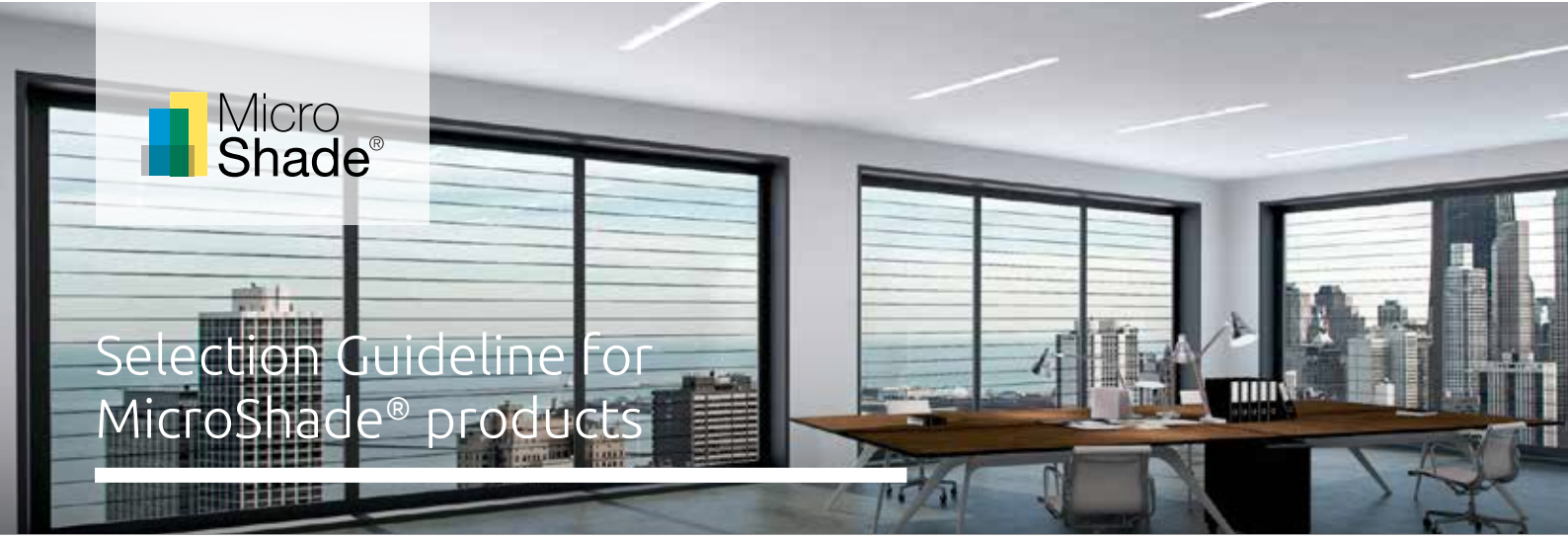


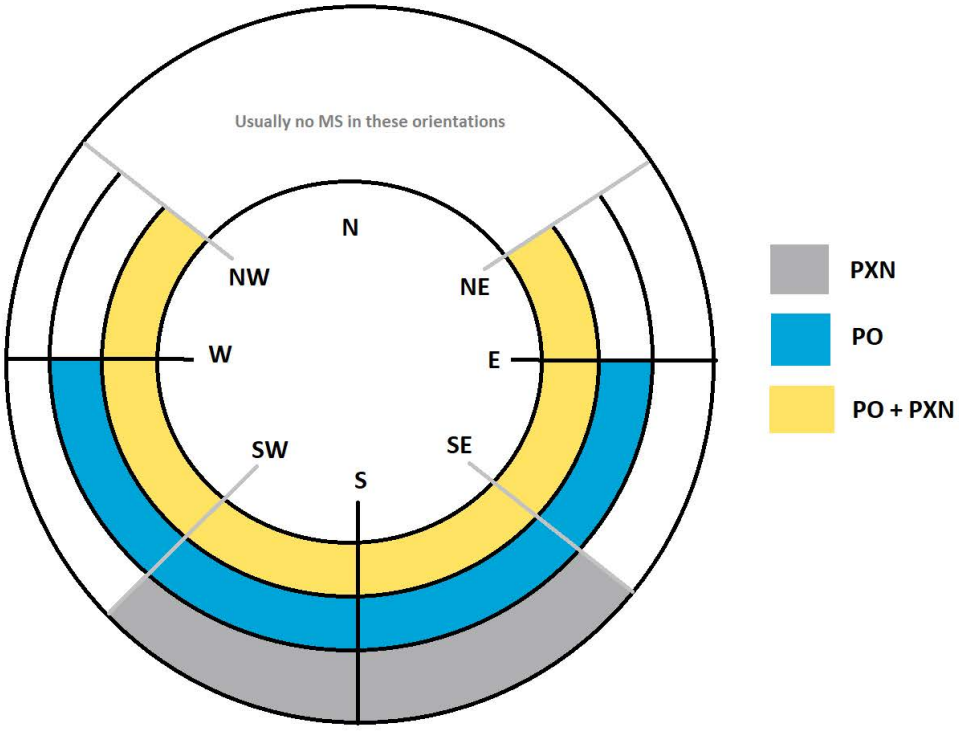
Selection Guideline for MicroShade® products

