# **FAKRO**®



# WOODEN FOLDING SECTION LOFT LADDERS



The **LWS Smart** is a 3 o 4 section folding wooden loft ladder with insulated beige hatch which can be veneered or painted to match the interior character. Innovative solutions used in the construction of the LWS Smart ensure high comfort of use and quick and easy installation in the ceiling.





**LWK Komfort** loft ladder has all the advantages of the new LWS Smart and is additionally equipped with a white insulating hatch, handrail and stile ends.





The **LWZ** is a 3-section folding wooden ladder with an insulated hatch. The wooden ladder box includes a steel frame, finishing linings slats and a quick installation system. This simplifies installation and reduces the time to fit the ladder in the ceiling.





system of quick installation in the ceiling





The **LWL Lux** folding 3-section loft ladder has been equipped with two handrails for greater safety and user comfort. It has a special supporting mechanism for folding and unfolding the ladder



unloading mechanism



The **LTK Thermo** folding 3 section loft ladder is a highly insulated (**U=0.76 W/m³K**) ladder intended for buildings with significant temperature differences between the living areas and non-habitable spaces in the loft. The ladder features the highest rating of air tightness - Class 4.





The **LWT** loft ladder is a highly insulated (**U=0.51W/m²K**) ladder intended for energy efficient buildings where great emphasis is placed on minimizing heat loss. The ladder features the highest rating of air tightness - Class 4.







# NEW U=0.6 W/m²k LWF Satisfy the requirements of EN 14975

The **LWF**, a new generation of fire resistant ladder which combines a high level of fire protection with comfortable and safe access to the loft. The LWF fire resistance class  $EI_1 / EI_2 = 45$  min (according to EN 13501-2).

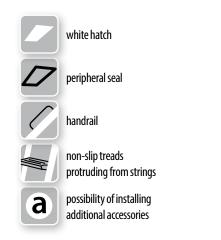


 $<sup>\</sup>hbox{**} \ manufacturer's \ internal\ calculations$ 

# SLIDING SECTION LOFT LADDER



The **LDK** loft ladder is a double-section loft ladder with a slidable lower section. This makes it possible to eliminate the swing space required on the landing for unfolding the ladder.





The **LMS** loft ladder is a 3-section metal ladder with the insulated hatch and ladder box made of pine.









# **FOLDING METAL SECTION LOFT LADDERS**



The **LMK** unlike the LMS ladder has a white hatch and handrail for easier movement on the ladder.



The **LML** loft ladder with metal folding 3-section ladder is designed to ensure the highest comfort of use. The ladder installation process is simplified by easy adjustment of ladder's length to the ceiling height.



The **LMF** 3-section loft ladder complies with fire-resistant standards, whilst providing safe and comfortable access to the loft spaces. The LMF ladder prevents smoke and fire from spreading to the upper or lower fire free storey for 120 minutes. (El<sub>2</sub>= 120 min, classification according to EN 13501-2).



stile ends



white hatch



peripheral seal



handrail



non-slip treads



possibility of installing additional accessories



telescopic stile ends



white hatch



finishing lining slats



peripheral seal



ladder unloading mechanism, built in handrail



non-slip treads



possibility of installing additional accessories



system of quick installation in the ceiling



telescopic stile ends



fire-resistant hatch



finishing lining slats



peripheral seal



ladder unloading mechanism, built in handrail



non-slip treads



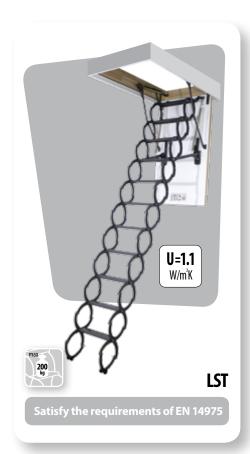
possibility of installing additional accessories



system of quick installation in the ceiling

<sup>\*</sup> manufacturer's internal calculations

# SCISSOR LOFT LADDERS



The **LST** scissors loft ladder is complete with white insulated hatch, wooden ladder box, metal finishing lining and quick-installation brackets. The scissors ladder construction takes less space allowing the ladder to be installed in smaller openings (the smallest ladder size is 51 x 80cm).



The **LSZ** unlike the LST ladder has a steel frame integrated within the ladder box, metal finishing slats and quick installation brackets that allow for even faster mounting in the ceiling.



