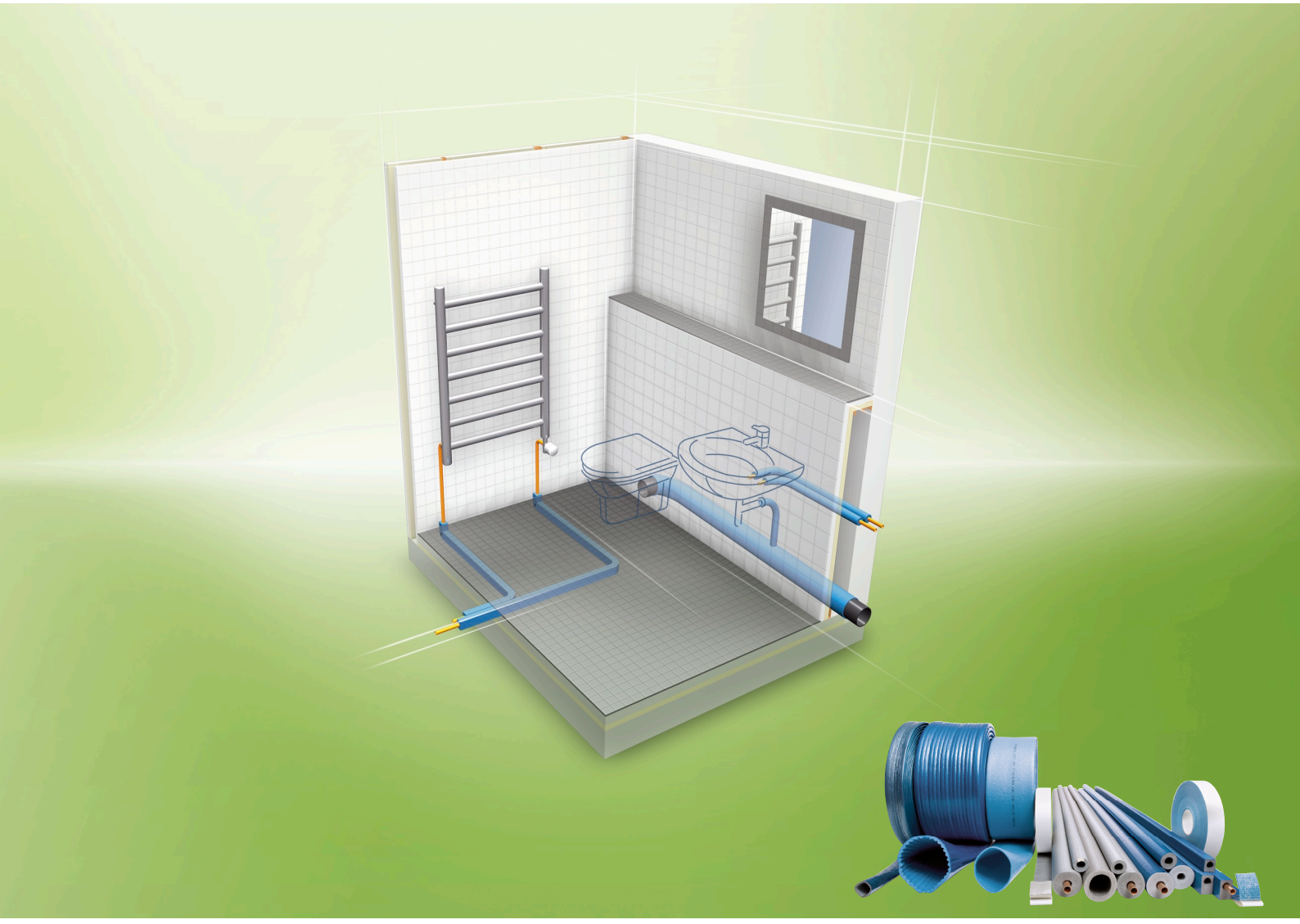
Tubolit®

THE COMPLETE POLYETHYLENE RANGE FOR PLUMBERS



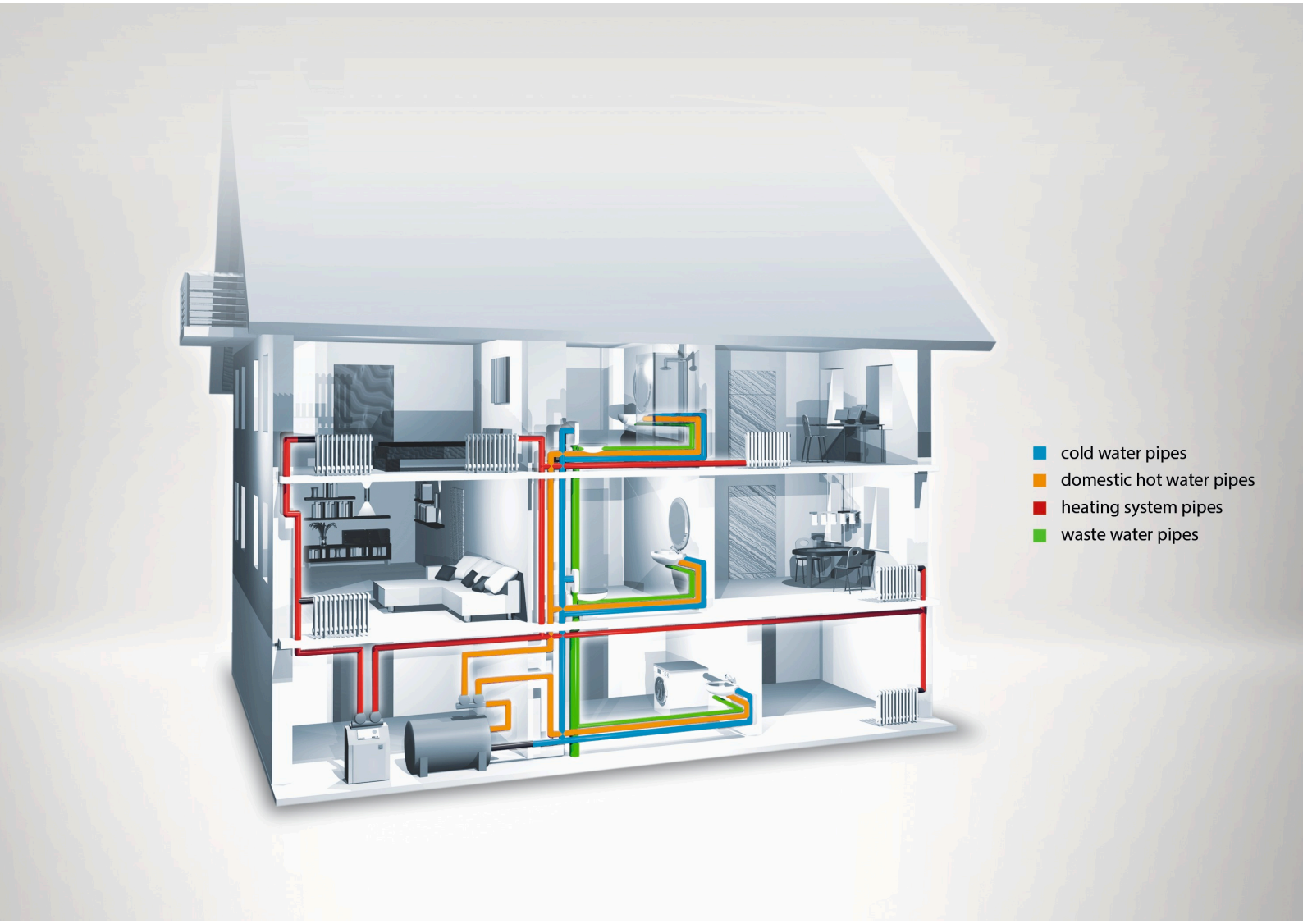
- Full range of PE thermal and acoustic insulation products
- Matching range for plastic pipe sizes
- Improved acoustic comfort
- Meets European energy regulations

