Declaration of Performance

R4224JPCPR

1. Unique identification code of the product-type:

   DDP-K, BL D80, NaturBoard FIT PLUS, NaturBoard FIT G PLUS, Smart Roof Norm, BL D70, BL D90, BL D120, DF, CLT Thermal, Board D4, Board HighX-Tend

2. Intended use or uses:

   Thermal Insulation for Buildings (ThIB)

3. Manufacturer:

   Knauf Insulation d.o.o.
   Industrijsko naselje Belo Polje bb, 17530 Surdulica
   Serbia
   www.knaufinsulation.com - dop@knaufinsulation.com

4. Authorised representative:

   Not applicable

5. System or systems of assessment and verification of constancy of performance:

   AVCP System 1 for Reaction to Fire
   AVCP System 3 for the other characteristics

6a. Harmonized Standard:

   EN 13162:2012 + A1:2015

   Notified body or bodies:

   AVCP System 1: (Notified certification body) 0751 - Forschungsinstitut für Wärmeschutz e. V. München FIW München, 1404 - ZAG - ZAVOD ZA GRADBENISTVO SLOVENIJE

   AVCP System 3: (Notified testing laboratory) 0751 - Forschungsinstitut für Wärmeschutz e. V. München FIW München --- --- -- -

6b. European Assessment document: not applicable
   European Technical Assessment: not applicable
   Technical Assessment Body: not applicable
   Notified body/ies: not applicable

7. Declared Performances:

   See next page

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	BL D120	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	65 - 230	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	NPD	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	BL D70	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	65 - 230	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	NPD	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	BL D80	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	140 - 210	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	NPD	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	BL D90	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	65 - 230	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	NPD	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	Board D4	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	20 - 200	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	NPD	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	Board HighX-Tend	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	20 - 200	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	NPD	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	CLT Thermal	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	40 - 200	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	CS(10)40	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	TR40 {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	WS	
	Long term water absorption	WL(P)	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	DDP-K	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	20 - 30 | 40 - 200	
	Thickness tolerance	T5 | T5	
Reaction to Fire	Reaction to fire	A1 | A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD | CS(10)30	
	Point Load	NPD | PL(5)300	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD | TR7,5 {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	NPD	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	DF	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	60-200	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	CS(10)30	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	WS	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	NPD	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	NaturBoard FIT G PLUS	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	20 - 200	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	WS	
	Long term water absorption	WL(P)	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	AF5	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	NaturBoard FIT PLUS	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	20 - 200	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	NPD	
	Point Load	NPD	
Tensile / Flexural strength	Tensile strength perpendicular faces	NPD {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	WS	
	Long term water absorption	WL(P)	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	NPD	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	AF5	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

Essential Characteristics	R4224JPCPR		Harmonised technical standard
	Performance {f}	Smart Roof Norm	
Thermal Resistance	Thermal conductivity (W/mK)	λD 0,037	EN 13162:2012 + A1:2015
	Thermal Resistance	See performance chart	
	Thickness range (mm)	60 - 140	
	Thickness tolerance	T5	
Reaction to Fire	Reaction to fire	A1	
Durability of reaction to fire against heat, weathering, ageing / degradation	Durability Characteristics	NPD {a}	
Durability of thermal resistance against heat, weathering, ageing / degradation	Thermal Resistance	NPD{b}	
	Thermal conductivity	NPD	
	Durability characteristics	NPD {c}	
Compressive Strength	Compressive Stress / Compressive Strength	CS(10)60	
	Point Load	PL(5)550	
Tensile / Flexural strength	Tensile strength perpendicular faces	TR10 {d}	
Durability of compressive Strength against ageing / degradation	Compressive creep	NPD	
Water Permeability	Short term water absorption	WS	
	Long term water absorption	NPD	
Water vapour permeability	Water vapour transmission, water vapour diffusion resistance factor	NPD	
Impact noise transmissions index (for floors)	Dynamic stiffness	NPD	
	Thickness	NPD	
	Compressibility	NPD	
	Air flow resistivity	AF5	
Acoustic absorptions index	Sound absorption	NPD	
Direct airborne sound insulation index	Air flow resistivity	AF5	
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD {e}	
Continuous glowing combustion	Continuous glowing combustion	NPD {e}	
NPD - No performance determined			

8. Appropriate Technical Documentation and / or Specific Technical Documentation:

Not applicable
The performance of the product identified above is in conformity with the set of declared performances.

This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Thermal Resistance Table														
[mm]	20	25	30	35	40	45	50	55	60	65	70	75	80	85
[m²K/W]	0,50	0,65	0,80	0,90	1,05	1,20	1,35	1,45	1,60	1,75	1,85	2,00	2,15	2,25
[mm]	90	95	100	105	110	115	120	125	130	135	140	145	150	155
[m²K/W]	2,40	2,55	2,70	2,80	2,95	3,10	3,20	3,35	3,50	3,60	3,75	3,90	4,05	4,15
[mm]	160	165	170	175	180	185	190	195	200	205	210	215	220	225
[m²K/W]	4,30	4,45	4,55	4,70	4,85	5,00	5,10	5,25	5,40	5,50	5,65	5,80	5,90	6,05
[mm]	230													
[m²K/W]	6,20													

Signed for an on behalf of the manufacturer by:

Branislav Popović - Plant manager
(Name and function)

Surdulica - 11-03-21
(Place and date of issue)

{a} No change in reaction to fire properties for MW Products. The fire performance of MW does not deteriorate with time. The Euroclass classification of the product is related to the organic content, which cannot increase with time.
{b} Thermal conductivity of MW products does not change with time, experience has shown the fibre structure to be stable and the porosity contains no other gases than atmospheric air
{c} For dimensional stability thickness only
{d} This characteristic also covers handling and installation
{e} European test methods are under development
{f} Also valid and applicable for multilayers