The **LSF fire-resistant** loft ladder acts as a smoke block inside the building preventing the smoke from passing to a smoke free storey. The loft ladder fireresistance is El<sub>2</sub>= 60 minutes (classification according to EN 13501-2).



white hatch



finishing lining slats



peripheral seal



non-slip treads



possibility of installing additional accessories



possibility of installing additionl accessories



system of guick installation in the ceiling



system of adopting the ladder length to the ceiling height



white hatch



finishing lining slats



peripheral seal



non-slip treads



possibility of adding or detaching segments



possibility of installing additionl accessories



system of quick installation in the ceiling



system of adopting the ladder length to the ceiling height



fire-resistant hatch



finishing lining slats



non-slip treads



possibility of adding or detaching segments



system of quick installation in the ceiling



system of adopting the ladder length to the ceiling height

\* manufacturer's internal calculations

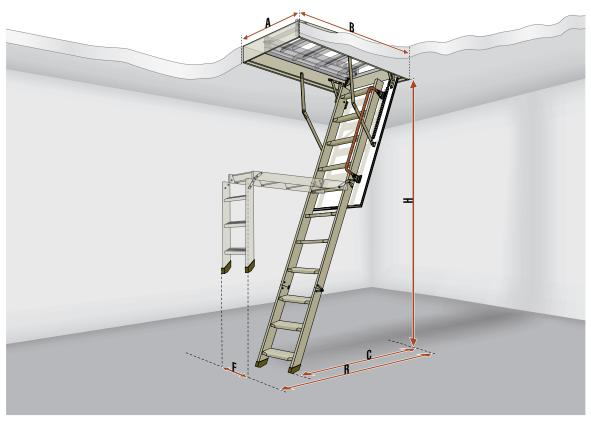




# NON-STANDARD LWS and LWK LADDER SIZES

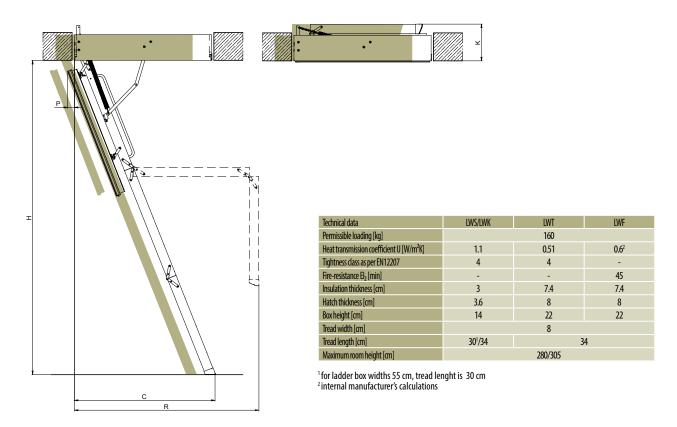
When ordering LWS and LWK in non-standard sizes, the real dimensions of the ceiling opening will have to be provided ("A" and "B") and a room height "H". The actual size of the loft ladders ("W" and "L") will be reduced by the assembly clearance, 2cm in width and 1.6cm in length; for example, for the ceiling opening 52x94cm the provided ladders will have dimensions 50x92.4cm. When ordering the ladder, the space occupied by the ladder while unfolding (swing space "R") and after ladder unfolding (distance "C") should also be taken into account.

The loft ladder box height is 14cm. In case of thicker ceilings, for aesthetic looks of the ceiling opening above the ladder box, the box extension LXN is advised to be installed (see accessories loft ladders).



Ceiling opening width (box width) [cm]	Ceiling opening length (box length) [cm]	Room height [cm]	Swing space [cm]	Distance after lad- der unfolding [cm]	Number of segments	The width of the ladder section [cm]
A (W)	B (L)	Н	R	C		F
	94 – 140 (92.4 – 138.4)	254 – 280	139	109 – 119	4	
	113 – 140 (111.4 – 138.4)	232-280	164	104-122	3	
52-82	115 – 140 (113.4 – 138.4)	209 – 248	150	97 – 111	3	34- for the ladder with box width ≤ 54cm
(50 – 80)	112 – 140 (110.4 – 138.4)	272 – 303	150	118 – 128	4	38- for the ladder with box width ≥ 55cm
	120 – 140 (118.4 – 138.4)	290 – 325	162	126 – 139	4	
	130 – 140 (128.4 – 138.4)	243 – 305	180	109 – 132	3	

