

Application form for classification of vapour control layer systems DUKO – Vapour control layer and Sub roof classification scheme

This application form must be completed by manufacturers or suppliers, who require DUKO classification of a vapour control layer system.

Application forms are linked to DUKO's conditions for classification of vapour control layer systems:

Requirements for vapour control layer systems as per DUKO – vapour control layer and sub roof classification scheme [Krav til dampspærresystemer under DUKO – Dampspærre- og Undertagsklassifikationsordning], latest version, which can be downloaded from

<http://duko.dk/information-vapour-control-layer-systems>

One form must be completed for each vapour control layer system. If the vapour control layer system constitutes a product family from one manufacturer with membranes made from the same material but with different thickness, only one form need be completed for the whole product family.

The application form must be forwarded to the DUKO secretariat together with all necessary attachments, including installation instructions and product samples.

Attachments must be numbered and these numbers must be referenced in the application form.

Applicant Information

Company	Name	
	Address	
	Postal code and city	
	Phone no.	
	Email address for general inquiries	
	Web address (www)	
Contact person	Name	
	Email address	
	Phone direct	
	Mobile phone	

Quality Management System

Manufacturers requiring DUKO classification of vapour control layer systems must:

- either have a certified ISO 9001 quality management system (or equivalent) and submit copies of new quality management certificates to DUKO unsolicited upon certificate renewal,
- or submit an annual report unsolicited from a recognized third-party laboratory, prepared on the basis of the manufacturer's/manufacturers' own production control of the vapour control layer system products, for the properties requiring factory production control according to the relevant product standards,
- or submit annual test reports unsolicited from a recognized test laboratory of the properties of the vapour control layer system products requiring factory production control according to the relevant product standards.

Please attach the quality management documentation and specify attachment numbers in the table below:

	Attachment no.
Quality Management System	

System information

System name if applicable	
---------------------------	--

Product	Product name	Sample attachment no.	Data sheet attachment no.
Membrane 1			
Membrane 2			
Membrane 3			
Membrane 4			
Tape 1			
Tape 2			
Tape 3			
Adhesive 1			
Adhesive 2			
Adhesive 3			

Product	Product name	Sample attachment no.	Data sheet attachment no.
Primer 1			
Primer 2			
Collar 1			
Collar 2			
Collar 3			
Collar 4			
Collar 5			
Collar 6			
Accessory 1	(name and type):		
Accessory 2	(name and type):		
Accessory 3	(name and type):		
Accessory 4	(name and type):		
Accessory 5	(name and type):		
Accessory 6	(name and type):		
Accessory 7	(name and type):		

Airtightness

The potential airtightness of the vapour control layer system is evaluated by fitting it on a mock-up and then measure the airtightness in accordance with the "DUKO tightness test on mock-up, 2013".

DUKO classifies the airtightness as the poorer of airtightness values measured on the mock-up immediately after fitting and 7 days after, respectively.

Please specify the attachment no. for the copy of the test report and test results for airtightness in the table below.

	Test method	Unit	Result	Documented in attachment no.
Airtightness measured on mock-up immediately after fitting	DUKO tightness test on mock-up, 2013	l/s m ² floor area at pressure difference of 50 Pa		
Airtightness measured on mock-up 7 days after fitting	DUKO tightness test on mock-up, 2013	l/s m ² floor area at pressure difference of 50 Pa		

Membranes

Membrane type	<input type="checkbox"/> Vapour control layer (Z-value at least 50 GPa s m ² /kg)
	<input type="checkbox"/> Vapour retarder (Z-value max. 50 GPa s m ² /kg)
	<input type="checkbox"/> Moisture adaptive membrane

Membrane 1 Product name			
Description of materials and structure			
Thickness [mm]			
Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number No.
	Value	Value	Documented in attachment no.
Tensile strength	Longitudinal direction [N/50 mm]	Transverse direction [N/50 mm]	
Elongation	Longitudinal direction [%]	Transverse direction [%]	
Resistance to tear	Longitudinal direction [N]	Transverse direction [N]	
Resistance to impact [mm]			
Flexibility at low temperature (only for bitumen vapour control layers) [°C]			
Area mass [g/m ²]			
Water vapour resistance [GPa s m ² /kg]			
Watertightness [passed/failed]			
Temperature range [°C]			
Resistance to alkali (only for vapour control layers specified as resistant to alkali) [passed/not resistant to alkali]			
Reaction to fire acc. to EN 13501-1 [Euroclass]			
Does membrane contain reclaimed material? If yes, specify type and describe in attachment.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Type:	
Compatibility in relation to other materials (supplier information). Please indicate the materials with which the membrane is not chemically compatible.			

