

TRUTEK TIA – FOR FIXING THERMAL INSULATION

Usage:

- The pins with a plate diameter of 60mm are intended for fixing hard insulation boards, e.g. expanded polystyrene, the so-called polystyrene, hard mineral wool boards
- Fixing soft mineral wool insulation boards with the use of a 140mm TIA140 plate
- Surface and recessed mounting
- Fixing thermal insulation boards in various types of construction substrates, such as concrete, solid and silicate ceramic bricks, silicate blocks with holes,

Benefits:

- Wide range of applications in various construction substrates and with various insulating materials
- The TIA140 pressure plate can be used for soft insulating materials
- Short expansion zone for solid substrates and long expansion zone for weaker porous substrates
- Plastic and metal expansion pins
- Possibility of surface and countersunk mounting and accessories for countersunk mounting
- Insulated metal expansion pin head



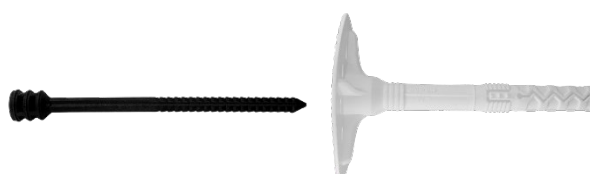
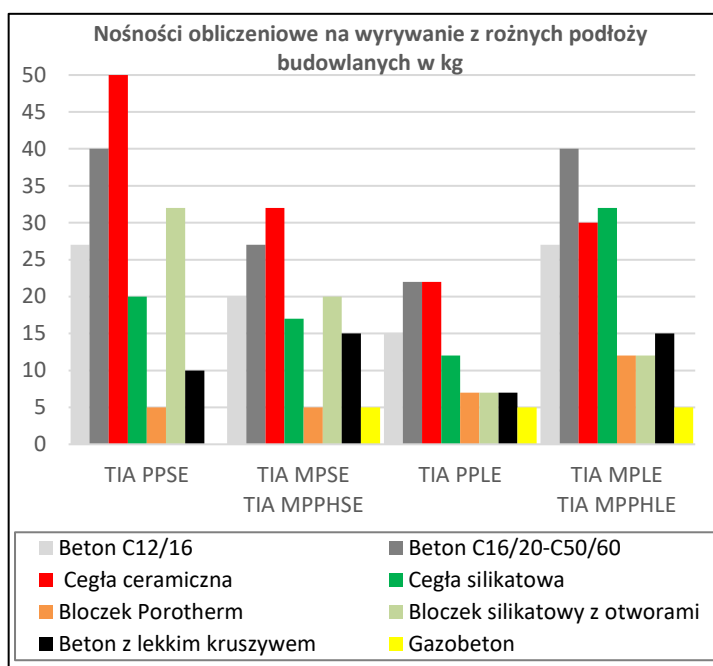
PIN MARKING TIA			
Trutek Insulation Anchor	Hole Diameter d [mm]	Anchor Length L [mm]	Letter Designation - Type of Nail and Sleeve
TIA	10	070	PPSE

Pin Material:

The TIA PPSE and TIA PPLE nailed-in plastic fasteners consist of a plastic expansion sleeve with a collar, made of polypropylene, and a nail, which is an expansion pin, made of polyamide PA6 reinforced with GF30 glass fiber. Plastic, hammered TIA MPSE, TIA MPPHSE, TIA MPLE and TIA MPPHLE fasteners consist of a plastic expansion sleeve with a collar, made of polypropylene, and an expansion pin nail, made of carbon steel covered with a zinc coating of min. 5µm.

Base material:

Concrete class min. C12 / 16 and from C16 / 20 to C50 / 60, full ceramic and silicate bricks, silicate blocks with holes, Porotherm porous blocks, concrete blocks on lightweight aggregate, aerated concrete



Technical parameters of TIA PPSE pins plastic pin - short expansion zone

Product Code	Diameter of Sleeve	Anchor Length	Plate Diameter	Efektywna głębokość zakotwienia	Approximate Insulation Thickness	Type Of Nail	Shank Diameter	Length of Nail
	d _{nom} [mm]	L _a [mm]	D [mm]	h _{ef} [mm]	h _p [mm]		d _p [mm]	L _{np} [mm]
TIA10070PPSE	10	70	60	40	30	Pin, plastic made of polyamide PA6, reinforced with GF30 glass fiber, dowel sleeve with short expansion zone	5,7	75
TIA10090PPSE		90			50			95
TIA10100PPSE		100			60			105
TIA10120PPSE		120			80			125
TIA10140PPSE		140			100			145
TIA10160PPSE		160			120			165
TIA10180PPSE		180			140			185
TIA10200PPSE		200			160			205
TIA10220PPSE		220			180			225
TIA10260PPSE		260			220			265
TIA10300PPSE		300			260			305
TIA10350PPSE		350			310			355
TIA10400PPSE		400			360			405

