

### Calculation Sheet for TMP Concrete Anode

$$\text{Steel Density Ratio} = \frac{\text{Surface Area of Steel}}{\text{Exposed Surface Area of Concrete}}$$

Description	New steel or non-chloride contaminated concrete		
Steel density ratio	0.447		
Exposed surface area of concrete	1.20		m <sup>2</sup>
Mean current density	0.002	0.001	A/m <sup>2</sup>
Time	1.00	9.00	year
Current demand	51.69		Ah
Electrochemical capacity of zinc anode	780.00		Ah/kg
Zinc anode required	82.83		g
No.of concrete anode for CR60 or CB60	1.38		ea
No.of concrete anode for CR100 or CB100	0.83		ea
No.of concrete anode for CR160 or CB160	0.52		ea

Description	Old steel or chloride contaminated concrete		
Steel density ratio	0.503		
Exposed surface area of concrete	4.00		m <sup>2</sup>
Mean current density	0.020	0.002	A/m <sup>2</sup>
Time	1.00	9.00	year
Current demand	669.75		Ah
Electrochemical capacity of zinc anode	780.00		Ah/kg
Zinc anode required	1,073.32		g
No.of concrete anode for CR60 or CB60	17.89		ea
No.of concrete anode for CR100 or CB100	10.73		ea
No.of concrete anode for CR160 or CB160	6.71		ea

Description	New steel or non-chloride contaminated concrete		
Steel density ratio	0.447		
Exposed surface area of concrete	1.00		m <sup>2</sup>
Mean current density	0.002	0.001	A/m <sup>2</sup>
Time	1.00	9.00	year
Current demand	43.07		Ah
Electrochemical capacity of zinc anode	780.00		Ah/kg
Zinc anode required	69.03		g
No.of concrete anode for CR60 or CB60	1.15		ea
No.of concrete anode for CR100 or CB100	0.69		ea
No.of concrete anode for CR160 or CB160	0.43		ea

Description	Old steel or chloride contaminated concrete		
Steel density ratio	0.503		
Exposed surface area of concrete	1.00		m <sup>2</sup>
Mean current density	0.020	0.002	A/m <sup>2</sup>
Time	1.00	9.00	year
Current demand	167.44		Ah
Electrochemical capacity of zinc anode	780.00		Ah/kg
Zinc anode required	268.33		g
No.of concrete anode for CR60 or CB60	4.47		ea
No.of concrete anode for CR100 or CB100	2.68		ea
No.of concrete anode for CR160 or CB160	1.68		ea