Technical Data Sheet

1/4” CONCRETE SPIKE

ADVANTAGES

- Designed to secure insulation, coverboards, base sheets metal or wood to structural concrete decks
- S-shaped design at the working end creates an expansion mechanism for excellent holding power
- Vibration-resistant anchor
- Epoxy coated for enhanced corrosion resistance
- Pre-formed anchor for faster installation

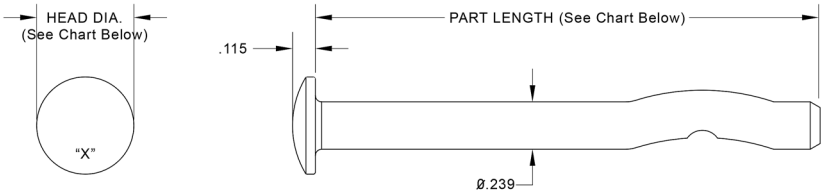
TYPICAL PROPERTIES*

PROPERTY	VALUE
Material	AISI 1038 Carbon Steel
Coating	Epoxy E-Coat
Fastener Head	Mushroom head
Shank Diameter	.239 in
Corrosion Resistance	<15% Red rust after 30 cycles
Recycled content	20%

** All values shown are nominal*

Enlarged to show detail

PRODUCT SPECIFICATIONS



PRODUCT PACKAGING

PART #	PART LENGTH		HEAD DIAMETER		PACKAGING		QTY/ PALLET
	Inches	*MM*	*Inches*	*MM*	*QTY/Bucket*	*Weight (lb)*	
TS250-1250	1 ¼	31.8	.50	12.7	500	11.0	30,000
TS250-1500	1 ½	38.1	.50	12.7	500	12.5	30,000
TS250-2000	2	50.8	.50	12.7	500	16.5	30,000
TS250-2500	2 ½	63.5	.50	12.7	500	20.0	30,000
TS250-3000	3	76.2	.50	12.7	500	23.5	60,000
TS250-3500	3 ½	88.9	.50	12.7	500	27.0	40,000
TS250-4000	4	101.6	.50	12.7	500	30.5	30,000
TS250-4500	4 ½	114.3	.50	12.7	500	34.0	30,000
TS250-5000	5	127.0	.50	12.7	500	37.5	30,000
TS250-5500	5 ½	139.7	.50	12.7	500	41.0	30,000
TS250-6000	6	152.4	.50	12.7	250	23.0	15,000
TS250-6500	6 ½	165.1	.45	11.4	250	24.5	15,000
TS250-7000	7	177.8	.45	11.4	250	26.5	15,000
TS250-7500	7 ½	190.5	.45	11.4	250	28.0	15,000
TS250-8000	8	203.2	.45	11.4	250	30.0	15,000
TS250-9000	9	228.6	.45	11.4	250	33.5	15,000
TS250-10000	10	254.0	.45	11.4	250	37.0	15,000
TS250-11000	11	279.4	.45	11.4	100	16.0	6,000
TS250-12000	12	304.8	.45	11.4	100	17.5	6,000
TS250-13000	13	330.2	.45	11.4	100	19.0	3,000
TS250-14000	14	355.6	.45	11.4	100	20.5	3,000
TS250-15000	15	381.0	.45	11.4	100	22.0	3,000
TS250-16000	16	406.4	.45	11.4	100	23.0	3,000

** All values shown are nominal*

PERFORMANCE ROOF SYSTEMS™ A SOPREMA GROUP COMPANY

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REV. 03.22

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1/4" CONCRETE SPIKE

PERFORMANCE DATA

Average Ultimate Load Capacities in Normal-Weight Concrete[1] (lbf)

PROPERTY	MIN. CONCRETE COMPRESSION STRENGTH (psi)							
	2,000		3,000		4,000		5,000	
Embedment Depth	*1"*	*1.25"*	*1*	*1.25"*	*1*	*1.25"*	*1*	*1.25"*
Tensile Strength	620	830	775	1,100	835	1,210	885	1,320
Shear Strength	1,585	1,815	1,965	2,160	2,160	2,220	2,360	2,585

Average Ultimate Load Capacities in Structural Lightweight Concrete[1] (lbf)

PROPERTY	MIN. CONCRETE COMPRESSION STRENGTH (psi)		
	3,000	4,000	5,000
Tensile Strength	480	440	400
Shear Strength	1,720	1,720	1,720

Average Ultimate & Allowable Load Capacities in Grouted Concrete Masonry [2] (lbf)

PROPERTY	ULTIMATE LOAD		ALLOWABLE LOAD	
Embedment Depth	*1"*	*1.25"*	*1"*	*1.25"*
Tensile Strength	670	800	135	160
Shear Strength	1,840	2,100	370	240

[1] *The load values listed above are for fasteners installed in concrete. Concrete compressive strength must be at the specified minimum at the time of installation. Concrete compressive strength must be at the specified minimum at the time of installation. Ultimate load capacities must be reduced by a minimum safety factor of 4.0 or greater to determine allowable working load. Consideration of safety factor of 10 or higher may be necessary depending upon the application, such as life safety or overhead.*

[2] *The load values listed above are for fasteners installed in minimum 6" wide, minimum Grad N, Type II, lightweight, medium-weight or normal-weight concrete masonry units confirming to ASTM C90. Mortar must be minimum Type N. Masonry cells may be grouted. Masonry compressive strength must be at the specified minimum at the time of installation (f'm ≥ 1,500 psi). Allowable load capacities listed are calculated using an applied safety factor of 5.0. Consideration of safety factors of 10 or higher may be necessary depending upon the application, such as life safety and in sustained tensile loading applications. Linear interpolation may be used to determine allowable load capacities for intermediate embedments. The tabulated values are for fasteners installed at a minimum of 16 fastener diameters on center.*

INSTALLATION

Predrill a ¼ inch diameter hole using the requirement of ANSI Standard B212.15. The predrilled hole must be a minimum of ½ inch deeper than the fastener embedment. Minimum fastener embedment into the deck should be 1 inch. Care should be taken not to damage the insulation or membrane by over driving the fastener.

Performance Roof Systems advises that pullout tests be performed prior to application to verify the substrate provides adequate pull-out values.

APPROVED ACCESSORIES

- 3" Metal Insulation Plate
- 2" and 2.4" Barbed Metal Seam Plates
- 3" Recessed Metal Insulation Plate
- Flat and Recessed Batten Bars

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