



Lining of tanks Recommendations for installation

Introduction

This report gives general recommendations for lining tanks of carbon steel with stainless steel sheeting.

1 Material

1.1 Sheet

1.11 Material grade

Lining sheet of SS Steel 2333¹⁾ or SS Steel 2343¹⁾. (Austenitic stainless steel with thermal expansion 50% higher than that of carbon steel).

When ferritic or ferritic-austenitic material is used in the sheet, the thermal expansion is about the same as that of carbon steel.

1.12 Sheet thickness

Thickness of 'lining sheet' 2 mm.

1.13 Sheet dimension

Owing to the difference in thermal expansion between carbon steel and stainless steel, welded joints between these materials are subjected to fatigue stresses due to temperature fluctuations. When the material SS Steel 2333¹⁾ or 2343¹⁾ is chosen, the lining sheet should therefore have the dimensions set out in the table below. Sheet in the form of long strip should be chosen.

Temperature °C	With of sheet mm
< 70	620
> 70 <100	500
>100 <120	300

1.2 Method of welding

Manual arc welding with coated electrodes. (Limits sheet thickness to min. 2 mm).

1.3 Filler metal for welding

Metal of the same type shall be chosen as filler metal for all overlap welds between stainless steel sheets.

Overalloyed filler metal, e.g. SS electrode 3317¹⁾, shall be used for all welds between carbon steel plate and stainless steel sheet.

1) Swedish standard