- $\lambda_{40\,°C} \leq 0{,}040$ W/(m · K)
- Conforming to EnEV regulations
- Matching range for plastic pipe sizes

Tubolit®

Tubolit saves energy, improves acoustic comfort in buildings and protects pipes installed within the building shell. Tubolit is the most complete range of thermal, acoustical and protective insulation products for installations of heating, domestic hot and cold water and sewage pipes in both residential as well as public and commercial buildings.

See typical application areas below:



Product	Type of installation				Additional Benefit / Requirement				
Tubolit	Heating	Domestic hot water	Cold water pipes	Waste water	Extra protection	50% faster application	Noise reduction	Under plaster	Under floor
DG	•••	•••	••						
DG self-seal	•••	•••	••			✓			
DG-B1	•••	•••	••						
DG Plus	•••	•••	••						
S	•••	•••	••		✓		✓	✓	
S Plus			•••		✓		✓	✓	
DHS Quadra	•••				✓		✓		✓
AR Fonowave				•••	✓		✓		
AR Fonoblok				•••	✓		✓		

Technical Data - Tubolit DG

Brief description	Flexible, closed-cell extruded insulation material to reduce heat losses and noise on heating and plumbing installations.
Material type	Foam material based on polyethylene. Factory made polyethylene foam (PEF) according to EN 14313.
Colour	grey
Material Special Information	Self-adhesive coating on tapes and self-seal coating on tubes: pressure-sensitive adhesive coating on modified acrylate basis with mesh structure, covered with polyethylene foil.
Applications	Insulation / protection of pipes (heating system pipes, domestic hot and cold water pipes) and other parts of heating and plumbing installations (incl. elbows, fittings, flanges, etc).
Remarks	After installation linear shrinkage of approx. 2% (or more in particular cases) may occur during the initial and even later phase of system operation. Under certain conditions (e.g. high humidity, main distribution pipes, pipes with constant or almost constant flow) cold water pipelines must be insulated with Armaflex, just the same as chilled water pipes in air-conditioning systems. Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment				Test*1	Special Remark
Temperature Range						
Temperature Range	max. service temperature	+ 100 °C		(+ 85 °C for tapes)	EU 5673 EU 5681	Tested acc. to EN 14707 and EN 14313
	min. service temperature			(as is usual in plumbing and heating installations)		
Thermal Conductivity						
Thermal Conductivity	ϑ_m	40	[°C]	λ=	EU 5673 EU 5681	Declared acc. to EN ISO 13787 Tested acc. to EN ISO 8497
	Tubolit DG tubes 5 - 30 mm	λ ≤ 0,040	W/(m · K)	$[36 + 0,1 \cdot \vartheta_m + 0,0008 \cdot (\vartheta_m\text{-}40)^2]/1000$		
	Tubolit DG self-adhesive tape	λ ≤ 0,045	W/(m · K)	$[41 + 0,1 \cdot \vartheta_m + 0,0008 \cdot (\vartheta_m\text{-}40)^2]/1000$		
Fire performance						
Reaction to fire[1]	Tubolit DG standard tubes 5 - 30 mm		E		EU 5673 EU 5681	Classified acc. to EN 13501-1 Tested acc. to EN ISO 11925-2
	Tubolit DG self-adhesive tape		E			
Acoustic Performance						
Reduction of structure-borne sound transmission	Insulation effect		≤ 30 dB(A)		D 2762	Tested acc. to DIN 52219 and EN ISO 3822-1
Other technical features						
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2				EU 5673 EU 5681	Tested acc. to EN 822 EN 823 EN 13467
Storage & Shelf life	Tapes self-adhesive and tubes self-seal: 1 year					Can be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0 °C – 35 °C).

1. The reaction to fire classification is valid on metal surfaces.

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. During storage of the product blooming on the surfaces may occur, especially at wall thickness below 19mm. This blooming does not affect the technical properties of the material, but can affect the adhesion properties. Therefore, the surface needs to be cleaned (wiped off) before adhesives can be applied.
Please consult our Customer Service Center before insulating stainless steels. Armaflex 520 adhesive and Clipse must be used to guarantee proper installation.

Technical Data - Tubolit DG B1

Brief description	Flexible, closed-cell extruded insulation material to reduce heat losses on heating and plumbing installations.
Material type	Foam material based on polyethylene. Factory made polyethylene foam (PEF) according to EN 14313.
Colour	grey
Applications	Insulation / protection of pipes (heating system pipes, domestic hot and cold water pipes) and other parts of heating and plumbing installations (incl. elbows, fittings, flanges, etc).
Remarks	After installation linear shrinkage of approx. 2% (or more in particular cases) may occur during the initial and even later phase of system operation. Under certain conditions (e.g. high humidity, main distribution pipes, pipes with constant or almost constant flow) cold water pipelines must be insulated with Armaflex, just the same as chilled water pipes in air-conditioning systems. Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment			Test*1	Special Remark
Temperature Range					
Temperature Range	max. service temperature min. service temperature	+ 100 °C	(+ 85 °C for tapes) (as is usual in plumbing and heating installations)	EU 5672	Tested acc. to EN 14707 and EN 14313
Thermal Conductivity					
Thermal Conductivity	ϑ_m 40	[°C]	λ=	EU 5672	Declared acc. to EN ISO 13787 Tested acc. to EN ISO 8497
	Tubolit DG-B1 λ ≤ 0,040	W/(m · K)	$[36 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot (\vartheta_m - 40)^2]/1000$		
Fire performance					
Reaction to fire[1]	Tubes 5 - 30 mm		D_L-s2, d0	EU 5672	Classified acc. to EN 13501-1 Tested acc. to EN 13823 and EN ISO 11925-2
Acoustic Performance					
Reduction of structure-borne sound transmission	Tubolit on steel water pipes		≤ 30 dB(A)	D 2762	Tested acc. to DIN 52219 and EN ISO 3822-1
Other technical features					
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2			EU 5672	Tested acc. to EN 822 EN 823 EN 13467

