

PERFORMANCE STATEMENT

Stainless Steel Grade 445M2 – Marine Grade

- Product Compliance:** Stainless steel grade 445M2 is a ferritic stainless steel with excellent resistance to corrosion in the atmosphere and in waters. The steel is a development of grade 444, with extremely low carbon and addition of nitrogen, molybdenum and niobium for improved corrosion resistance and weldability. Nisshin Steel manufactures the product to internal product specifications. Nisshin Steel is one of the largest manufacturers of stainless steel in Japan.
- Typical Applications:** Hot water cisterns & cylinders. Roofing, fascia, building facades, rainwater goods.
- Corrosion Resistance:** The corrosion resistance of 445M2 is superior to that of austenitic grade 316, which has long been the standard for mildly aggressive environments such as hot water and marine atmospheres. The chemistry of 445M2 gives it a similar pitting resistance equivalent to 316, but laboratory test and field experience show 445M2 has superior resistance to pitting corrosion and to general surface staining in applications where 316 would be used. Grade 445M2 is effectively immune from stress corrosion cracking in these environments.
- Expected Performance:** Grade 445M2 is not expected to suffer structural failure when used in normal atmospheres, and in potable water meeting The Drinking Water standards for New Zealand 2000, subject to satisfactory design and fabrication. Perforation of 445M2 membranes (roofing, rainwater goods) is unlikely to occur in less than 30 years per millimeter of thickness, subject to satisfactory design, fabrication and maintenance.