



Product Data Sheet

MULE-HIDE HDP (#14) FASTENERS

PRODUCT DESCRIPTION

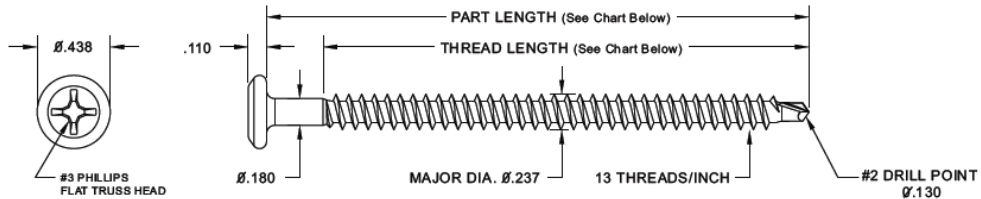
Mule-Hide Heavy-Duty Drill Point Fasteners are # 14 fasteners that are specifically engineered to attached insulation, cover boards and base sheets to wood and steel decking (16 to 22 gauge). These fasteners incorporate a No. 3 Phillips recess, flat truss head with a #2 double flute self-drilling point. The drill point has an exclusive tapered entry thread design that allows for fastener penetration into steel roof decks and offers exceptional back-out resistance.

BASIC USES

Mule-Hide's HDP Fasteners are designed specifically for the mechanical attachment of Mule-Hide's reinforced EPDM, TPO and PVC membranes and for the mechanical attachment of Poly ISO 1 and Poly ISO 2 roof insulation boards and other FM approved insulation / cover boards into steel, wood and concrete decks. The Mule-Hide HDP Fasteners may be used in conjunction with the Mule-Hide 2.4" Seam Plates, 3" Insulation Plates and All Purpose Bars. Refer to Mule-Hide's appropriate Single-Ply Manuals for installation instructions and uses.

SPECIFICATIONS

Property	Standard	Average Ultimate Value
Wire:	----	SAE C-1022, heat treated wire
Coating:	----	TRU-Kote™ Epoxy E-Coat
Manufacturing Location	----	Bryan, OH
LEED Eligible Recycle Content	----	20%
Corrosion Resistance	FM 4470, ASTM D6294, DIN 50018	<15% Red Rust after 30 cycles
Tensile Strength	ASTM F606-10	3200 lbf.
Shear Strength	NASM 1312-20	2200 lb. (thread zone)



PACKAGING

Screw Length*	Thread Length*	Pieces/Box x	Weight/Box
1-1/2"	1-1/2"	1000	12.9 lbs
2"	2"	1000	15.5 lbs
2-1/2"	2-1/2"	1000	19.4 lbs
3"	2-7/8"	1000	23.7 lbs
3-1/2"	2-7/8"	1000	26.4 lbs
4"	3-7/8"	1000	30.9 lbs
4-1/2"	3-7/8"	1000	33.6 lbs
5"	3-7/8"	1000	37.3 lbs
5-1/2"	3-7/8"	1000	40.8 lbs
6"	3-7/8"	1000	44.0 lbs
7"	3-7/8"	500	25.9 lbs
8"	3-7/8"	500	29.7 lbs
9"	3-7/8"	250	16.6 lbs
10"	3-7/8"	250	18.5 lbs
11"	3-7/8"	250	20.1 lbs
12"	3-7/8"	250	22.0 lbs

***Notes:**
Screw Length is $\pm 1/16"$
Thread Length is $\pm 1/16"$

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Performance Information

Average Ultimate Pullout Values in Corrugated Steel Deck Substrates														
Thickness	24 ga.			22 ga.			20 ga.			18 ga.			16 ga.	
Strength, ksi	36.5	33.0	80.0	102.0	33.0	80.0	102.0	33.0	80.0	102.0	33.0	80.0	102.0	
Pullout (lbs)	255	315	480	560	420	615	710	675	885	985	850	1115	1240	
Average Ultimate Pullout Values in Wood Substrates												Concrete		
Type	APA Rated OSB				APA Rated Plywood				SPF #2	3,000 psi				
Thickness	7/16"	15/32"	19/32"	23/32"	15/32"	19/32"	23/32"	450*						
Pullout (lbs)	270	290	310	410	360	410	730	795*	450*					

*lbf./in. of thread penetration including tip. Pull out values are offered only as a guide and are not guaranteed in any way. Designated holding powers are dependent upon quality of substrate and accuracy of installation. Mule-Hide recommends that fastener pull out testing be performed to verify fastener performance.

CODE APPROVALS/COMPLIANCE

Mule-Hide HDP Fasteners comply with the requirements of the following specifications, test and code requirements when properly installed.

* FM Standard 4450/4470 Approval * Metro-Dade Approved * Florida Product Approval

INSTALLATION INSTRUCTIONS

Steel and Wood Decks

Install fasteners with #3 Phillips drive bit provided in box and a variable speed screw gun. Fastener must penetrate the deck a minimum of $\frac{3}{4}$ " as measured from the underside of the roof deck to the fastener tip. Ensure that fastener is installed perpendicular to surface of roof deck. Care should be taken to not overdrive the fastener causing damage to roof insulation, fastener or roof deck.

Concrete Decks

Pre-drill a 3/16" diameter hole using a drill bit that meets ANSI Standard B212.15 requirements and hammer drill. Drill hole a minimum of $\frac{1}{2}$ " deeper than fastener embedment and clean debris from hole. Using the #3 Phillips drill bit provided and a 0 to 1500 rpm screw gun, install fastener to a minimum embedment of 1" until fastener head is properly seated in bar or plate. Care should be taken to not overdrive the fastener causing damage to roof insulation, fastener or roof deck. **Use eye protection when installing fasteners.**

PROTECTION & SAFETY

Mule-Hide maintains Safety Data Sheets on all of its non-exempt products. Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees and customers. Mule-Hide's Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Mule-Hide products in your facilities.

ADDITIONAL INFORMATION

The information given on this PDS is subject to change without notice. Always check the Mule-Hide website at www.mulehide.com for the latest information, changes and updates or contact Mule-Hide Products Company at 800-786-1492.

DISCLAIMER

The statements provided concerning the material shown are intended as a guide for material usage and are believed to be true and accurate at the time of printing. No statement made by anyone may supersede this information, except when done in writing by Mule-Hide Products Co., Inc. Since the manner of use is beyond our control, Mule-Hide does not authorize anyone to make any warranty of merchantability or fitness for any particular purpose or any other warranty, guarantee or representation, expressed or implied, concerning this material. This product may be eligible for a Mule-Hide warranty, please check the Mule-Hide website at www.mulehide.com or contact Mule-Hide directly at 800-786-1492 for details. Buyer and user accept the product under these conditions and assume the risk of any failure, any injury person or property (including that of the user), loss or liability resulting from the handling, storage or use of the product whether or not it is handled, stored or used in accordance with the directions or specifications. Mule-Hide must be notified in writing of any claims and be given the opportunity to inspect the alleged failure before repairs are made.