1. The reaction to fire classification is valid on metal surfaces.

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. During storage of the product blooming on the surfaces may occur, especially at wall thickness below 19mm. This blooming does not affect the technical properties of the material, but can affect the adhesion properties. Therefore, the surface needs to be cleaned (wiped off) before adhesives can be applied.
Please consult our Customer Service Center before insulating stainless steels. Armaflex 520 adhesive and Clipse must be used to guarantee proper installation.

Technical Data - Tubolit DG Plus

Brief description	Flexible, closed-cell extruded insulation material with very low smoke development to reduce heat losses and noise on heating and plumbing installations.
Material type	Foam material based on polyethylene. Factory made polyethylene foam (PEF) according to EN 14313.
Colour	grey
Applications	Insulation / protection of pipes (heating system pipes, domestic hot and cold water pipes), and other parts of heating and plumbing installations incl. elbows, fittings, flanges etc.)
Remarks	After installation linear shrinkage of approx. 2% (or more in paticular cases) may accur during the initial and even later phase of system operation. Under certain conditions (e.g. high humidity, main distribution püipes, pipes with almost constant flow) cold water pipelines must be insulated with Armaflex, just the same as chiilled water pipes in air-conditioning systems. Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment			Test*1	Special Remark
Temperature Range					
Temperature Range	max. service temperature	+100 °C			
	min. service temperature	as is usual in plumbing and heating installations			
Thermal Conductivity					
Thermal Conductivity	ϑ_m 40	[°C]	λ=	EU 5671	Declared acc. to EN ISO 13787 Tested acc. to EN ISO 8497
	6 to 27 mm λ ≤ 0,040	W/(m · K)	$36 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot (\vartheta_m-40)^2]/1000$		
Fire performance					
Reaction to fire	From 6 mm to 25 mm	B_L-s1,d0		EU 5671	Classified acc. to EN 13501-1 Tested acc. to EN 13823 and EN ISO 11925-2
	self-adhesive tubes 13 mm	B_L-s1,d0			
	26 mm and 27 mm	C_L-s1,d0			
Other technical features					
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2			EU 5671	Tested acc. to EN 822 EN 823 EN 13467
Storage & Shelf life	self-adhesive tubes: 1 year				Can be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0 °C – 35 °C).

1. The reaction to fire classification is valid on metal surfaces.
2. Further documents such as test certificates, approvals and the like can be requested using the registration number given.
3. ●: Official supervision by independent institutes and /or test authorities
4. ○: Own in-factory quality monitoring

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

Technical Data - Tubolit S

Brief description	Flexible, closed-cell extruded insulation material to reduce heat losses and noise on heating and plumbing installations.
Material type	Foam material based on polyethylene. Factory made polyethylene foam (PEF) according to EN 14313.
Colour	foam: grey; foil: blue
Applications	Insulation / protection of pipes (heating system pipes, domestic hot and cold water pipes) and other parts of heating and plumbing installations (incl. elbows, fittings, flanges, etc).
Special Features	Foil coating on outer surface for additional protection of insulation surface.
Remarks	After installation linear shrinkage of approx. 2% (or more in particular cases) may occur during the initial and even later phase of system operation. Under certain conditions (e.g. high humidity, main distribution pipes, pipes with constant or almost constant flow) cold water pipelines must be insulated with Armaflex, just the same as chilled water pipes in air-conditioning systems. Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment			Test*1	Special Remark
Temperature Range					
Temperature Range	max. service temperature min. service temperature	+ 100 °C	(+ 85 °C for tapes) (as is usual in plumbing and heating installations)	EU 5675	Tested acc. to EN 14707 and EN 14313
Thermal Conductivity					
Thermal Conductivity	ϑ_m 40	[°C]	λ=	EU 5675	Declared acc. to EN ISO 13787 Tested acc. to EN ISO 8497
	Tubolit S λ ≤ 0,040	W/(m · K)	$[36 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot (\vartheta_m\text{-}40)^2]/1000$		
Fire performance					
Reaction to fire[1]	Tubolit S	E		EU 5675	Classified acc. to EN 13501-1 Tested acc. to EN ISO 11925-2
Other technical features					
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2			EU 5675	Tested acc. to EN 822 EN 823 EN 13467

1. The reaction to fire classification is valid on metal surfaces.

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. During storage of the product blooming on the surfaces may occur, especially at wall thickness below 19mm. This blooming does not affect the technical properties of the material, but can affect the adhesion properties. Therefore, the surface needs to be cleaned (wiped off) before adhesives can be applied.
Please consult our Customer Service Center before insulating stainless steels. Armaflex 520 adhesive and Clipse must be used to guarantee proper installation.

Technical Data - Tubolit S Plus

Brief description	Flexible, closed-cell extruded insulation material to reduce heat losses and noise on heating and plumbing installations.
Material type	Foam material based on polyethylene. Factory made polyethylene foam (PEF) according to EN 14313.
Colour	foam: grey; foil: blue
Applications	Insulation / protection of pipes (heating system pipes, domestic hot and cold water pipes) and other parts of heating and plumbing installations (incl. elbows, fittings, flanges, etc).
Special Features	Foil coating on outer surface for for additional protection of insulation surface. Foil coating on inner surface for better sleeve-on installation.
Remarks	After installation linear shrinkage of approx. 2% (or more in particular cases) may occur during the initial and even later phase of system operation. Under certain conditions (e.g. high humidity, main distribution pipes, pipes with constant or almost constant flow) cold water pipelines must be insulated with Armaflex, just the same as chilled water pipes in air-conditioning systems. Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment				Test*1	Special Remark
Temperature Range						
Temperature Range	max. service temperature min. service temperature		+ 100 °C	(+ 85 °C for tapes) (as is usual in plumbing and heating installations)	EU 5676	Tested acc. to EN 14707 and EN 14313
Thermal Conductivity						
Thermal Conductivity[1]		ϑ_m 40	[°C]	λ=	EU 5676	Declared acc. to EN ISO 13787 Tested acc. to EN ISO 8497
	Tubolit S Plus	λ ≤ 0,045	W/(m · K)	$[41 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot (\vartheta_m\text{-}40)^2]/1000$		
Fire performance						
Reaction to fire[2]	Tubolit S Plus		E		EU 5676	Classified acc. to EN 13501-1 Tested acc. to EN ISO 11925-2
Other technical features						
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2				EU 5676	Tested acc. to EN 822 EN 823 EN 13467

1. Due to testing method and laboratory equipment, thermal conductivity is measured for Tubolit DG, S and DHS in a regular way
2. The reaction to fire classification is valid on metal surfaces.