*approximate values for surface mounting and 10mm adhesive layer thickness



Technical parameters of TIA MPSE pins

metal pin with a plastic cap on the spindle head - short expansion zone

Product Code	Diameter of Sleeve	Anchor Length	Plate Diameter	Effective Anchorage Depth	Approximate Insulation Thickness	Type Of Nail	Shank Diameter	Length of Nail
	d _{nom} [mm]	L _a [mm]	D [mm]	h _{ef} [mm]	h _p [mm]		d _p [mm]	L _{np} [mm]
TIA10070MPSE	10	70	60	40	30	Pin, metal made of galvanized carbon steel, min. 5 µm, spindle head with a plastic cap, dowel sleeve with a short expansion zone	5,5	75
TIA10090MPSE		90			50			95
TIA10100MPSE		100			60			105
TIA10120 MPSE		120			80			125
TIA10140MPSE		140			100			145
TIA10160MPSE		160			120			165
TIA10180MPSE		180			140			185
TIA10200MPSE		200			160			205
TIA10220MPSE		220			180			225
TIA10260MPSE		260			220			265
TIA10300MPSE		300			260			305
TIA10350MPSE		350			310			355
TIA10400MPSE		400			360			405

*approximate values for surface mounting and 10mm adhesive layer thickness

Technical parameters of TIA MPPHSE pins

metal spindle with a flooded spindle head - short expansion zone

Product Code	Diameter of Sleeve	Anchor Length	Plate Diameter	Effective Anchorage Depth	Approximate Insulation Thickness	Type Of Nail	Shank Diameter	Length of Nail
	d _{nom} [mm]	L _a [mm]	D [mm]	h _{ef} [mm]	h _p [mm]		d _p [mm]	L _{np} [mm]
TIA10070MPPHSE	10	70	60	40	30	Pin, metal made of galvanized carbon steel, min. 5 µm, the head covered with plastic, the plug sleeve with a short expansion zone	5,5	75
TIA10090MPPHSE		90			50			95
TIA10100MPPHSE		100			60			105
TIA10120MPPHSE		120			80			125
TIA10140MPPHSE		140			100			145
TIA10160MPPHSE		160			120			165
TIA10180MPPHSE		180			140			185
TIA10200MPPHSE		200			160			205
TIA10220MPPHSE		220			180			225
TIA10260MPPHSE		260			220			265
TIA10300MPPHSE		300			260			305
TIA10350MPPHSE		350			310			355
TIA10400MPPHSE		400			360			405

*approximate values for surface mounting and 10mm adhesive layer thickness

Technical parameters of TIA PPLE pins

plastic pin - long expansion zone

Kod produktu	Diameter of Sleeve	Anchor Length	Plate Diameter	Effective Anchorage Depth	Approximate Insulation Thickness	Type Of Nail	Shank Diameter	Length of Nail
	d _{nom} [mm]	L _a [mm]	D [mm]	h _{ef} [mm]	h _p [mm]		d _p [mm]	L _{np} [mm]
TIA10140PPLE	10	140	60	80	40	Pin, plastic made of PA6 polyamide glass fiber reinforced GF30 dowel sleeve with short expansion zone	5,7	145
TIA10160PPLE		160			60			165
TIA10180PPLE		180			80			185
TIA10200PPLE		200			100			205
TIA10220PPLE		220			140			225
TIA10260PPLE		260			160			265
TIA10300PPLE		300			200			305
TIA10350PPLE		350			250			355
TIA10400PPLE		400			300			405

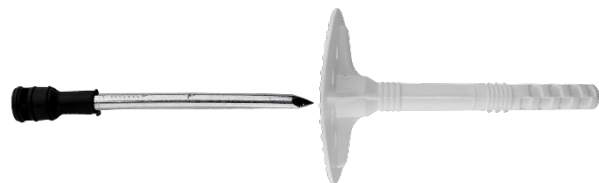
*approximate values for surface mounting and 10mm adhesive layer thickness

