

Technical Code DVS 2205-2 Supplement 9

Calculation of tanks and apparatus made of thermoplastics – Vertical round, nonpressurised tanks – parallel-supported sloping base

Technical Committee of the DVS

Working Group W 4 “Joining Plastics”

Subgroup W 4 3b „Structural Design - Apparatus Engineering“

This publication has been drawn up by a group of experienced specialists working in an honorary capacity and its consideration is recommended. The user should always check to what extent the contents are applicable to his particular case and whether the version on hand is still valid. No liability can be accepted by the DVS – Deutscher Verband für Schweißen und verwandte Verfahren e.V., and those participating in the drawing up of the document.

Content:

| | | |
|------------|--|-----------|
| 1. | Scope | 3 |
| 2. | Structure | |
| 2.1. | Frame connection | 3 |
| 2.1.1. | Articulated connection | 3 |
| 2.1.2. | Rigid connection | 3 |
| 2.1.3. | Stiffeners | 3 |
| 2.2. | Underfloor | 4 |
| 2.3. | Ventilation of the space under the sloping base | 4 |
| 3. | Calculation variables | 4 |
| 4. | Determining the cutting forces for the strength analysis | 8 |
| 4.1. | Cylinder | 8 |
| 4.1.1. | Filling loading case | 8 |
| 4.1.2. | Overpressure loading case | 9 |
| 4.2. | Sloping base | 9 |
| 4.2.1. | Filling loading case | 9 |
| 4.2.2. | Overpressure loading case | 10 |
| 5. | Strength analyses | 10 |
| 6. | Determining the cutting forces for the stability analyses | 10 |
| 6.1. | Filling loading case | 10 |
| 6.1.1. | Stiffeners | 10 |
| 6.1.2. | Frame | 11 |
| 6.2. | Overpressure loading case | 11 |
| 6.2.1. | Stiffeners | 11 |
| 6.2.2. | Frame | 11 |
| 7. | Stability analyses | 11 |
| 7.1. | Stiffeners | 12 |
| 7.2. | Frame | 13 |
| 8. | Dimensioning | 14 |
| 9. | Anchors | 15 |
| 10. | Structural details | 16 |
| 11. | References | 21 |

Voransicht des Regelwerkes