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. During storage of the product blooming on the surfaces may occur, especially at wall thickness below 19mm. This blooming does not affect the technical properties of the material, but can affect the adhesion properties. Therefore, the surface needs to be cleaned (wiped off) before adhesives can be applied.
Please consult our Customer Service Center before insulating stainless steels.

Technical Data - Tubolit AR Fonowave

Brief description	Flexible, closed-cell extruded insulation material to reduce noise and prevent condensation especially on plastic waste water, rain water and sewage pipes.
Material type	Foam material based on polyethylene. Factory made polyethylene foam (PEF) according to EN 14313.
Colour	blue
Material Special Information	Self-adhesive coating on tapes: pressure-sensitive adhesive coating on modified acrylate basis with mesh structure, covered with polyethylene foil.
Applications	Acoustical and thermal insulation of internal waste water, rain water and sewage pipes in residential and non-residential buildings. For complex and large diameter rain collecting and (roof-) drainage pipes, to provide optimal protection against the risk of condensation, we recommend using Armaflex insulation.
Special Features	Foil coating on outer surface for additional protection of insulation surface. Specially wave-shaped inner surface provides excellent acoustical performance on plastic pipes.
Remarks	Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment			Test*1	Special Remark
Temperature Range					
Temperature Range	max. service temperature min. service temperature	+ 100 °C	(+ 85 °C for tapes) (as is usual in plumbing installations)	EU 5679	Tested acc. to EN 14707 and EN 14313
Thermal Conductivity					
Thermal Conductivity[1]	ϑ_m 40	[°C]	λ=	EU 5679 EU 5682	Declared acc. to EN ISO 13787 Tested acc. to EN ISO 8497
	Tubolit AR Fonowave λ ≤ 0,045	W/(m · K)	$[41 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot (\vartheta_m\text{-}40)^2]/1000$		
	Tubolit AR tape λ ≤ 0,045	W/(m · K)	$[41 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot (\vartheta_m\text{-}40)^2]/1000$		
Fire performance					
Reaction to fire[2]	Tubolit AR Fonowave Tubolit AR tape	E E		EU 5679 EU 5682	Classified acc. to EN 13501-1 Tested acc. to EN ISO 11925-2
Acoustic Performance					
Reduction of structure-borne sound transmission	on plastic waste water pipes	≤ 11 dB(A)		D 4478	Tested acc. to EN 14366
Other technical features					
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2			EU 5679 EU 5682	Tested acc. to EN 822 EN 823 EN 13467
Storage & Shelf life	Tapes self-adhesive: 1 year				Can be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0 °C – 35 °C).

1. Due to testing method and laboratory equipment, thermal conductivity is measured for Tubolit DG, S and DHS in a regular way
2. The reaction to fire classification is valid on metal surfaces.

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. During storage of the product blooming on the surfaces may occur, especially at wall thickness below 19mm. This blooming does not affect the technical properties of the material, but can affect the adhesion properties. Therefore, the surface needs to be cleaned (wiped off) before adhesives can be applied.

Technical Data - Tubolit AR Fonoblok

Brief description	Flexible, closed-cell extruded insulation material to reduce noise and prevent condensation especially on cast iron pipes for waste water, rain water and sewage pipes.
Material type	Foam material based on polyethylene. Factory made polyethylene foam (PEF) according to EN 14313.
Colour	blue
Material Special Information	Self-adhesive coating on tapes: pressure-sensitive adhesive coating on modified acrylate basis with mesh structure, covered with polyethylene foil.
Applications	Acoustical and thermal insulation of internal waste water, rain water and sewage pipes in residential and non-residential buildings. For complex and large diameter rain collecting and (roof-) drainage pipes, to provide optimal protection against the risk of condensation, we recommend using Armaflex insulation.
Remarks	Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment			Test*1	Special Remark
Temperature Range					
Temperature Range	max. service temperature min. service temperature	+ 100 °C	(+ 85 °C for tapes) (as is usual in plumbing installations)	EU 5677 EU 5682	Tested acc. to EN 14707 and EN 14313
Thermal Conductivity					
Thermal Conductivity[1]	ϑ_m 40	[°C]	λ=	EU 5677 EU 5682	Declared acc. to EN ISO 13787 Tested acc. to EN ISO 8497
	Tubolit AR Fonoblok λ ≤ 0,045	W/(m · K)	$[41 + 0,1 \cdot \vartheta_m + 0,0008 \cdot (\vartheta_m\text{-}40)^2]/1000$		
	Tubolit AR tape λ ≤ 0,045	W/(m · K)	$[41 + 0,1 \cdot \vartheta_m + 0,0008 \cdot (\vartheta_m\text{-}40)^2]/1000$		
Fire performance					
Reaction to fire[2]	Tubolit AR Fonoblok Tubolit AR tape	E E		EU 5677 EU 5682	Classified acc. to EN 13501-1 Tested acc. to EN ISO 11925-2
Acoustic Performance					
Reduction of structure-borne sound transmission	on cast-iron waste water pipes	≤ 15 dB(A)		D 2144	Tested acc. to EN 14366
Other technical features					
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2			EU 5677 EU 5682	Tested acc. to EN 822 EN 823 EN 13467
Storage & Shelf life	Tapes self-adhesive: 1 year				Can be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0 °C – 35 °C).

1. Due to testing method and laboratory equipment, thermal conductivity is measured for Tubolit DG, S and DHS in a regular way
2. The reaction to fire classification is valid on metal surfaces.

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. During storage of the product blooming on the surfaces may occur, especially at wall thickness below 19mm. This blooming does not affect the technical properties of the material, but can affect the adhesion properties. Therefore, the surface needs to be cleaned (wiped off) before adhesives can be applied.

