

Technical Bulletin - Comparison of ARPRO Expanded Polypropylene (EPP) vs. Injection Molded Energy Absorbers

Item	EPP	Injection Molded Newer Styles	Injection Molded Older Styles
Cost to make prototypes for development testing	1	3	2
Timing to make prototypes	1 - typically 1 week for handcut or CNC cut parts	3 - need tool	2 - typically 1 week for handcut parts. Cannot CNC cut parts
Tooling cost	1	3	3
Tooling timing	1	3	3
Tooling; EWO cost	1	3	3
Tooling; EWO timing	1	3	3
Recycle-ability	1	1	1
Parts consolidation	2	2	2
Permanent set after typical 5mph impact tests	1	2	2
Multiple Impact; 5 mph	1	2	2
Results of 2" impact height differential	1	2	1
Low Capital Investment cost for Molding	1	2	2
Negative issues dealing w/ "knit lines"	1	2	2
"Material Injection cost"	1 - standard fill guns	3 - Need hot runner manifold	2
Typical number of production cavities	Three to four cavities	One cavity	One cavity
Typical cycle time	2 - (180 seconds)	1 - (60 seconds)	1 - (60 seconds)
Ability to pass Rear 5mph pole test	1	3	2
Energy Absorber Weight	1 (approx. 3 lbs)	1 (approx. 2.5 lbs)	2 (approx. 4 lbs.)
Industry acceptance	1	? - Unknown history	1
Raw material price vs. time	Steadily decreasing	Increasing during production	Slowly decreasing
Continuous Fascia Support	1	3	2

Key: 1 = Excellent, 2 = Good, 3 = Poor

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