

USABC Goals for Advanced Batteries in E-Truck Applications

The USABC supports the on-going development of medium duty electrified trucks through a variety of vocational and utility applications.

End of Life Characteristics at 30°C	Units	MD E-Truck Cell Level (Class 2[b] - 3)	MD E-Truck Cell Level (Class 4 - 6)
Peak Discharge Power Density 30 s Pulse	W/L	1500	550
Peak Specific Discharge Power, 30 s Pulse	W/kg	700	600
Peak Specific Regen Power, 10 s Pulse	W/kg	450	375
Useable Energy Density @ C/3 Discharge Rate	Wh/L	700	425
Useable Specific Energy @ C/3 Discharge Rate	Wh/kg	350	400
Calendar Life	Years	20	20
Cycle Life ¹	Cycles	2000 50% FC	4000 50% FC
Cost @ 250k Units	\$/kWh	60	75
Operating Environment	°C	-30 to +65	-40 to +65
High Rate Charge	Minutes	80% U.E. Target in 10 min	80% U.E. Target in 20 min
Minimum operating Voltage	V	>0.55*Vmax	>0.55*Vmax
Unassisted Operating at Low Temperature	%	>70% Useable Energy @ -20°C	>70% Useable Energy @ -20°C
Survival Temperature Range, 24 Hr.	°C	-40 to +75	-40 to +75
Maximum Self-discharge	%/month	<1	<1
Fast Charging time at -10°C	Minutes	80% U.E. Target in 30 min	80% U.E. Target in 30 min

¹Specific test/drive-cycle details are still under development in collaboration with DOE national labs to be update in the USABC test manual