

8. Typical Impact Values

The lower and upper limits of permissible Impact Values are depicted in Table A, where IV readings A-E are the values obtained on the first to fifth drops respectively.

The critical 4th drop value D in Table A can be used providing the other limits in the table are not exceeded.

TABLE A

	Drop No.	IV Reading	Permissible Lower limit	IV Reading Upper limit
	1	A	-	No Upper Limit set for 1 st 4 drops
	2	B	A-2	
	3	C	B-2	
Critical Impact Value	4	D	C-2	
	5	E	D-2	

9. Trench Reinstatement

It is important to note there will be variations in strength along a trench or within a patch and it is necessary to take sufficient readings to determine average strength as well as locating soft spots. In a typical one metre square patch at least three readings are required: one in the centre; and two in the corners. If good agreement is not reached then check the remaining two corners. In short trenches a reading should be taken at longer intervals - say up to five metres, depending on overall length. The longer the trench, then the greater the number of readings that will be needed to achieve a representative average.

Usually it is found that good materials properly compacted, will give consistent readings. Inconsistent readings generally indicate some problem, requiring further investigation.

12. General Care (continued)

Check the base of the hammer after each set of readings to ensure that it is clean. If material builds up on the hammer it could lead to an uneven indentation and a false reading. A change in impact sound may also be detected. During each hammer drop the experienced user will be able to hear if the hammer has dropped cleanly. A low reading may result if it has rubbed against the inside of the guide tube on the way down. Provided the other readings are considered satisfactory, the fourth reading can be taken as valid; otherwise, repeat the test.

13. Target Impact Values

The Target Impact Values in Table B represents a balance between compacted density and stiffness. The target value is to be regarded as the lowest value acceptable on the fourth drop under average condition.

TABLE B

REINSTATEMENT LEVEL	FOURTH DROP IMPACT VALUE for 4.5 kg HAMMER		
	Target Value	Typical Range	Highest Likely
Trench Bed	7	7 - 8	30
Top of Fine Fill	10	10 - 17	-
Top of Back Fill	18*	17# - 27	-
Top of Sub-base	22	24 - 27	-
Top of Road Base	30	32 - 34	38

*Minimum IV for re-used materials

#Minimum IV for imported materials

Compaction must always be carried out in full accordance with the reinstatement specification and must not be stopped when the target Impact Value has been achieved.

The impact values shown under the headings 'Typical Range' and 'Highest Likely' in Table B are to be taken as approximate guidelines.

Note : The values in the above Table B apply to tests carried out using the 4.5 kg Hammer. The values will be lower by a factor of approximately 2.1 when using the 20 kg Hammer.