

ABSTRACT OF THE DISCLOSURE

A nickel-free LPG marine steel plate and a manufacturing method therefor belong to the technical field of high-strength structural steels. Said steel plate consists of the following chemical components by mass percentage: 0.18 to 0.24% of C, 0.10 to 0.19% of Si, 16.1 to 18.9% of Mn, less than or equal to 0.012% of P, 0.15 to 0.35% of Mo, 0.10 to 0.25% of RE, and the balance of Fe and inevitable impurities. The steel plate has a yield strength of ≥ 410 MPa and an impact absorption work of ≥ 66 J at 150 ° C, has good low-temperature mechanical properties, can replace 5Ni and 9Ni-based steel, and is used for constructing an LPG storage tank and a relevant structural member at low costs.