Technical Data - Tubolit ARS

Brief description	Flexible, closed-cell extruded insulation material to reduce noise and prevent condensation on waste water, rain water and sewage pipes.
Material type	Foam material based on polyethylene. Factory made polyethylene foam (PEF) according to EN 14313.
Colour	foam: grey; foil: blue
Product Range	Acoustical and thermal insulation of internal waste water, rain water and sewage pipes in residential and non-residential buildings. For complex and large diameter rain collecting and (roof-) drainage pipes, to provide optimal protection against the risk of condensation, we recommend using Armaflex insulation.
Special Features	Foil coating on outer surface for for additional protection of insulation surface.
Remarks	Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment				Test*1	Special Remark
Temperature Range						
Temperature Range	max. service temperature min. service temperature		+ 100 °C	(+ 85 °C for tapes) (as is usual in plumbing installations)	EU 5678	Tested acc. to EN 14707 and EN 14313
Thermal Conductivity						
Thermal Conductivity[1]		ϑ_m 40	[°C]	λ=	EU 5678	Declared acc. to EN ISO 13787 Tested acc. to EN ISO 8497
	Tubolit ARS	λ ≤ 0,045	W/(m · K)	$[41 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot (\vartheta_m - 40)^2]/1000$		
Fire performance						
Reaction to fire[2]	Tubolit ARS		E		EU 5678	Classified acc. to EN 13501-1 Tested acc. to EN ISO 11925-2
Other technical features						
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2				EU 5678	Tested acc. to EN 822 EN 823 EN 13467

1. Due to testing method and laboratory equipment, thermal conductivity is measured for Tubolit DG, S and DHS in a regular way
2. The reaction to fire classification is valid on metal surfaces.

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. During storage of the product blooming on the surfaces may occur, especially at wall thickness below 19mm. This blooming does not affect the technical properties of the material, but can affect the adhesion properties. Therefore, the surface needs to be cleaned (wiped off) before adhesives can be applied.

Technical Data - Tubolit DHS Quadra

Brief description	Flexible, closed-cell extruded insulation material to reduce heat losses and noise on heating and plumbing installations.
Material type	Foam material based on polyethylene.
Colour	foam: grey; foil: blue
Special Features	Specially designed insulation tubes with excentric rectangular cross-section to provide optimal control of heat loss and space saving in under-floor application. Robust protective foil with embossing for an additional mechanical protection during installation.
Remarks	After installation linear shrinkage of approx. 2% (or more in particular cases) may occur during the initial and even later phase of system operation. Under certain conditions (e.g. high humidity, main distribution pipes, pipes with constant or almost constant flow) cold water pipelines must be insulated with Armaflex, just the same as chilled water pipes in air-conditioning systems. Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment					Test*1	Special Remark
Temperature Range							
Temperature Range	max. service temperature min. service temperature	+ 100 °C		(+ 85 °C for tapes) (as is usual in plumbing and heating installations)		EU 5725	Tested acc. to EN 14707 and EN 14313
Thermal Conductivity							
Thermal Conductivity		ϑ_m		40	[°C]	EU 5725 D 4761	Tested according to DIN 52612-1
	Tubolit DHS Quadra, 9 mm	λ	≤	0,040	W/(m · K)		
	Tubolit DHS Quadra, 25 - 27 mm	λ	≤	0,042	W/(m · K)		
Fire performance							
Reaction to fire[1]	Tubolit DHS Quadra 9 - 27 mm			E		EU 5725	Classified acc. to EN 13501-1 Tested acc. to EN ISO 11925-2
Acoustic Performance							
Reduction of structure-borne sound transmission	Tubolit DHS Quadra			≤ 34 dB		D 4742	Tested according to EN ISO 140-8
Other technical features							
Dimensions and tolerances	In accordance with EN 14313, table 1 and 2					EU 5725	Tested acc. to EN 822 EN 823 EN 13467

1. The reaction to fire classification is valid on metal surfaces.

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All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. During storage of the product blooming on the surfaces may occur, especially at wall thickness below 19mm. This blooming does not affect the technical properties of the material, but can affect the adhesion properties. Therefore, the surface needs to be cleaned (wiped off) before adhesives can be applied.
Armaflex 520 adhesive and Clipse must be used to guarantee proper installation.

Technical Data - Tubolit FS

Brief description	Tubolit®FS is a fleece endless tube with a white Low Density Polyethylene (LDPE) foil.
	Tubolit®FS includes also a vapour barrier.
	The thickness of the fleece band is 3 mm +/- 0,5 mm.
	Endless tube length = 10 m +/- 0,15 m.
Colour	Fleece tube = multicoloured brown.
	LDPE = white with a black printed text.

Property	Value/Assessment	
Fire performance		
Reaction to fire	Tubolit ® FS	B2 in accordance with DIN 4102

Technical Data - Tubolit WF

Brief description	Tubolit® WF is a large range of: - non-woven strips (WFN, WF, WFP) - and polyethylene tapes (WFT, WF2).
Material type	Tubolit® WF is sold in rolls in width: 70 mm or 100 mm . Tubolit® WF range is available with or without self-adhesive.
Colour	All the products in the range are covered with a blue foil excepted Tubolit WFN which is a non-woven strip, only. Non-woven strip = multicoloured braun. Polyethylene foam tape = white.
Applications	Tubolit® WF is dedicated for heating and plumbing applications
Special Features	Tubolit ® WF and WFN are free from salt corrosion in accordance with DIN 53 125
Manufacturing	The product must be stocked in dry conditions. Adhesive shelf life = 1 year.

Property	Value/Assessment	
Temperature Range		
Temperature Range	max. service temperature	+ 95 °C +105 °C for Tubolit® WFN
Fire performance		
Reaction to fire	Tubolit ® WF	B2 in accordance with DIN 4102

Tubolit DG tubes

Length 2,0 m

Pipe max. Outside-Ø [mm]	**9,0 mm** insulation thickness		**13,0 mm** insulation thickness	
	Code	m/carton	Code	m/carton
10	**TL-10/9-DG**	520	-	-
12	-	-	**TL-12/13-DG**	190
15	-	-	**TL-15/13-DG**	192
18	-	-	**TL-18/13-DG**	156
20	**TL-20/9-DG**	212	**TL-20/13-DG**	140
22	-	-	**TL-22/13-DG**	140
25	**TL-25/9-DG**	138	**TL-25/13-DG**	124
28	-	-	**TL-28/13-DG**	108
32	**TL-32/9-DG**	122	**TL-32/13-DG**	90
35	-	-	**TL-35/13-DG**	88
40	**TL-40/9-DG**	82	**TL-40/13-DG**	70
42	-	-	**TL-42/13-DG**	60
48	-	-	**TL-48/13-DG**	60
54	-	-	**TL-54/13-DG**	50
60	-	-	**TL-60/13-DG**	38
64	**TL-64/9-DG**	50	**TL-64/13-DG**	32
76	**TL-76/9-DG**	32	**TL-76/13-DG**	26
89	**TL-89/9-DG**	22	**TL-89/13-DG**	22
110	-	-	**TL-110/13-DG**	16
114	-	-	**TL-114/13-DG**	12

