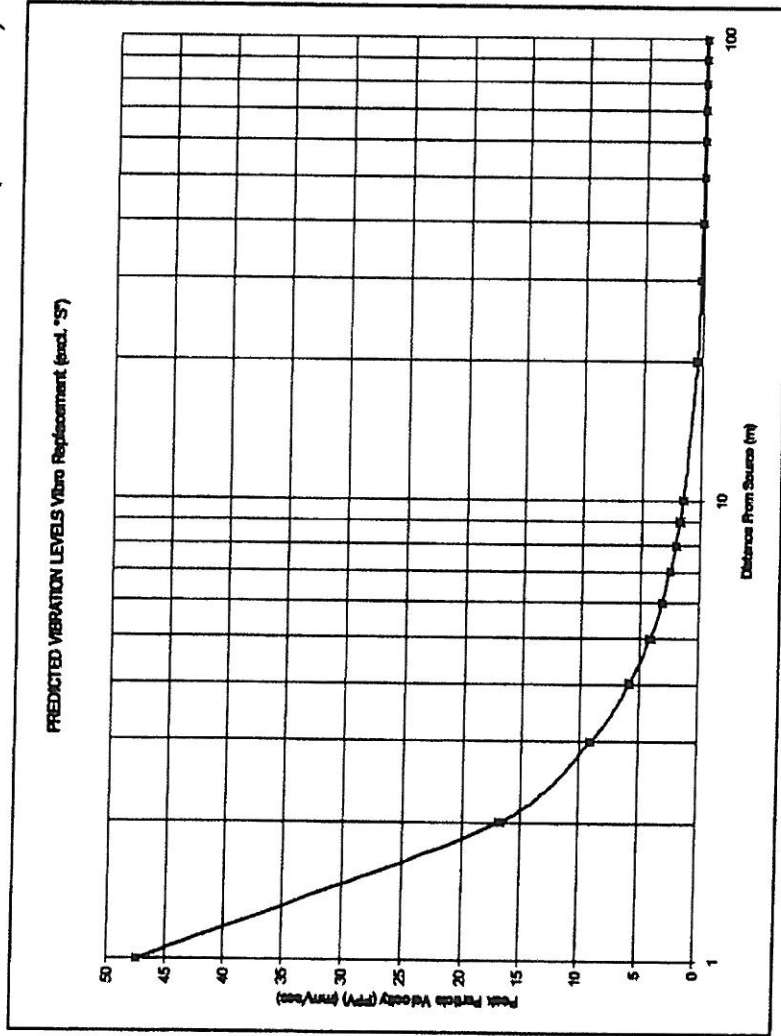
STRUCTURAL DAMAGES - PARTICLE VELOCITY CRITERION

Resultant Peak Particle Velocity (mm/sec)	Human Reaction	Effect on Buildings	Source
0-0.15	Imperceptible by people - No intrusion	Vibration unlikely to cause damage of any type	RRL Rep LR.418
0.15-0.3	Threshold of perception - Possibility of intrusion	Vibration unlikely to cause damage of any type	
2.0	Vibrations perceptible	Recommended upper level of the vibration of which ruins and ancient monuments should be subjected	
2.5	Level at which continuous vibrations begin to annoy people	Virtually no risk of architectural damage to normal buildings	
5.0	Vibrations annoying to people in buildings	Threshold which there is a risk of 'architectural' damage to normal dwelling houses with plastered walls and ceilings	
10		Threshold for residential buildings in good condition	German DIN.451
10-15	Vibrations considered unpleasant by people subjected to continuous vibration	Vibrations at a greater level than normally expected from traffic, but would cause 'architectural' damage and possibly minor structural damage.	RRL Rep LR.418
20-40		Acceptable for industrial buildings without plaster	German DIN.451
50-80		Vibrations likely to cause minor structural damage	Jackson (1967)
70 110 160 250		Minimal damage Slight damage Moderate damage Serious damage	Swedish Information

PEAK PARTIAL VELOCITY VERSUS DISTANCE FOR DYNAMIC AND VIBROCOMPACTION



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Reason: Exposure to vibration can result in serious and disabling injury.

Why: Many operatives do not appreciate the possible dangers from vibration.

Outline: This talk will cover: the sources, effects and methods of overcoming excessive vibration.

Effects of Vibration

- Depending upon work situation, vibration can be whole-body vibration or, more commonly, hand-arm vibration.
- The first signs of a problem may only be tingling in the effected fingers.
- Exposure to vibration can lead to irritation, fatigue and loss of concentration.
- The above effects are likely to affect a person's attention to safety and therefore increase the likelihood of an accident occurring.
- In the longer term, damage may occur to blood vessels, nerves, muscles, tendons and body organs.
- Excessive hand-arm vibration can lead to 'Vibration White Finger' resulting in damaged blood vessels, circulatory problems, pain and possibly gangrene.

Q: *Is there any part of your job during which you are subjected to vibration?*

The Sources of Vibration

- A common cause of hand-arm vibration is the prolonged use of rotating hand tools used for cutting and grinding.
- Percussive hand tools used for riveting, chipping, hammering, drilling etc. are also sources of vibration.
- The use of chainsaws is also another source hand-arm vibration.

Q: *What tools do you use that cause hand-arm vibration?*

Avoidance of Vibration

- Advances in technology are leading to newer tools being equipped or manufactured with vibration-absorbing features.
- If available, select tools with vibration-absorbing features for your work.
- When using a tool, which causes vibration, break the job up with other work activities.
- If you think you are suffering ill effects from vibration, cease the activity, speak to your supervisor and if necessary seek medical advice.

Q: *What would you do if you noticed that your fingers were tingling after you had finished a long job in which you used an angle grinder?*

Q: *In what ways can excessive vibration be avoided?*

Do you have any questions for me?

REMEMBER THE LONG-TERM EFFECTS OF EXPOSURE TO VIBRATION CAN BE PERMANENT AND DISABLING. DON'T LET IT HAPPEN TO YOU

1. Manual Handling

Reason: Manual handling caused 30% of all injuries at work (including one fatal accident)

Why: Get it wrong today and you'll suffer the consequences tomorrow.

Outline: This talk will cover: considerations and good techniques for manual handling.