Technical parameters of the TIA MPLE pins

metal pin with a plastic cap on the spindle head - long expansion zone

Product Code	Diameter of Sleeve	Anchor Length	Plate Diameter	Effective Anchorage Depth	Approximate Insulation Thickness	Type Of Nail	Shank Diameter	Length of Nail
	d _{nom} [mm]	L _a [mm]	D [mm]	h _{ef} [mm]	h _p [mm]		d _p [mm]	L _{np} [mm]
TIA10140MPLE	10	140	60	80	40	Pin, metal made of galvanized carbon steel, min. 5 µm, spindle head with a plastic cap, dowel sleeve with a long expansion zone	5,5	145
TIA10160MPLE		160			60			165
TIA10180MPLE		180			80			185
TIA10200MPLE		200			100			205
TIA10220MPLE		220			140			225
TIA10260MPLE		260			160			265
TIA10300MPLE		300			200			305
TIA10350MPLE		350			250			355
TIA10400MPLE		400			300			405

*approximate values for surface mounting and 10mm adhesive layer thickness



Technical parameters of TIA MPPHLE pins

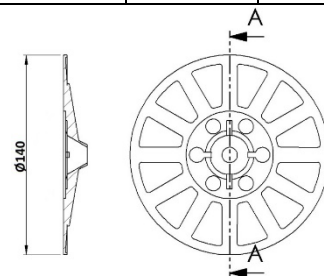
metal spindle with a flooded spindle head - long expansion zone

Product Code	Diameter of Sleeve	Anchor Length	Plate Diameter	Effective Anchorage Depth	Approximate Insulation Thickness	Type Of Nail	Shank Diameter	Length of Nail
	d _{nom} [mm]	L _a [mm]	D [mm]	h _{ef} [mm]	h _p [mm]		d _p [mm]	L _{np} [mm]
TIA10140MPPHLE	10	140	60	80	40	Pin, metal made of galvanized carbon steel, min. 5 µm, the head covered with plastic, the plug sleeve with a short expansion zone	5,5	145
TIA10160MPPHLE		160			60			165
TIA10180MPPHLE		180			80			185
TIA10200MPPHLE		200			100			205
TIA10220MPPHLE		220			140			225
TIA10260MPPHLE		260			160			265
TIA10300MPPHLE		300			200			305
TIA10350MPPHLE		350			250			355
TIA10400MPPHLE		400			300			405

*approximate values for surface mounting and 10mm adhesive layer thickness

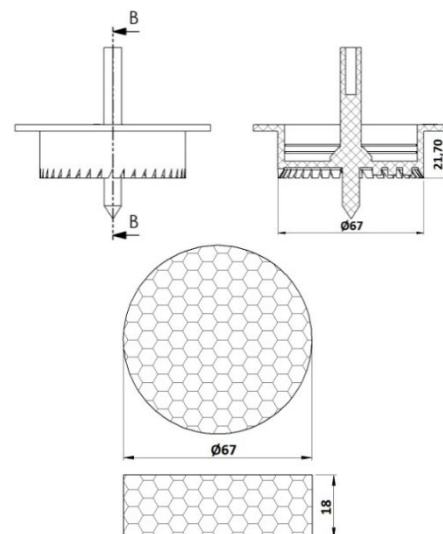
Pressure Plate TIA140

Product Code	Plate Diameter [mm]	Material
TIA140	140	Polypropylene, polyamide PA6 glass fiber reinforced or unreinforced (orange / white / gray / natural)



Accessories for recessed mounting in polystyrene plates expanded so-called polystyrene

Product Code	Cutter Diameter [mm]	Description
TIA67CS	67	cutter for mounting recessed in polystyrene plates expanded so-called polystyrene

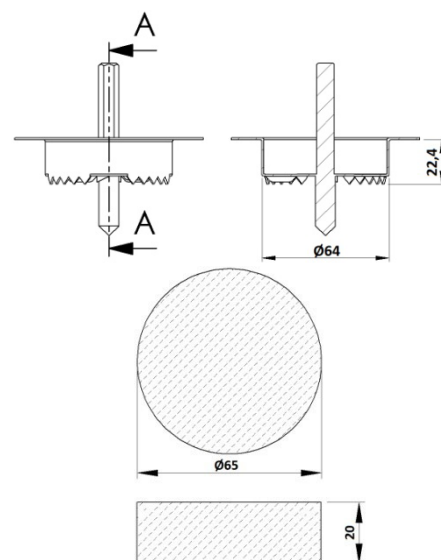


Product Code	Cap Diameter [mm]	Cap Thickness [mm]	Description
TIA67PW	67	18	white styrofoam plug
TIA67PG			graphite styrofoam plug

