

MAIN EXPERIMENTAL FACILITIES

Impact Rig	Maximum Impact Mass	Maximum Impact Velocity	Maximum Impact Energy	Comments
Gas gun	5 kg	500 ms ⁻¹ @100 g	12.5 kJ	
Powder guns	20 kg	1000 ms ⁻¹	10 kJ	
Drop Hammer	220 kg	16.6 ms ⁻¹	30 kJ	
Panel Drop Hammer	70 kg	7 ms ⁻¹	1.7 kJ	
40 kJ Catapult	290 kg	17 ms ⁻¹	40 kJ	
6 kJ Catapult (2 machines)	8 kg	35 ms ⁻¹	5 kJ	
2 J Catapult Rig	20kg	15 ms ⁻¹	2 J	
Hopkinson Pressure Bar Catapult	-	20 ms ⁻¹	-	19 mm dia. bars
Hopkinson Tension Bar	-	20 ms ⁻¹	-	20 mm dia. bars
ESH High Rate Servohydraulic Machine	50 kN force	12 ms ⁻¹	-	
Cranfield/ESH High Rate Servohydraulic Machine	200 kN force	5 ms ⁻¹	-	
Pulse Pressure Rig ¹ (2 machines)	-	-	-	370 mm dia. area
Blast Test Rig ²	-	-	-	1 m × 1 m area
Pendulum Impact Rig ³	190kg	8 ms ⁻¹	6 kJ	
Drop Hammer Rig ³	25 kg	4.5 ms ⁻¹	250 J	
Instrumented Impact Tower ⁴	1 kg	4 ms ⁻¹	8 J	

¹pressure pulse up to 3 bar ²Pressure pulses up to 4 bar ³In Civil Engineering ⁴In Materials Science and Engineering