# WOODEN FOLDING SECTION LOFT LADDERS DIAGRAM – LWS, LWK, LWT, LWF



#### Ladder LWS Smart/ LWK Komfort

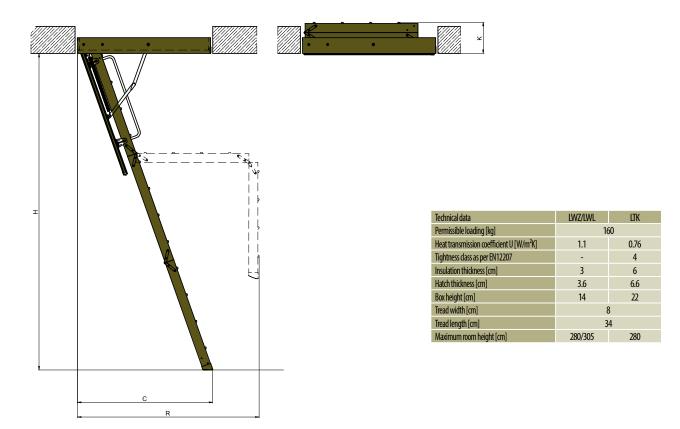
Eduaci Erro Sinar y Errit Homitor	•															
Ceiling opening dimension [cm]	55x111	60x94	60x100	60x111	60x120	60x130	70x94	70x100	70x111	70x120	70x130	70x140	60x130	60x140	70x130	70x140
Box external dimension [cm]	53x109.4	58x92.4	58x98.4	58x109.4	58x118.4	58x128.4	68x92.4	68x98.4	68x109.4	68x118.4	68x128.4	68x138.4	58x128.4	58x138.4	68x128.4	68x138.4
Room height H [cm]						28	30							30	05	
Number of ladder sections [units]	3	4	4		3		2	ļ					3			
Swing space R [cm]	153	12	28	153	1.	56	12	28	153		156			1.	75	
Distance after ladder unfolding C [cm]	113	1	14	113	1.	20	11	14	113		120			1.	35	
Folded ladder height K [cm]	27	3	5		27		3	5				2	27			
Hatch retraction after opening,,P"[cm]									4							
Order processing time [working days]	15	15	15	8	8	8	15	15	15	8	8	15	15	15	15	15

#### Ladder LWT

60x120	70x120	70x130	70x140	60x130	70x130	70x140		
58x118.4	68x118.4	68x128.4	68x138.4	58x128.4	68x128.4	68x138.4		
	28	30			305			
	10	50			175			
	1.	27			135			
			33					
	6.5							
			20					
		58x118.4 68x118.4 20 10		58x118.4 68x118.4 68x128.4 68x138.4 280 160 127 33 6.5	58x118.4 68x118.4 68x128.4 68x138.4 58x128.4 280 160 127 33 6.5	58x118.4         68x118.4         68x128.4         68x138.4         58x128.4         68x128.4           305           160         175           127         135           33         65		

Ladder LWF									NE
Ceiling opening dimension [cm]	60x120	70x120	70x130	70x140	86x130	70x130	70x140	86x130	IAIL
Box external dimension [cm]	58x118.4	68x118.4	68x128.4	68x138.4	84x128.4	68x128.4	68x138.4	84x128.4	
Room height H [cm]			280				305		
Swing space R [cm]	17	72		177			194		
Distance after ladder unfolding C [cm]	14	40		152			163		
Folded ladder height K [cm]				3	5				
Hatch retraction after opening "P" [cm]				4	1				
Order processing time [working days]				2	0				

# **WODDEN FOLDING SECTION** LOFT LADDER DIAGRAM - LWZ, LWL, LTK



#### Ladder LTK

Ceiling opening dimension [cm]	60x120	70x120	70x130	70x140
Box external dimension [cm]	58x118.4	68x118.4	68x128.4	68x138.4
Room height H [cm]		28	30	
Swing space R [cm]		10	67	
Distance after ladder unfolding C [cm]		1.	21	
Folded ladder height K [cm]		3	7	
Order processing time [working days]		1	5	

