

## VALUTAZIONI ENERGETICHE PER UN VEICOLO STRADALE

### PERCORSO A VELOCITA' COSTANTE

Cx	0.28	Ns/kg	coefficiente aerodinamico
A	3.00	m <sup>2</sup>	area frontale
rho	1.23	kg/m <sup>3</sup>	densità specifica aria
m	2,000.00	kg	massa veicolo
Crr	10.00	N/kN	coefficiente resistenza rotolamento
eta	0.85		rendimento da batteria a ruota
i	0.03		pendenza percorso
L	100.00	km	lunghezza percorso

vel		Tempo	R_d	P_d	En_d
km/h	m/s	s	N	W	kWh
10.00	2.78	36,000	3.97	11.03	0.11
30.00	8.33	12,000	35.73	297.74	0.99
100.00	27.78	3,600	396.99	11,027.52	11.03
130.00	36.11	2,769	670.91	24,227.46	18.64
150.00	41.67	2,400	893.23	37,217.88	24.81
180.00	50.00	2,000	1,286.25	64,312.50	35.73

Resistenza  
dinamica

vel		Tempo	R_r	P_r	En_r
km/h	m/s	s	N	W	kWh
10.00	2.78	36,000	196.20	545.00	5.45
30.00	8.33	12,000	196.20	1,635.00	5.45
100.00	27.78	3,600	196.20	5,450.00	5.45
130.00	36.11	2,769	196.20	7,085.00	5.45
150.00	41.67	2,400	196.20	8,175.00	5.45
180.00	50.00	2,000	196.20	9,810.00	5.45

Resistenza  
rotolamento

vel		Tempo	R_i	P_i	En_i
km/h	m/s	s	N	W	kWh
10.00	2.78	36,000	588.60	1,635.00	16.35
30.00	8.33	12,000	588.60	4,905.00	16.35
100.00	27.78	3,600	588.60	16,350.00	16.35
130.00	36.11	2,769	588.60	21,255.00	16.35
150.00	41.67	2,400	588.60	24,525.00	16.35
180.00	50.00	2,000	588.60	29,430.00	16.35

Resistenza  
pendenza

vel		Tempo	R_tot	P_tot (W)	P_batt	deltaP	En_batt
km/h	m/s	s	N	W	W	W	kWh
10.00	2.78	36,000	788.77	2,191.03	2,577.68	386.65	25.78
30.00	8.33	12,000	820.53	6,837.74	8,044.40	1,206.66	26.81
100.00	27.78	3,600	1,181.79	32,827.52	38,620.61	5,793.09	38.62
130.00	36.11	2,769	1,455.71	52,567.46	61,844.07	9,276.61	47.57
150.00	41.67	2,400	1,678.03	69,917.88	82,256.33	12,338.45	54.84
180.00	50.00	2,000	2,071.05	103,552.50	121,826.47	18,273.97	67.68

ACCELERAZIONE 0-100km/h

t100	tempo	6.00	s
a	accelerazione	4.63	m/s <sup>2</sup>
Fa	forza	9,259.26	N
Pa_max	potenza max	257,201.65	W
En_a	energia	771,604.94	J
		0.21	kWh