Pipe max. Outside-Ø [mm]	**20,0 mm** insulation thickness		**25,0 mm** insulation thickness	
	Code	m/carton	Code	m/carton
42	**TL-42/20-DG**	44	-	-
48	**TL-48/20-DG**	40	**TL-48/25-DG**	24
54	**TL-54/20-DG**	32	**TL-54/25-DG**	24
60	**TL-60/20-DG**	28	**TL-60/25-DG**	24
64	**TL-64/20-DG**	26	-	-
76	**TL-76/20-DG**	20	-	-
89	**TL-89/20-DG**	18	-	-
110	**TL-110/20-DG**	12	-	-
114	**TL-114/20-DG**	12	-	-

Tubolit DG tubes self-adhesive

Length 2,0 m

Pipe max. Outside-Ø [mm]	**9,0 mm** insulation thickness		**13,0 mm** insulation thickness	
	Code	m/carton	Code	m/carton
12	**TL-12/9-DG-A ●**	300	-	-
15	**TL-15/9-DG-A**	250	**TL-15/13-DG-A**	180
18	**TL-18/9-DG-A**	214	**TL-18/13-DG-A**	148
22	**TL-22/9-DG-A**	178	**TL-22/13-DG-A**	128
28	**TL-28/9-DG-A**	130	**TL-28/13-DG-A**	98
35	**TL-35/9-DG-A**	96	**TL-35/13-DG-A**	88
42	**TL-42/9-DG-A**	72	-	-
48	**TL-48/9-DG-A ●**	70	**TL-48/13-DG-A**	52
54	**TL-54/9-DG-A ●**	58	**TL-54/13-DG-A**	50
60	**TL-60/9-DG-A ●**	48	**TL-60/13-DG-A**	38

Tubolit DG tubes self-adhesive

Length 2,0 m

Pipe max. Outside-Ø [mm]	**20,0 mm** insulation thickness			
	Code	m/carton		
15	**TL-15/20-DG-A ●**	100	-	-
18	**TL-18/20-DG-A ●**	88	-	-
22	**TL-22/20-DG-A ●**	80	-	-
28	**TL-28/20-DG-A ●**	68	-	-
35	**TL-35/20-DG-A**	50	-	-
42	**TL-42/20-DG-A**	44	-	-
48	**TL-48/20-DG-A**	40	-	-
54	**TL-54/20-DG-A**	32	-	-
60	**TL-60/20-DG-A**	28	-	-

● Item not in stock. Delivery on request. [MTO]

Tubolit DG tapes self-adhesive

Code	Width [mm]	Length [m]	Thickness [mm]	Rolls/carton
TL-T-TAPE/50-DG-BE	50,0	15	0.18	36

Tubolit DG B1 tubes

Length 2,0 m

Pipe max. Outside-Ø [mm]	**13,0 mm**		**25,0 mm**	
	Code	m/carton	Code	m/carton
10	**TL-10/13-DG-B1**	190	-	-
12	**TL-12/13-DG-B1** [1]	190	-	-
15	**TL-15/13-DG-B1** [1]	180	**TL-15/27-DG-B1** [2]	66
18	**TL-18/13-DG-B1** [1]	148	**TL-18/26-DG-B1** [2]	56
22	**TL-22/13-DG-B1** [1]	128	**TL-22/26-DG-B1** [2]	54
28	**TL-28/13-DG-B1** [2,1]	98	**TL-28/25-DG-B1** [3,2]	46
35	**TL-35/13-DG-B1**	88	**TL-35/25-DG-B1**	32
42	**TL-42/13-DG-B1**	60	**TL-42/25-DG-B1**	28
48	**TL-48/13-DG-B1**	52	-	-
54	**TL-54/13-DG-B1**	50	-	-
60	**TL-60/13-DG-B1**	38	-	-
110	**TL-110/13-DG-B1**	16	**TL-110/25-DG-B1 ●**	8
114	**TL-114/13-DG-B1**	12	**TL-114/25-DG-B1**	8

● Item not in stock. Delivery on request. [MTO]

[1] [DE] According to EnEV 50%

[2] [DE] According to EnEV 100%

[3] For steel pipes

Tubolit DG B1 tubes

Length 2,0 m

Pipe max. Outside-Ø [mm]	**[DE] Field of application C + D according to EnEV** insulation thickness 9,0 mm		**[DE] Field of application B according to EnEV** insulation thickness 20,0 mm	
	Code	m/carton	Code	m/carton
10	**TL-10/9-DG-B1**	300	-	-
12	**TL-12/9-DG-B1** [4]	300	-	-
15	**TL-15/9-DG-B1** [4]	250	**TL-15/20-DG-B1** [5]	100
18	**TL-18/9-DG-B1** [4]	214	**TL-18/20-DG-B1** [5]	88
22	**TL-22/9-DG-B1** [4]	178	**TL-22/20-DG-B1** [5]	80
28	**TL-28/9-DG-B1** [4]	130	**TL-28/20-DG-B1** [5]	68
35	**TL-35/9-DG-B1** [4]	96	**TL-35/20-DG-B1** [5]	50
42	**TL-42/9-DG-B1** [4]	72	-	-
48	**TL-48/9-DG-B1** [4]	70	-	-
54	**TL-54/9-DG-B1**	58	-	-
60	**TL-60/9-DG-B1**	48	-	-
76	**TL-76/9-DG-B1**	32	-	-
89	**TL-89/9-DG-B1**	22	-	-

Pipe max. Outside-Ø [mm]	**[DE] Field of application A according to EnEV** insulation thickness 25,0 mm			
	Code	m/carton		
15	**TL-15/27-DG-B1** [6]	66	-	-
18	**TL-18/26-DG-B1** [6]	56	-	-
22	**TL-22/26-DG-B1** [6]	54	-	-
28	**TL-28/25-DG-B1** [7,6]	46	-	-