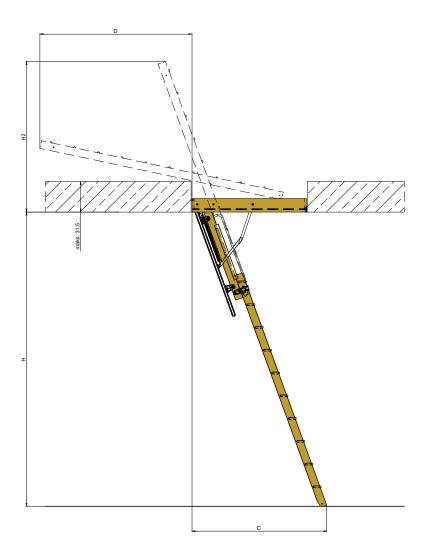
## Ladder LWZ

Ceiling opening dimension [cm]	60x120	70x120	70x130	70x140	60x130	70x130	70x140		
Box external dimension [cm]	58.8x118.8	68.8x118.8	68.8x128.8	68.8x138.8	8 58.8x128.8 68.8x128.8 68.8x				
Room height H [cm]		28	30		305				
Swing space R [cm]		10	52		179				
Distance after ladder unfolding C [cm]		1.	21		130				
Folded ladder height K [cm]				34					
Order processing time [working days]									

#### Ladder LWL

Ceiling opening dimension [cm]	60x120	70x120	70x130	70x140	60x130	70x130	70x140			
Box external dimension [cm]	58x118	68x118	68x128	68x138	58x128	68x128	68x138			
Room height H [cm]		28	30			305				
Swing space R [cm]		16	54		179					
Distance after ladder unfolding C [cm]		12	22		130					
Folded ladder height K [cm]										
Order processing time [working days]	15									

# SLIDING SECTION LOFT LADDERS DIAGRAM – LDK



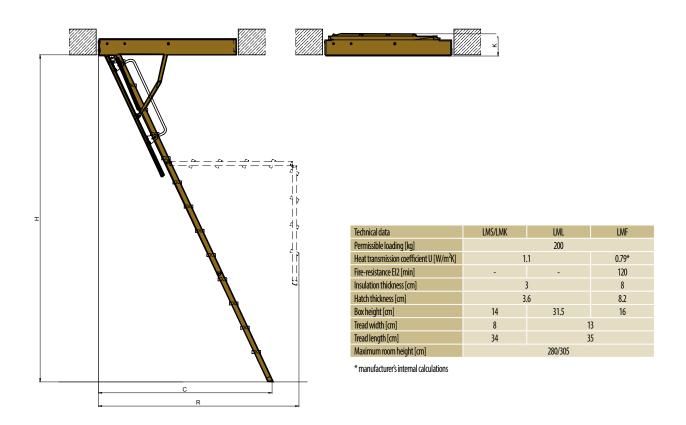
Technical data	LDK
Permissible loading [kg]	160
Heat transmission coefficient U [W/m²K]	1.1
Insulation thickness [cm]	3
Hatch thickness [cm]	3.6
Box height [cm]	14
Tread width [cm]	8
Tread length [cm]	34
Maximum room height [cm]	280/300/335

#### Ladder LDK\*

LUUUCI LDN													
Ceiling opening dimension [cm]	60x120	70x120	70x130	70x140	60x120	70x120	70x130	70x140	60x120	70x120	70x130	70x140	
Box external dimension [cm]	58x118.4	58x118.4 68x118.4 68x128.4 68x138.4 5				68x118.4	68x128.4	68x138.4	58x118.4	68x118.4	68x128.4	68x138.4	
Room hight H [cm]		2	80			30	00		335				
Sliding section LDS		LDS	i_9			LDS	-10		LDS – 11				
Distance of drop C [cm]		1.	30			14	40		150				
Max height of the loft required with hatch H2 [cm]		1	30			15	55		184				
Max length of the loft required with hatch door closed D [cm]		1.	29			15	55		185				
Max thickness of the ceiling [cm]					31.5								
Order processing time [working days]					15								

 $<sup>\</sup>hbox{$^*$The LDK complete ladder consists of the top element and sliding section LDS, packed separately.}$ 

