

**nafal ab** **Rørcentret**  
**TEKNOLOGISK**  
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## National/scandinavian requirements for septic tanks



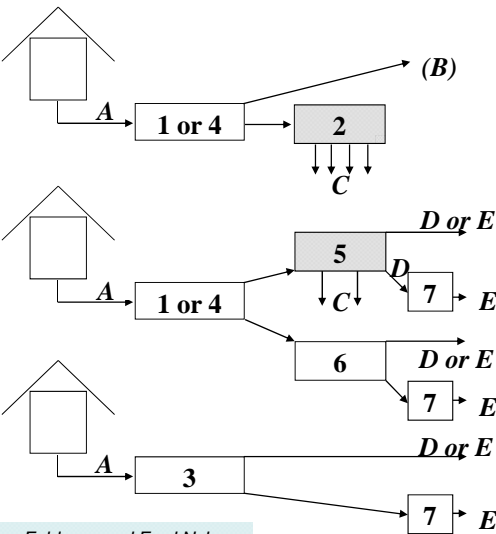
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### CEN TC 165 / WG 41

#### Small wastewater treatment systems < 50 PT Overview



2, 5

Code of Practice

1, 3, 4, 6, 7

Harmonized product standard

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**Small wastewater treatment systems < 50 PT**  
**CEN TC 165 WG 41**

Part 1: Prefabricated septic tanks  
EN 12566-1:2000/A1:2003

Part 2: Soil infiltration systems  
EN/TR 12566-2:2005

Part 3: Packaged and/or site assembled domestic wastewater treatment plants  
EN 12566-3:2005 (A1 approved 2008)  
(ce-marking at the latest July 2010)

Part 4: Septic tanks assembled in situ from prefabricated kits  
EN 12566-4:2007

Part 5: Pretreated effluent filtration systems  
EN/TR 12566-5:2007

Part 6: Prefabricated treatment units for septic tank effluent  
prEN 12566-6, finalisation beginning of 2010

Part 7: Prefabricated tertiary treatment units  
prEN 12566-7, enquiry answer 2009-11-25

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**CEN TC 165 / WG 41 Small wastewater treatment systems < 50 PT**


**Overview**

**Septic tank standards (1-50 PT)**  
**EN 12566-1** (2000 and 2003)  
**EN 12566-4** (2007)

**nominal size, NS = Total wet volume, m<sup>3</sup> (rounded down)**  
**starts with NS 2, each NS differs 1 m<sup>3</sup>**  
**sludge storage = 1/2 NS**

The standards are **harmonized** and a septic tank has to be **CE-marked** to be sold (in most EU-countries), therefore it shall be produced according to EN 12566-1 or EN 12566-4

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**Requirements (the same in both part 1 and part 4)**

- **Dimensions** (in- and outlet, DN 100 or 150)
- **Ventilation** (adequate)
- **Design basis** (PT, sludge storage, other)
- **Structural behaviour** (test in laboratory or calculation, no requirements)
- **Water tightness** (test, to the top of the tank)
- **Nominal capacity** (test)
- **Hydraulic efficiency** (test in laboratory, no requirements)
- **Design** (no surcharge or backflow, info 200 mm above and 300 mm under the water level, extension shafts 400 mm or 600 mm)
- **Access** (securely covered, desludging possible, in- and outlet for sampling)
- **Durability** (constructed from suitable materials)

**Part 4** septic tanks must also have a manual of how to assemble it in the field.

*Regulated characteristics for the ce-mark in red*

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**CE**

**FANN**

FANN VA-teknik AB, www.fann.se  
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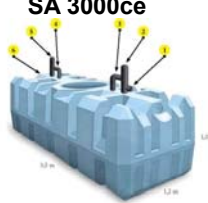
SS-EN 12566-1/A1:2004  
Avlopp - Reningsanläggning upp till 50 pe -  
Del 1: Fabriksstillverkade slamavskiljare  
Tredjepartskontroll: Sveriges Provnings- och Forskningsinstitut  
Byggproduktcertifikat: 0728  
SWEDCERT 1355

