

Technical Specification of Impact Echo Test System for Heritage Structures

Impact Echo Test System for flaw detection and thickness measurement, crack depth measurement and Compression wave (P-Wave) measurement. The system includes a laptop computer, a data acquisition module, transducer with impactors, and user-friendly software.

Sl. No.	Item No.	Specifications
1	Data Acquisition system/ Control Unit	<ul style="list-style-type: none"> a) Control System with Digital Data Acquisition with 14-bit Digital convertor. b) Maximum sampling speed should be 2 MHz on each of 2 channels. c) Minimum power requirements should be of 5V DC, Max: 9V DC, having internal and rechargeable battery which provides 5-8 hours of operating time on full charge. d) It should be capable of measuring the Compressional waves (P-wave) speed by using one displacement transducer. e) Capability of data acquisition with USB Cable. f) The system should include a laptop computer, a data acquisition module, transducer with impactors, and compatible software. g) It should have suitable ports for connecting with laptop or computer through USB port or Wi-Fi or any other type ports or method (wired or wireless). h) Power requirement: External DC power and rechargeable battery having backup at least of 5-8 hrs. i) Should be capable of measuring the echo of short duration and well as long duration stress pulse in frequency domain.
2.	Data acquisition software with Manuals and Software Manual	<ul style="list-style-type: none"> a) Software should be compatible with the test setup b) Software should be provided with USB/ License key and Software Manual should be provided. c) Operating manuals d) Required Notes and test cases for the Equipment. e) Should be compatible with latest Windows OS.
3.	Other Essential Accessories:	<ul style="list-style-type: none"> a) Laptop Computer with attaché Case. b) Data Acquisition module with USB Cable. c) Data acquisition and processing software d) Transducer with case. e) Supportable 5mm,8mm,12mm Impactors, i.e. Set of Impactor (Set of 10 hardened steel spheres on spring rods). f) 2 BNC Cables, and, Serial Port Single Cable should be of length of at least 5 m. g) Output Adaptor (110V-240V AC Input, 12V DC Output) to recharge batteries in data acquisition system. h) DC to AC Power Invertor (10-15V DC Input, 110V AC Output).
4.	Training, Demonstration	<ul style="list-style-type: none"> a) Demonstration and Training at Institute premises should be provided free of the cost.

	and Warranty	b) Warranty for 03 years should be quoted applicable from date of commissioning/installation. c) Assurance for availability of spares and other essential items for at least 5 years may be provided.
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