# FOLDING METAL SECTION LOFT LADDERS DIAGRAM – LMS/LMK, LML, LMF



#### Ladder LMS/LMK

Ceiling opening dimension [cm]	60x120	70x120	70x130	70x140	60x130	70x130	70x140		
Box external dimension [cm]	58x118.4	68x118.4	68x128.4	68x138.4	58x 128.4	68x128.4	68x138.4		
Room height H [cm]		2	80			305			
Swing space R [cm]		1	57		175				
Distance after ladder unfolding C [cm]		11	8.5			127			
Folded ladder height K [cm]				25.5					
Order processing time [working days]				20					

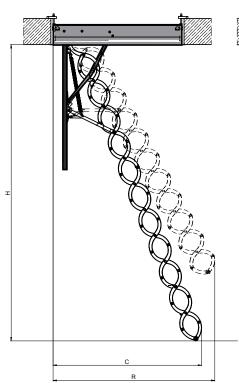
#### Ladder LML

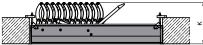
Ceiling opening dimension [cm]	60x120	70x120	70x130	70x140	60x130	70x130	70x140			
Box external dimension [cm]	59.6x118.6	68.6x118.6	68.6x128.6	68.6x138.6	59.6x128.6	68.6x128.6	68.6x138.6			
Room height H [cm]		2	80		305					
Swing space R [cm]		10	65		176					
Distance after ladder unfolding C [cm]		1.	20			130				
Folded ladder height K [cm]				31.5						
Order processing time [working days]		20								

#### Ladder LMF

Ceiling opening dimension [cm]	60x120	70x120	70x130	70x140	86x130	70x130	70x140	86x130
Box external dimension [cm]	59x118	68x118	68x128	68x138	84x128	68x128	68x138	84x128
Room height H [cm]			280				305	
Swing space R [cm]			165				176	
Distance after ladder unfolding C [cm]			120				130	
Folded ladder height K [cm]				3	4			
Order processing time [working days]				2	0			

# **SCISSORS LOFT LADDERS**





Technical data	LST	LSZ	LSF
Permissible loading [kg]		20	00
Heat transmission coefficient U [W/m²K]	1	.1	1.8*
Fire-resistance EI2 [min]		-	60
Insulation thickness [cm]			3
Hatch thickness [cm]	3	.6	5.4
Box height [cm]	18		14
Tread width [cm]		:	В
Tread length [cm]	30cm -for lado	ler witdth 51cm Ier witdth 60cm Ier witdth 70cm	30cm -for ladder witdth 50cm 32cm -for ladder witdth 60cm 40cm -for ladder witdth 70cm
Max room height after adding 1 step / 2 steps [cm]	300	/330	320

<sup>\*</sup> manufacturer's internal calculations

Ladder LST/LSZ	LST/LSZ	LST	LST	LST/LSZ	LST/LSZ
Ceiling opening dimension [cm]	51x80	60x90	60x120	70x80	70x120
Box external dimension [cm]	51x79.4	59x89.4	59x119.4	69x79.4	69x119.4
Room height H for standard ladder length [cm]			250-280		
Swing space R [cm]			150		
Distance after ladder unfolding C [cm]			146-134		
Folded ladder height K [cm]			38.2		
Order processing time [working days]			15		

Standard lac -1 tre		Standard la +1 to	Standard ladder lenght +2 treads*					
230	240	290	300	310	320	330		
14	0	16	60	170				
135-	131	150-	-145	160	156	150		

tread	LSS-26	LSS-31	LSS-38
ladder width LST/LSZ [cm]	51	60	70

#### Ladder LSF

50x70	60x90	60x120	70x80	70x90	70x110	70x120
49x68.5	59x88.5	59x118.5	69x78.5	69x88.5	69x108.5	69x118.5
			280-300			
			175-185			
			145-120			
			46			
			15			
				49x68.5 59x88.5 59x118.5 69x78.5 280-300 175-185 145-120 46	49x68.5 59x88.5 59x118.5 69x78.5 69x88.5 280-300 175-185 145-120 46	49x68.5 59x88.5 59x118.5 69x78.5 69x88.5 69x108.5 280-300 175-185 145-120 46

standard ladder length —2 tread	standard ladder - 1 tread	length	standard ladder leng + 1 tread*				
240-250	260-270			310-3	320		
165-160	165-170			200-2	210		
100-135	140-165			130-1	140		
	46						
tread		LSS-3	0	LSS-32	LSS-40		
ladder width I SF (cn	nl	50		60	70		

 $<sup>\</sup>hbox{$^*$while ordering LSS tread-the ladder commercial size and type has to be provided}\\$ 

## **LOFT LADDERS OPTIONAL ACCESSORIES**



# Loft balustrade LXB-U

The loft balustrade protects the ceiling opening in the attic and makes it easier and safer to descend the ladder. The LXB-U is installed directly to the loft floor and can be applied to all types of loft ladders without cutting of slats.