Membrane 2 Product name				
Description of materials and structure				
Thickness [mm]				
Identification (specify type, print no.)		<input type="checkbox"/> DB-no. <input type="checkbox"/> GTIN <input type="checkbox"/> Item number No.		
		Value	Value	Documented in attachment no.
Tensile strength	Longitudinal direction [N/50 mm]		Transverse direction [N/50 mm]	
Elongation	Longitudinal direction [%]		Transverse direction [%]	
Resistance to tear	Longitudinal direction [N]		Transverse direction [N]	
Resistance to impact [mm]				
Flexibility at low temperature (only for bitumen vapour control layers) [°C]				
Area mass [g/m ²]				
Water vapour resistance [GPa s m ² /kg]				
Watertightness [passed/failed]				
Temperature range [°C]				
Resistance to alkali (only for vapour control layers specified as resistant to alkali) [passed/not resistant to alkali]				
Reaction to fire acc. to EN 13501-1 [Euroclass]				
Does membrane contain reclaimed material? If yes, specify type and describe in attachment.		<input type="checkbox"/> Yes <input type="checkbox"/> No		Type:
Compatibility in relation to other materials (supplier information). Please indicate the materials with which the membrane is not chemically compatible.				

Membrane 3 Product name				
Description of materials and structure				
Thickness [mm]				
Identification (specify type, print no.)		<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number No.
		Value	Value	Documented in attachment no.
Tensile strength	Longitudinal direction [N/50 mm]		Transverse direction [N/50 mm]	
Elongation	Longitudinal direction [%]		Transverse direction [%]	
Resistance to tear	Longitudinal direction [N]		Transverse direction [N]	
Resistance to impact [mm]				
Flexibility at low temperature (only for bitumen vapour control layers) [°C]				
Area mass [g/m ²]				
Water vapour resistance [GPa s m ² /kg]				
Watertightness [passed/failed]				
Temperature range [°C]				
Resistance to alkali (only for vapour control layers specified as resistant to alkali) [passed/not resistant to alkali]				
Reaction to fire acc. to EN 13501-1 [Euroclass]				
Does membrane contain reclaimed material? If yes, specify type and describe in attachment.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type:
Compatibility in relation to other materials (supplier information). Please indicate the materials with which the membrane is not chemically compatible.				

Adhesives

Tape 1	Product name			
	Width [mm]			
	Type	<input type="checkbox"/> Rigid	<input type="checkbox"/> Flexible	<input type="checkbox"/> Single-sided <input type="checkbox"/> Double-sided
	Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number No.
Tape 2	Product name			
	Width [mm]			
	Type	<input type="checkbox"/> Rigid	<input type="checkbox"/> Flexible	<input type="checkbox"/> Single-sided <input type="checkbox"/> Double-sided
	Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number No.
Tape 3	Product name			
	Width [mm]			
	Type	<input type="checkbox"/> Rigid	<input type="checkbox"/> Flexible	<input type="checkbox"/> Single-sided <input type="checkbox"/> Double-sided
	Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number No.
Adhesive 1	Product name			
	Type (describe in words)			
	Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number No.
Adhesive 2	Product name			
	Type (describe in words)			
	Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number No.
Adhesive 3	Product name			
	Width [mm]			
	Type			
	Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number No.

Primer 1	Product name				
	Type (describe in words)				
	Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number	No.
Primer 2	Product name				
	Type (describe in words)				
	Identification (specify type, print no.)	<input type="checkbox"/> DB-no.	<input type="checkbox"/> GTIN	<input type="checkbox"/> Item number	No.

Strength of adhered joints

Strength of joints adhered with tape

Evidence should only be presented for the types of joints mentioned in the installation instructions.

	Combination	Test method	Unit	Test result	Documented in attachment no.
Peel strength Fresh	membrane + membrane membrane + light concrete membrane + accessory ¹	EN 12316-1/EN 12316-2, 180° peel strength, 10 mm/min	N/50 mm		
Shear strength Fresh	membrane + membrane	EN 12317-1/ EN 12317-2, 10 mm/min	N/50 mm		
Shear strength after ageing by method 1 or 2	membrane + membrane	EN 12317-1/EN 12317-2 after ageing, 10 mm/min.	N/50 mm		

¹The peel strength between membrane and accessory need only be determined when the accessory is provided with adhesive. If different types of adhesive are used for the various accessory parts, documentation for the peel strength must be available for each type. The lowest peel strength will be stated in the DUKO product data sheets.

Strength of joints adhered with adhesive

Evidence should only be presented for the types of joints mentioned in the installation instructions.

	Combination	Test method	Unit	Test result	Documented in attachment no.
Peel strength fresh	membrane + membrane membrane + light concrete membrane + accessory ¹	EN 12316-1/ EN 12316-2, 180° peel strength, 10 mm/min	N/50 mm		
Shear strength Fresh	membrane + membrane	EN 12317-1/ EN 12317-2, 10 mm/min	N/50 mm		
Shear strength after ageing by method 1 or 2	membrane + membrane	EN 12317-1/ EN 12317-2, 10 mm/min	N/50 mm		

¹The peel strength between membrane and accessory need only be determined when the accessory is provided with adhesive. If different types of adhesive are used for the various accessory parts, documentation for the peel strength must be available for each type. The lowest peel strength will be stated in the DUKO product data sheets.

