

test type	Test Details				Rate of Impact (Velocity)				useful for
	shapes	complexity	machine cost	cycle time	mm / sec	in / sec	km / hr	miles / hr	
Standard Tensile	test bar	Med - High	\$\$-\$\$\$	minutes	0.08/.8	0.003/0.03	0.00029/ 0.0029	0.00018/ .0018	basic property data
Izod (ASTM D256)	test bar	Low	\$ - \$\$	seconds	3,500	138	12.6	7.83	material comparisons, evaluating notch sensitivity
Un-Notched Izod	test bar	Low	\$ - \$\$	seconds	3,500	138	12.6	7.83	material comparisons, evaluating notch sensitivity
Charpy (ISO 179)	test bar	Low	\$ - \$\$	seconds	3,800	150	13.7	8.5	material comparisons, evaluating notch sensitivity
Gardner ¹	discrete parts	Medium	\$ - \$\$	seconds	5,970	235	21.5	13.4	material comparisons, impact fatigue
Falling Weight ¹	discrete parts	Medium	\$ - \$\$	seconds	5,970	235	21.5	13.4	material comparisons, impact fatigue
Instrumented	any	Med - High	\$\$-\$\$\$	minutes	varies	varies	varies	varies	comprehensive analysis
High Speed Tensile	test bar	Med - High	\$\$ - \$\$\$	minutes	10,000	393.7	36	22.4	tensile impact at high rates of loading
Projectile	any	High	\$\$-\$\$\$	minutes	varies	varies	varies	varies	comprehensive analysis, real-life simulation
Drop ¹	complete assemblies	Med - High	\$ - \$\$	minutes	5,970	235	21.5	13.4	qualitative analysis, real-life simulation
Tumble	complete assemblies	Med - High	\$\$	minutes	varies	varies	varies	varies	comprehensive analysis, real-life simulation

¹velocity at impact after a 6 foot drop

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