

Team Wave Energy Converter of America (WECCA)

Material List

Material	Surface Area [m ²]	Density [kg/m ³]
Steel	120	7,850
FRP	1,376	1,550

Representative Structural Thickness

Material	Low [cm]	Operational [cm]	High [cm]
Steel	6.25	6.81	7.36
FRP	9.06	9.79	10.46
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Manufactured Material Cost

Material	Low [USD/Tonne]	Typical [USD/Tonne]	High [USD/Tonne]
Steel	\$2,250	\$3,000	\$4,500
FRP	\$7,500	\$8,200	\$9,500
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Characteristic Capital Expenditure (CCE)

CCE = Total Surface Area (m²) x Representative Structural Thickness (m) x Density of Material (kgm⁻³) x Cost of Manufactured Material per unit Mass (\$kg⁻¹).

Material	RST [cm]	MMC [USD/Tonne]	CCE/material [\$]	TOTAL CCE [\$]
Steel	6.81	\$3,000	\$192,451	\$1,904,620
FRP	9.79	\$8,200	\$1,712,169	

Notes/Comments