	LXB-U
Dimensions [cm]	86x140
Balustrade height	110
Order processing time [working days]	8

Note: LXB-U available for all types of loft ladders.



# **Finishing lining slats LXL**

The finishing lining is designed to finish the installation of the loft ladder and to cover any gaps in the ceiling which remain after the fitting process. The lining elements are made form solid pine wood in natural colour (LXL-P) and white (LXL-W) or in white PVC (LXL-PVC). For the PVC lining slat, the fixing with the ladder box does not require nails.

	LXL-P/-W	LXL-PVC
Dimensions [cm]	70x140*	60/70x120 and 86x140*
Slats thickness after installation [cm]	1	1
Slats width [cm]	3,5	3,3
Order processing time [working days]	8	

Note: LXL-P/-W are available for ladders LWS, LWK, LTK, LWT, LWF, LDK, LMS, LMK Note: LXL-PVC are available in white\*\* for LWS, LWK, LTK, LWT, LWF, LDK, LMS, LMK

\*slats for smaller sizes have to be cut \*\*the slats colour may slightly differ from the colour of slats in angles and hatch

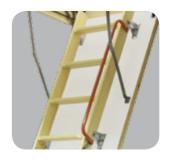


### Stile ends LXS

Stile ends in brown finish the ladder and enhance its stability.

Order processing time [working days]

Note: available for LWS, LWK, LWZ, LWL, LWF, LTK, LWT, except for 4- section ladders.

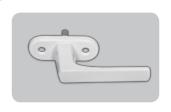


# **Handrail LXH**

The metal handrail makes ascending and descending the ladder easier, increasing user's comfort and safety. The LXH is screwed to the ladder top segment. The installation of the handrail on the left side makes the installation of unloading mechanism LXM impossible.

Type of ladders	LWS, LWK, LWT, LWF, LMS, LMK	LWZ, LTK	LDK
Handrail	LXH 50/13 lub LXH 75/13**	LXH 75/17	LXH75/16
Order processing time [working days]		15	

\*handrails LXH 50/13 are installed with ladders boxes lengths up to 100cm; for boxes lengths higher than 100cm, the LXH75/13 handrails are available.



# **Handle LXZ**

The LXZ handle enables the closing of the LXW upper hatch from the loft side e.g during maintenance works in the loft or roof.

Order processing time [working days]	8
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# **Box extension LXN**



Made of pine, the box extension matches perfectly with the box of the installed ladder and enhances the look of the ceiling opening. The standard box height is 10cm. Maximum non-standard LXN box extension height for LDK loft ladders is 16cm and 20cm for other ladder types.

Box extension size[cm]	51 x 80	55 x 111	60 x 90	60 x 94	60 x 100	60 x 111	60 x 120	60 x 130	60 x 140	70 x 80	70 x 94	70 x 100	70 x 111	70 x 120	70 x 130	70 x 140	86x130
Order processing time [working days]									20								

Note: available for ladders LWS, LWK, LWZ, LWL, LTK, LWT, LWF, LDK, LMS, LMK, LML, LMF, LST, LSZ

While ordering box extension - besides the size, the ladder type has to be provided



# **Upper hatch LXW**

The upper hatch prevents attic dust from accumulating on the hatch and steps of the closed ladder. It improves the overall insulating parameters and air tightness of the ladder on which it is installed. The height of the upper hatch box is 20cm.