Buildability

Please specify the attachment no. in the table below for the documentation for the specified parameters used in the assessment of buildability.

Subject	Component	Parameter	Assessment	Mandatory	Documented in attachment no.
Identification	Membrane	Product name printed on membrane	Yes/No		
		Product name printed on packaging	Yes/No	Yes	
		Production code or production date printed on packaging or membrane	Yes/No		
	Tape	Product name printed on tape	Yes/No		
		Product name printed on packaging	Yes/No	Yes	
		Use-by date printed on packaging or tape	Yes/No	Yes	
	Other adhesives	Product name printed on packaging	Yes/No	Yes	
		Use-by date printed on packaging	Yes/No	Yes	
	Other accessories	Product name printed on accessories	Yes/No		
		Product name printed on packaging	Yes/No	Yes	
		Use-by date printed on packaging or accessories ²	Yes/No	Yes	
Storage conditions	Membrane	Visible indication on outer side of packaging	Yes/No	Yes	
		Specified in installation instructions	Yes/No		
	Adhesives	Visible indication on outer side of packaging	Yes/No	Yes	
		Specified in installation instructions	Yes/No		
	Other accessories	Visible indication on outer side of packaging	Yes/No	Yes	
		Specified in installation instructions	Yes/No		
Installation	Membrane	Vanishing lines printed	Yes/No		
	Adhesive ¹	Does system include adhesive	Yes/No		
	Primer ¹	Does system include primer	Yes/No		
	Single-sided tape ¹	Does system include flexible tape	Yes/No		
		Does system include rigid tape	Yes/No		
		Width greater than or equal to 50 mm	Yes/No	Yes	
		Width greater than or equal to 70 mm	Yes/No		
		Contrasting colour or pattern to system membrane	Yes/No		
	Double-sided tape ¹	Does system include double-sided tape	Yes/No		

¹ omitted from the buildability assessment, if the component is not included in the system.

² omitted from the buildability assessment, if the accessory does not include adhesive.

Detail drawings

Construction details must be described in the installation instructions. Please specify the attachment no. for the installation instructions in the table below:

	Attachment no.
Installation instructions	

The table below specifies the page no. in the installation instructions on which the mentioned construction details are described by a drawing and a short text.

Construction detail	Page in installation instructions	
Fixing of membrane to substrate (recommended done as per SBi 224, Figure 41)		
Joint between	interior wall and lightweight ceiling – connect against wall	
	interior wall and ceiling – connection/joint above wall	
	heavy back wall and lightweight ceiling	
	lightweight outer wall and lightweight ceiling	
	lightweight outer wall and heavy ceiling	
	beamed rafters and ridge beam	
	sloping wall and collar tie	
	knee wall/joisting and underlying ceiling	
	lightweight outer wall and slab on grade	
	roof element and walls – telescopic joint	
Joined at	inward corner – with prefab corner ¹	
	inward corner – without prefab corner	
	outward corner – with prefab corner ¹	
	outward corner – without prefab corner	
Installation of	window in lightweight outer wall	
	skylight in sloping wall	
	ceiling trapdoor in lightweight ceiling	
	electric outlet and cabling in lightweight outer wall	
	spot in ceiling	
Installation of	steel chimney in ceiling structure ²	
	duct in ceiling structure	
	cables and pipes in lightweight structural part	

Classification renewal



Classifications must be renewed after 5 years by submission of a renewed application for classification. The necessary tests must be repeated.

Tests after 5 years may be replaced by tests after 10 years, if chemical fingerprint analysis (FTIR) after 5 years can demonstrate that membrane, tape and adhesive are unchanged. Please specify the attachment no. for the FTIR analysis document.

	Documented in attachment no.
FTIR analysis	

Labelling of restrictions on use

Membranes in vapour control layer systems classified by DUKO must carry a label, which is clear, readable, visible from the outside of the packaging and designed as indicated in the example below.

 <p>Vapour control layer – Z-value ≥ 50</p>	<p>DUKO Airtightness x DUKO Buildability y DUKO Peel strength v DUKO Shear strength w</p>
<p><i>Restrictions on use:</i></p> <ul style="list-style-type: none"> • Z-value in bathrooms should be at least 100 GPa s m²/kg • Cannot be used in unvented structures <p><i>Other product-specific restrictions on use:</i> See duko.dk/produktadresse (if applicable use QR-code) and installation instructions</p> 	

The label must list known restrictions on use for the vapour control layer system. Please note that the restrictions on use listed in the example above are imagined.

Please specify known restrictions on use for the vapour control layer system in the table below. The table may be supplemented with attachments.

Known restrictions on use for the vapour control layer system	
Attachment no. of any supplemental attachment.	