Scandinavia – façade applications

MicroShade® is a highly effective shading product containing microscopic shading lamellas. The shading efficiency depends on the incidence angle of the sun on the lamellas. When the sun is high in the sky during the summer, MicroShade® provides the strongest shading and during winter when the sun is low more heat is allowed into the building. Similarly, the shading efficiency also varies during the course of the day due to the different positions of the sun morning, noon and evening.

For façade applications MicroShade® is commonly combined with either a low energy coating or an extra low energy coating. An extra low energy coating provides a stronger shading, whilst a low energy coating allows more daylight inside.

The obtained shading is best expressed using the effective solar heat gain coefficient, named g-value – and with a MicroShade® glazing, this value depends on the orientation of the façade. The figure below shows which type of coating a MicroShade® product should be combined with at given façade directions.



[1] Façade application means glazing mounted in a near vertical position.

Key performance data for 3-layer glazing with MicroShade®

The tables below indicate the light transmittance $L_{T,o}$ and the mean effective g-value in the summer period (June to end of August) for three layer MicroShade® glazing.

MS-F 60/14 with two low-e coatings[1]	U-value (W/m²K)	$L_{T,o}$	Effective g-value, summer period (June to end of August)						
Orientation			315° NW	270° W	225° SW	180° S	135° SE	90° E	45° NE
Tromsø	0.72	0.44	-	-	0,17	0,16	0,18	-	-
Trondheim			-	-	0,17	0,15	0,17	-	-
Oslo			-	-	0,16	0,14	0,17	-	-
Stockholm			-	-	0,17	0,14	0,17	-	-
Copenhagen			-	-	0,16	0,13	0,16	-	-

MS-F 60/14 with two extra low-e coatings[2]	U-value (W/m²K)	$L_{T,o}$	Effective g-value, summer period (June to end of August)						
Orientation			315° NW	270° W	225° SW	180° S	135° SE	90° E	45° NE
Tromsø	0.72	0.38	-	0,15	0,13	0,12	0,14	0,15	-
Trondheim			-	0,16	0,13	0,11	0,13	0,16	-
Oslo			-	0,19	0,13	0,11	0,13	0,15	-
Stockholm			-	0,14	0,15	0,10	0,13	0,15	-
Copenhagen			-	0,15	0,12	0,10	0,12	0,15	-

MS-F 60/14 with an extra low-e and a low-e coating[3]	U-value (W/m²K)	$L_{T,o}$	Effective g-value, summer period (June to end of August)						
Orientation			315° NW	270° W	225° SW	180° S	135° SE	90° E	45° NE
Tromsø	0.72	0.38	0,17	0,17	0,15	0,14	0,16	0,17	0,16
Trondheim			0,16	0,17	0,15	0,13	0,15	0,17	0,16
Oslo			0,16	0,17	0,14	0,12	0,14	0,17	0,15
Stockholm			0,16	0,17	0,14	0,12	0,14	0,17	0,16
Copenhagen			0,15	0,16	0,14	0,11	0,14	0,16	0,15

1) 6 mm Heat tempered float + MS-F 60/14 – 14 mm argon – 6 mm lowE – 14 mm argon – 6 mm lowE
2) 6 mm Heat tempered float + MS-F 60/14 - 14 mm argon - 6 mm extra lowE - 14 mm argon - 6mm extra lowE
3) 6 mm Heat tempered float + MS-F 60/14 - 14 mm argon - 6 mm extra lowE - 14 mm argon - 6mm lowE

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