Upper hatch size [cm]	51 x 80	55 x 111	60 x 90	60 x 94	60 x 100	60 x 111	60 x 120	60 x 130	60 x 140	70 x 80	70 x 94	70 x 100	70 x 111	70 x 120	70 x 130	70 x 140	86x130
Order processing time [working days]									20								

Note: available for ladders LWS, LWK, LWZ, LWL, LTK, LWT, LWF, LST, LMS, LMK, LMF, LSZ. For 4-section LWS, LWK and LST, LSZ ladders, it is necessary to install the LXN box extension prior to the LXW upper hatch.



# **Additional tread LXT**

An additional tread makes climbing the ladder easier and increases comfort and safety of access to the loft space. It is recommended especially in situations where the upper hatch is installed on the loft ladder's box or ladders are installed in a thick ceiling. The LXT tread is installed between the last ladder's tread and the floor of the loft. Standard width of the LXT additional tread is 30cm.

Order processing time [working days]

8

Note: available for ladders LWZ, LWL, LMS, LMK.



## **Installation brackets LXK**

Installation brackets facilitate loft ladder installation in the ceiling. Adjusted to ceilings up to 43cm thick (for LTK, LWT and LWF ladders) and 35cm for all other ladder types.

Order processing time [working days]

8

Note: available for ladders LWS, LWK, LWL, LTK, LWF, LDK, LMS, LMK.



# Ladder section unloading mechanism LXM

Assists folding and unfolding the ladder and makes the use of the ladder more comfortable. The hatch unloading mechanism LXM provides added assistance when using 3 section ladders in room heights between 260cm and 305cm.

Order processing time [working days]

15

 $\label{thm:constraint} Note: available for LWZ, LTK \\ (only for 3-section ladders with boxes- minimum 120cm long).$ 



# **Insulation kit LXD**

The insulation kit provides tight insulation between the box of the mounted ladder and the opening in the ceiling, thereby allowing a" warm assembly" essential in energy-efficient and passive construction. The kit includes: air tight collar, insulation material (sheep wool blocks) and the air-permeable collar.

LXD dimensions [cm]	60/70x120 and 86 x 140*
Order processing time [working days]	8

Note: LXD kit is available for LWS, LWK, LWL, LTK, LWT, LDK, LMS, LMK.

\*for loft ladder boxes sizes smaller then 86 x 140cm the standard size has to be adapted



# The MSU Universal "Miller" staircase

The MSU Universal "Miller" staircase is made from solid spruce wood. The maximum ceiling height for use of the MSU must not exceed 290cm. The external staircase width is 65cm. As standard the staircase is provided without handrail. The MXH handrail can be obtained and be mounted on the left or right side of the stairs.

	MSU	MXH handrail
Order processing time [working days]	1	5



# **The DWK L-Shaped Combination Doors**

The L-shaped door DWK is intended to be built into L-shaped walls. Superb thermo-insulating parameters ( $U=1.1~W/m^2K^*$ ) along with high air tightness keep heat-loss to a minimum. The L-shaped doors may be installed in right or left opening versions. As standard the door is provided with lining slats.

L-shped doors commercial dimension[cm]	55x80	60x80	60x100	60x110	70x90	70x100	70x110
Order processing time [working days]				15			

\* manufacturer's internal calculations



# **The DWT L-Shaped Combination Doors**

The DWT L-Shaped combination doors are new and highly energy efficient design. The 66mm thick sash fully filled with thermo-insulating material, provides an excellent barrier reducing heat loss (U=0.64 W/m<sup>2</sup>K\*). The doors as standard are equipped with handle and finishing lining. The doors can be installed in two versions of opening (right or left).

L-shped doors commercial dimension[cm]	55x80	60x80	60x100	60x110	70x90	70x100	70x110
Order processing time [working days]	20						

\* manufacturer's internal calculations



# The DWF L-Shaped Combination Doors

The DWF L-Shaped Combination Doors intended to be built into L-shaped walls, provide access to the unused space behind and at the same time ensuring a high level of fire safety on both sides of doors (fire resistance is  $El_1=45$  minutes, satisfies the requirements of EN13501). The white, 66mm thick sash with thermo-insulating material, provides an excellent barrier reducing heat loss (U=0.64 W/m²K\*). The doors may be installed in two versions of opening (right or left), and as standard are also equipped with 35mm wide lining in natural colour.

L-shped doors commercial dimension[cm]	55x80	60x80	60x100	60x110	70x90	70x100	70x110
Order processing time [working days]	20						

\* manufacturer's internal calculations





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