

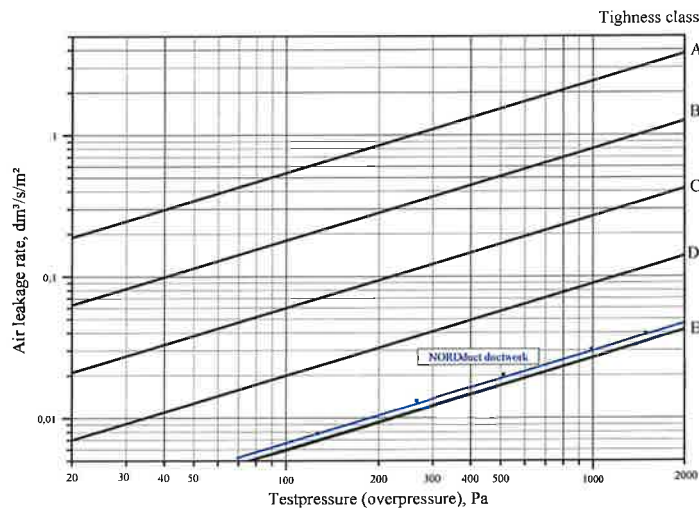
# PRODUCT CERTIFICATE

## ETS NORD AS

Produce

### ductwork for ventilation system NORDDuct

Ventilation system NORDDuct is intended to be used in ordinary ventilation systems in buildings and its tightness is defined according to the certification criteria *VTT SERT R022-04: ductwork for ventilation system*. The tightness (EN 12237) of ventilation system NORDDuct (the total surface area of the ductwork A is 10,9 m<sup>2</sup> and the total joint length L is 14,6 m) is as follows:



Ventilation system NORDDuct meets the certification criteria of the tightness class D both with over- and underpressure. The maximum operating pressure is +2000 Pa/-1000 Pa. Components of the certified ventilation system NORDDuct are listed in the Appendix of the certificate.

This certificate is valid until May 18, 2020 on the condition that the product is not essentially changed and the manufacturer and VTT Expert Services Ltd have a valid quality control contract. Inquiries regarding the validity of the certificate may be addressed to VTT Expert Services Ltd, [www.VTT-todistus.fi](http://www.VTT-todistus.fi). Other conditions are listed on the reverse side of the certificate.

Espoo, May 19, 2015

  
Lina Markelin-Rantala  
Product Manager



  
Matti Immonen  
Lead Auditor

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# PRODUCT CERTIFICATE

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Certificate No VTT-C-11355-15

For the certificate to be valid, the following provisions must be met:

Where reference is made in this certificate to any regulations, publications, standards or other documents, it shall be construed as a reference to such publication in the form of which it is in force at the date of this certificate.

The manufacturer is responsible for the quality and continuous quality control of the product. In granting this certificate, VTT Expert Services Ltd does not accept responsibility to any person or body for any loss or damage incurred in respect of personal injury arising as direct or indirect result of the use of this product.

The use of the name of VTT Expert Services Ltd or the name VTT Technical Research Centre of Finland Ltd in any other form in advertising or distribution in part of this certificate is only permissible with written authorisation from VTT Expert Services Ltd.



# PRODUCT CERTIFICATE

Appendix: VTT Expert Services Ltd product certificate VTT-C-11355-15

Manufacturers: ETS NORD AS, Tallinn Estonia and ETS NORD Finland, Tuusula  
Components of ventilation system NORDDuct:

| No | Item  | Product symbol | Dimension symbol | Standard dimension mm |
|----|---|----------------|------------------|-----------------------|
| 1  | Spiral duct ( <i>spiraalтору</i> )                            | NTO            | D-3              | 100...1250            |
| 2  | Spiral duct ( <i>spiraalтору</i> )                            | NTO            | D-6              | 100...1250            |
| 3  | Bend ( <i>põlv</i> )  | NV             | D-90             | 250...1250            |
| 4  | Bend ( <i>põlv</i> )  | NV             | D-45             | 250...1250            |
| 5  | Bend ( <i>põlv</i> )  | NV             | D-30             | 250...1250            |
| 6  | Coupling ( <i>siseliide</i> )                                 | NI             | D                | 100...1250            |
| 7  | Slide-in coupling ( <i>pikk siseliide</i> )                   | NIL            | D                | 100...1250            |
| 8  | Slide-in female coupling ( <i>pikk liide</i> )                | NILM           | D                | 100...400             |
| 9  | Female coupling ( <i>välisliide</i> )                         | NM             | D                | 100...1250            |
| 10 | Saddle ( <i>sadul</i> )                                       | NSK            | D                | 100...1250            |
| 11 | Saddle ( <i>sadul</i> )                                       | NSKM           | D                | 100...1250            |
| 12 | Saddle ( <i>sadul</i> )                                       | NPS            | D-d              | 100/100...630/315     |
| 13 | Saddle ( <i>sadul</i> )                                       | NPSv           | D-d              | 400/400...1250/1250   |
| 14 | Reducer concentric ( <i>üleminek tsentriline</i> )            | NFC            | D-d              | 125/100...315/250     |
| 15 | Reducer concentric ( <i>üleminek tsentriline</i> )            | NFCV           | D-d              | 250/100...1250/1000   |
| 16 | Reducer concentric ( <i>üleminek tsentriline toru/osa</i> )   | NFCM           | D-d              | 125/100...315/250     |
| 17 | Reducer concentric ( <i>üleminek tsentriline toru/osa</i> )   | NFCVM          | D-d              | 200/100...1250/1000   |
| 18 | Reducer eccentric ( <i>üleminek ekstsentriline</i> )          | NFB            | D-d              | 125/100...1250/1000   |
| 19 | Reducer eccentric ( <i>üleminek ekstsentriline toru/osa</i> ) | NFBM           | D-d              | 125/100...1250/1000   |
| 20 | T-piece ( <i>kolmik</i> )                                     | NTK            | D-d              | 100/100...630/315     |
| 21 | T-piece ( <i>kolmik</i> )                                     | NTKV           | D-d              | 400/400...1250/1250   |
| 22 | X-piece ( <i>nelik</i> )                                      | NXK            | D-d              | 100/100...630/315     |
| 23 | End cap ( <i>otsakork</i> )                                   | NAL            | D                | 100...1250            |
| 24 | End cap ( <i>otsakork</i> )                                   | NALM           | D                | 100...1250            |
| 25 | Cleaning cover ( <i>otsakork</i> )                            | NAL-H          | D                | 100...1250            |
| 26 | Cleaning cover ( <i>otsakork</i> )                            | NALM-H         | D                | 100...1250            |
| 27 | Bend, pressed ( <i>põlv, pressitud</i> )                      | NVP            | D-90             | 100...250             |
| 28 | Bend, pressed ( <i>põlv, pressitud</i> )                      | NVP            | D-45             | 100...250             |
| 29 | Bend, pressed ( <i>põlv, pressitud</i> )                      | NVP            | D-30             | 100...250             |
| 30 | Bend, pressed ( <i>põlv, pressitud</i> )                      | NVP            | D-15             | 100...250             |