Accessories for recessed mounting in hard boards made of mineral wool

Product Code	Diameter Cutter [mm]	Description
TIA64CW	64	Cutter for recessed installation in hard mineral wool boards

Product Code	Cap Diameter [mm]	Cap Thickness [mm]	Description
TIA65PW	65	20	white styrofoam plug
TIA67PG			Graphite styrofoam plug



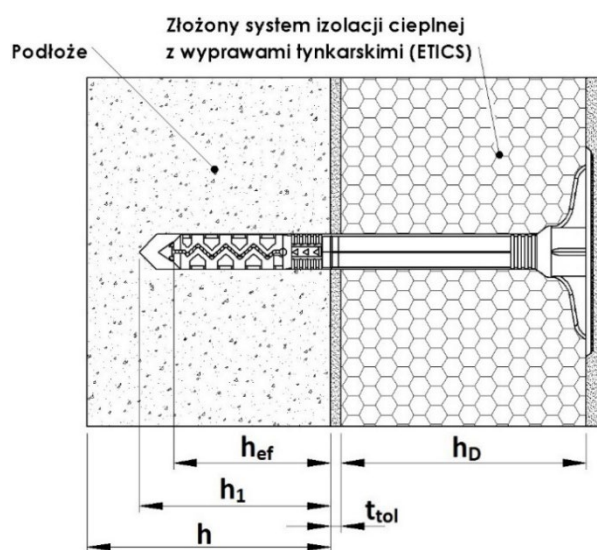
Design capacities for TIA dowel pulling depending on the type of substrate and anchorage depth

Design Characteristics	TIA PPSE	TIA MPSE TIA MPPHSE	TIA PPLE	TIA MPLE TIA MPPHLE
Hole Diameter d_o [mm]	10	10	10	10
Hole Depth h_1 [mm]	≥ 50	≥ 50	≥ 90	≥ 90
Effective Anchorage depth h_{ef} [mm]	≥ 40	≥ 40	≥ 80	≥ 80
Design resistance in concrete C12/16 N_{sd} [kN]	0,27	0,20	0,15	0,27
Design resistance in concrete C16/20-C50/60 N_{sd} [kN]	0,40	0,27	0,22	0,40
Design resistance in brick $\geq 20\text{MPa}$ N_{sd} [kN]	0,50	0,32	0,22	0,30
Design resistance in silicate brick $\geq 20\text{MPa}$ N_{sd} [kN]	0,20	0,17	0,12	0,32
Design resistance in Porotherm $\geq 15\text{MPa}$ N_{sd} [kN]	0,05	0,05	0,07	0,12
Design resistance in a silicate block with holes $\geq 15\text{MPa}$ N_{sd} [kN]	0,32	0,20	0,07	0,12
Design resistance in concrete on lightweight aggregate $\geq 5\text{MPa}$ N_{sd} [kN]	0,10	0,15	0,07	0,15
Design resistance in aerated concrete $\geq 2\text{MPa}$ N_{sd} [kN]	-	0,05	0,05	0,05
Minimum pin spacing S_{min} [mm]	100	100	100	100
Minimum edge distance C_{min} [mm]	100	100	100	100
Minimum thickness of substrate h_{min} [mm]	100	100	100	100

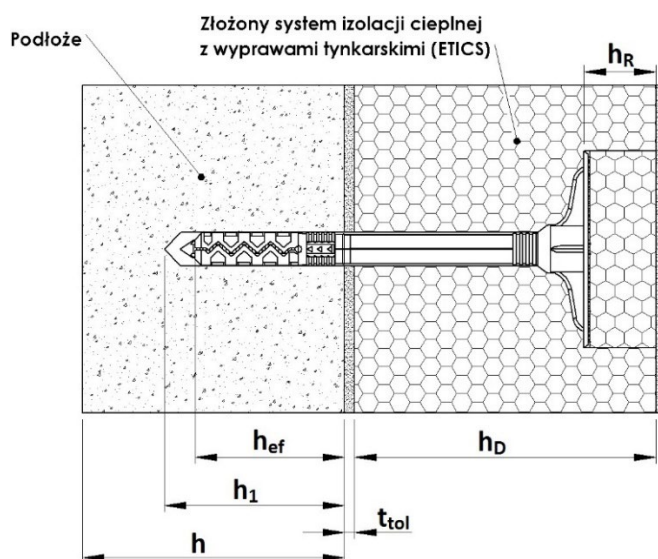
* Design should take into account the entire European Technical Assessment ETA-21/0611

Diagram of Fastening TIA

Surface Mount



Recessed Mount



Fastening Instructions TIA