[4] [DE] According to EnEV floor construction

[5] [DE] According to EnEV 50%

[6] [DE] According to EnEV 100%

[7] For steel pipes

Tubolit DG Plus tubes

Color dark grey

Pipe max. Outside-Ø [mm]	**9,0 mm** insulation thickness		**13,0 mm** insulation thickness	
	Code	m/carton	Code	m/carton
12	**TL-12/9-DGPlus** [1,2]	300	**TL-12/13-DGPlus** [3]	190
15	**TL-15/9-DGPlus** [1,2]	232	**TL-15/13-DGPlus** [3]	162
18	**TL-18/9-DGPlus** [1,2]	190	**TL-18/13-DGPlus** [3]	136
22	**TL-22/9-DGPlus** [1,2]	162	**TL-22/13-DGPlus** [3]	120
28	**TL-28/9-DGPlus** [1,2]	126	**TL-28/13-DGPlus** [3]	98
35	**TL-35/9-DGPlus** [1,2]	92	**TL-35/13-DGPlus**	72
42	**TL-42/9-DGPlus** [1,2]	72	**TL-42/13-DGPlus**	56
48	**TL-48/9-DGPlus** [1,2]	66	**TL-48/13-DGPlus**	50
54	**TL-54/9-DGPlus** [1,2]	50	**TL-54/13-DGPlus**	46
60	**TL-60/9-DGPlus** [1,2]	46	**TL-60/13-DGPlus**	38
64	**TL-64/9-DGPlus** [1,2]	42	**TL-64/13-DGPlus**	32
76	**TL-76/9-DGPlus** [1,2]	32	**TL-76/13-DGPlus**	24
89	**TL-89/9-DGPlus** [1,2]	22	**TL-89/13-DGPlus**	18
114	-	-	**TL-114/13-DGPlus**	12

Tubolit DG Plus tubes

Color dark grey

Pipe max. Outside-Ø [mm]	**20,0 mm** insulation thickness		**25,0 mm** insulation thickness	
	Code	m/carton	Code	m/carton
15	**TL-15/20-DGPlus** [3]	100	**TL-15/27-DGPlus** [4]	66
18	**TL-18/20-DGPlus** [3]	88	**TL-18/26-DGPlus** [4]	56
22	**TL-22/20-DGPlus** [3]	80	**TL-22/26-DGPlus** [4]	54
28	**TL-28/20-DGPlus** [3]	68	**TL-28/25-DGPlus** [4]	46
35	**TL-35/20-DGPlus** [3]	50	-	-
42	**TL-42/20-DGPlus**	44	-	-
54	**TL-54/20-DGPlus**	32	-	-
60	**TL-60/20-DGPlus** ●	28	-	-
64	**TL-64/20-DGPlus** ●	26	-	-
76	**TL-76/20-DGPlus** ●	20	-	-
89	**TL-89/20-DGPlus** ●	18	-	-
110	**TL-110/20-DGPlus** ●	12	-	-
114	**TL-114/20-DGPlus** ●	12	-	-

● Item not in stock. Delivery on request. [MTO]

[1] [DE] According to EnEV floor construction

[3] [DE] According to EnEV 50%

[4] [DE] According to EnEV 100%

Tubolit S tubes

Length 2,0 m, Color blue, Tubes with hardwearing PE-foil

Pipe max. Outside-Ø [mm]	**6,0 mm** insulation thickness		**9,0 mm** insulation thickness	
	Code	m/carton	Code	m/carton
15	**TL-15/6-S**	340	**TL-15/9-S** [1]	234
18	**TL-18/6-S**	280	**TL-18/9-S** [1]	214
22	**TL-22/6-S**	240	**TL-22/9-S** [1]	178
28	**TL-28/6-S**	170	**TL-28/9-S** [1]	130
35	**TL-35/6-S**	118	**TL-35/9-S** [1]	96
42	-	-	**TL-42/9-S** [1]	72
48	-	-	**TL-48/9-S**	70

Pipe max. Outside-Ø [mm]	**13,0 mm** insulation thickness		**20,0 mm** insulation thickness	
	Code	m/carton	Code	m/carton
15	**TL-15/13-S** [2]	172	-	-
18	**TL-18/13-S** [2]	148	-	-
22	**TL-22/13-S** [2]	128	-	-
28	**TL-28/13-S** [2]	98	**TL-28/20-S** [2]	60
35	**TL-35/13-S**	72	**TL-35/20-S** [2]	50
42	**TL-42/13-S**	56	**TL-42/20-S**	40

Pipe max. Outside-Ø [mm]	**25,0 mm** insulation thickness			
	Code	m/carton		
15	**TL-15/27-S** [3]	66	-	-
18	**TL-18/26-S** [3]	56	-	-
22	**TL-22/26-S** [3]	54	-	-
28	**TL-28/25-S** [4,3]	46	-	-

[1] [DE] According to EnEV floor construction

[2] [DE] According to EnEV 50%

[3] [DE] According to EnEV 100%

[4] For steel pipes

Tubolit S Plus tubes endless

Length 20,0 m, Color grey, Covering Color blue, with robust protective foil on outside plus transparent inner foil for fast and easy application

Pipe max. Outside-Ø [mm]	**4,0 mm** insulation thickness		
	Code	m/carton	Rolls/carton
15	**TL-12-15/4-S+**	520	26
18	**TL-18/4-S+**	440	22
20	**TL-20/4-S+**	440	22
22	**TL-22/4-S+**	400	20
25	**TL-24/4-S+**	400	20
28	**TL-28/4-S+**	320	16
30	**TL-30/4-S+**	320	16
35	**TL-35/4-S+**	280	14
42	**TL-42/4-S+** ●	240	12

● Item not in stock. Delivery on request. [MTO]

Tubolit AR Fonowave tubes endless

Length 10,0 m, Thickness 9,0 mm, Color blue, Covering Color blue, with engineered wavy profile and robust protective foil

Pipe max. Outside-Ø [mm]	**9,0 mm** insulation thickness				
	Outer- Ø [mm]	Nominal width DN	Code	m/carton	Rolls/carton
57	50/56	50/56	**TL-50/9-ARW**	80	8
76	75	70	**TL-70/9-ARW**	60	6
89	90	90	**TL-90/9-ARW**	50	5
110	110	100	**TL-100/9-ARW**	50	5
133	125/135	125	**TL-125/9-ARW**	40	4

Tubolit AR Fonowave tapes self-adhesive

Color blue, made of high quality polyethylene

Code	Width [mm]	Length [m]	Thickness [mm]	Rolls/carton
TL-TAPE/50-ARW	50,0	15	3	12