**Slamavskiljare (kl+BDT) SA 3000ce**

Nominell kapacitet: **NC 3 m<sup>3</sup>**  
Dygnsföde: **2 m<sup>3</sup>/dygn**  
Hydraulisk kapacitet: **Godkänd, 1,1 g partiklar** (medelvärde av 5 prov)  
Vattentätthet (vattentest): **Godkänd**  
Hållfasthet: **Godkänd, deformation 18,8 %**  
(1 m överfyllnad inkl. grundvatten)  
Beständighet / Material: **Godkänd / Polyetenplast (PE)**

FANN VA-teknik AB intygar att SA 3000ce har tillverkats enligt kraven i  
SS-EN 12566-1 / A1:2004.

**SA 3000ce**



1.0 m  
1.2 m  
1.0 m

1 - Inlopp  
2 - Utlopp / Ventilation  
3 - Inlopp  
4 - Utlopp / Ventilation  
5 - Inlopp  
6 - Utlopp

**CE**

SWEDCERT 1355

**FANN**

FANN VA-teknik AB  
www.fann.se  
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SS-EN 12566-1 / A1:2004  
Avlopp, reningsanläggning  
upp till 50 pe  
Small wastewater treatment system  
for up to 50 pt

**NC 3 m<sup>3</sup>**

NC 4 m<sup>3</sup> (SA 4000ce) är SA 3000ce och SA 900 med K-sas SA 4, 5, 6ce.  
NC 4 m<sup>3</sup> (SA 4000ce) är SA 3000ce och SA 900 med K-sas SA 4, 5, 6ce.  
NC 6 m<sup>3</sup> (SA 6000ce) är två SA 3000ce med K-sas SA 4, 5, 6ce.  
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Since 1982 Sweden has had standards for septic tanks, including testing of their hydraulic function. In Sweden the requirements are:

- All requirements in EN 12566-1 or -4 shall be fulfilled
- The result from the **hydraulic test** shall be max **5 g**.
- **(Structural behaviour: groundwater table at the top of the tank and the tank top at least 1,0 m under ground level)**
- **Level between in- and outlet  $\geq 100$  mm** fulfils non surcharge requirement
- All **initial type testing** must be documented by an **accredited laboratory**

Most requirements already came in 2001

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## Septic tanks in Denmark

- Up to 2000 Denmark had a mandatory approval
- From 2000 nobody controlled the tanks
- From 2005 all tanks should be CE-marked
- From 2011 there are new requirements in Danish legislation


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## Problems with septic tanks in Denmark

In Denmark many septic tanks have the pumping chamber inside the septic tank. It makes it very difficult to empty the tank

Only a few manufacturers have CE-marked their tanks, and there were no demands for strength and hydraulic capacity



Tryknedsivning



OPBYGNING AF TANK - tværsnit

- 600 mm rør med dæksel
- 45° topkegle
- Dykkerindløb
- Overløbskant
- Kuplet bund
- Muffe for udluftning
- Fordelerbrønd/pumpebrønd
- Nedsivningsrør
- Glasfiberflange for opretts-sikring

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## Problems with septic tanks in Denmark

- Many septic tanks are collapsing when the ground water is high
- The dividing walls are soft and so low, that floating sludge can pass over
- Many tanks can not be emptied because of bad construction or small extension shafts
- Nobody is controlling the tanks




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**From 2011 the requirements in Denmark are:**

- All requirements in EN 12566-1 shall be fulfilled
- The result from the hydraulic test shall be max 5 g.
- Extension shafts of min. 500 mm up to 6 m<sup>3</sup> and 780 mm for tanks over 6
- Structural behaviour: groundwater table at ground level and depth of outlet 1,5 meter under ground level
- Level between inlet and outlet 50-100 mm
- Dividing plates in the tank must be 200 mm above water level
- All requirements must be documented by a accredited laboratory

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***Thank you for your attention!***



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