Tubolit AR Fonoblok tubes endless

Length 15,0 m, Thickness 5,0 mm, Color blue

Pipe max. Outside-Ø [mm]	**5,0 mm** insulation thickness				
	Outer- Ø [mm]	Nominal width DN	Code	m/carton	Rolls/carton
57	58	50	**TL-50/5-AR**	135	9
64	63	60	**TL-60/5-AR**	120	8
76	78	70	**TL-70/5-AR**	105	7
89	90	90	**TL-90/5-AR**	75	5
108	110	100	**TL-100/5-AR**	75	5
133	135	125	**TL-125/5-AR**	60	4
160	160	150	**TL-150/5-AR**	45	3

Tubolit AR Fonoblok tapes self-adhesive

Color blue, Material from high quality polyethelene

Code	Width [mm]	Length [m]	Thickness [mm]	Rolls/carton
TL-TAPE/50-AR	50,0	15	3	12
TL-TAPE/100-AR ●	100,0	15	3	6

● Item not in stock. Delivery on request. [MTO]

Tubolit AR Vlies tubes endless

Length 10,0 m, Thickness 4,0 mm, Covering Color white, Fleece wastewater hose with an exterior foil

Pipe max. Outside-Ø [mm]	Code	m/carton
50	**TL-50/4-ARV**	200
70	**TL-70/4-ARV**	150
90	**TL-90/4-ARV**	100
100	**TL-100/4-ARV**	100
125	**TL-125/4-ARV ●**	50

● Item not in stock. Delivery on request. [MTO]

Tubolit ARS tubes endless

Length 15,0 m, Thickness 4,0 mm, Covering Color blue, PE Abwasserschlauch mit Aussenfolie

Pipe max. Outside-Ø [mm]	**4,0 mm** insulation thickness	
	Code	m/carton
50	**TL-50/4-ARS**	135
70	**TL-70/4-ARS**	105
90	**TL-90/4-ARS**	75
100	**TL-100/4-ARS**	75
125	**TL-125/4-ARS**	60

Tubolit ARS tapes self-adhesive

Code	Width [mm]	Length [m]	Thickness [mm]	Rolls/carton
TL-TAPE/50-ARW	50,0	15	3	12

Tubolit DHS Quadra excentrical tubes

Length 2,0 m, Color grey, Covering Color blue, Isolierung mit quadratischem Profil für Fußbodenverlegung im Estrichbereich gemäß EnEV

Pipe max. Outside-Ø [mm]	**9,0 mm** insulation thickness			**25,0 mm** insulation thickness		
	Code	Max. height[mμ]	m/carton	Code	Max. height[mμ]	m/carton
15	**CO-15/9-DHQ**	31	190	**CO-15/25-DHQ**	53	130
18	**CO-18/9-DHQ**	34	160	**CO-18/25-DHQ**	55	120
22	**CO-22/9-DHQ**	38	140	**CO-22/25-DHQ**	59	100
28	**CO-28/9-DHQ**	45.5	100	**CO-28/25-DHQ** [1]	65	70
35	**CO-35/9-DHQ**	52.5	80	-	-	-

[1] For steel pipes

Tubolit DHS Quadra excetrical tubes

Length 2,0 m, Color grey, Covering Color blue, Isolierung mit quadratischem Profil für Fußbodenverlegung im Estrichbereich gemäß EnEV

Pipe max. Outside-Ø [mm]	**[DE] Field of application C according to EnEV** insulation thickness 9,0 mm			**[DE] Field of application A according to EnEV** insulation thickness 25,0 mm		
	Code	Max. height[mμ]	m/carton	Code	Max. height[mμ]	m/carton
15	**CO-15/9-DHQ**	31	190	**CO-15/25-DHQ**	53	130
18	**CO-18/9-DHQ**	34	160	**CO-18/25-DHQ**	55	120
22	**CO-22/9-DHQ**	38	140	**CO-22/25-DHQ**	59	100
28	**CO-28/9-DHQ**	45.5	100	**CO-28/25-DHQ** [2]	65	70
35	**CO-35/9-DHQ**	52.5	80	-	-	-

[2] For steel pipes

Tubolit FS tubes endless

Length 10,0 m, Covering Color silver, Schutzschlauch mit innenliegender Vliesschicht, feuchtigkeitssperrende Folie, Isolierschicht aus unverrottbarem, vernadeltem Vlies

Pipe max. Outside-Ø [mm]	**4,0 mm** insulation thickness	
	Code	m/carton
12	**TL-12/15-FS**	200
18	**TL-18-FS**	200
22	**TL-22-FS**	200
28	**TL-28-FS**	200
35	**TL-35-FS**	200

Tubolit WF bandages

Length 3,6 m, Color blue

Code	Article description	Width [mm]	Rolls/carton
TL-70-WFN ●	Tubolit WFN: one non-woven moisture-resistant strip, needled fleece, without covering foil. Does not rot.	70,0	252
TL-70-WF	Tubolit WF: non-woven moisture-resistant strip with a blue polyethylene covering film	70,0	252
TL-70-WFP	Tubolit WFP (Plus): non-woven strip on polyethylene band covered with a reinforced blue polyethylene film, moisture-resistant	70,0	168
TL-70-WF2	Tubolit WF2: polyethylene foam tape covered with a blue foil	70,0	168
TL-100-WFN	Tubolit WFN: one non-woven moisture-resistant strip, needled fleece, without covering foil. Does not rot.	100,0	180
TL-100-WF	Tubolit WF:non-woven moisture-resistant strip with a blue polyethylene covering film	100,0	180
TL-100-WF2	Tubolit WF2: polyethylene foam tape covered with a blue foil	100,0	120

● Item not in stock. Delivery on request. [MTO]

Tubolit WF bandages self-adhesive

Length 3,6 m, Color blue

Code	Article description	Width [mm]	Rolls/carton
TL-70-WF-A	Tubolit WF-A: self-adhesive, non-woven moisture-resistant strip with blue polyethylene covering film	70,0	224
TL-70-WF2-A	Tubolit WF2-A: self-adhesive, polyethylene foam tape covered with a blue foil	70,0	168
TL-70-WFP-A	Tubolit WFP (Plus)-A:self-adhesive, non-woven strip on polyethylene band covered with a reinforced blue foil	70,0	168
TL-100-WF-A	Tubolit WF-A: self-adhesive, non-woven moisture-resistant strip with blue polyethylene covering film	100,0	160
TL-100-WF2-A	Tubolit WF2-A: self-adhesive, polyethylene foam tape covered with a blue foil	100,0	120

Tubolit Accessories

Code	Article description	Pieces/bag	Pieces/carton
PVC-TAPE-BE	Tubolit Tape PVC blue (25 m x 38 mm width)	-	16
TLT-TAPE/50-DG	Tubolit DG PE Tape Grey (10 m x 50mm width)	-	12
TL-CLIPS	Tubolit Clips (bags of 100 clips)	100	25