HUBBELL ELECTRICAL PRODUCTS
A Division of HUBBELL INCORPORATED (Delaware)
3940 Dr. Martin Luther King Drive
St. Louis, Missouri 63113 USA

INSTALLATION, OPERATION & MAINTENANCE DATA SHEET
SERIES SWBC EMPTY ENCLOSURES
For Use In Hazardous Locations
Drilling and Tapping Instructions For Conduit Openings

SERIES SWBC CAST ALUMINUM ENCLOSURES For Use In Classified Hazardous Locations – Instructions For Drilling and Tapping of Conduit Entries

General Safety Information:

CAUTION:

Before installing, make sure you are compliant with area classifications, failure to do so may result in bodily injury, death and property damage. Do not attempt installation until you are familiar with the following procedures. All installation must comply with the applicable Electrical Code.

Make sure that the circuit is De-energized before starting installation or maintenance.
Verify that the installation is grounded. Failure to ground will create electrical shock hazards, which can cause serious injury and or death.

IMPORTANT:

Please read these instructions carefully before installing or maintaining this equipment. Good electrical practices should be followed at all times and this data should be used as a guide only.

Technical information, advice and recommendations contained in these documents is based upon information that Killark believes to be reliable. All the information and advice contained in these documents is intended for use only by persons having been trained and possessing the requisite skill and know-how and to be used by such persons only at their own discretion and risk. The nature of these instructions is informative only and does not cover all of the details, variations or combinations in which this equipment may be used, its storage, delivery, installation, check out, safe operation and maintenance. Since conditions of use of the product are outside of the care, custody and control of Killark, the purchaser should determine the suitability of the product for his intended use, and assumes all risk and liability whatsoever in connection therewith.

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GENERAL INSTRUCTIONS AND REQUIREMENTS FOR DRILLING AND TAPPING IN THE FIELD

WARNING: The following requirements must be met in order to comply with the applicable UL and CSA HazLoc Standards, the National Electrical Codes (NEC and CEC), and in order to maintain the Listing/Classification of the enclosure.

(1) Standard NPT threads (with a ¾ inch-per-foot taper) must be used for all conduit openings.

(2) Field drilling and tapping of the side and back walls of blank boxes may be performed provided the location of the conduit openings meet the specifications of **Chart 1** below.

NOTE – Drilling and tapping of holes for mounting brackets on the casted "shelf" does not affect the flange (flamepath). Holes may be machined at any location on the "shelf" – *see inset at right:*

*Use **caution** when drilling and tapping to avoid damage to the flanged surfaces (flamepath).*

(3) Wall thickness must meet the dimensions shown on Charts 2 and 3.

(4) Use Chart 1 to determine the maximum quantity and size of conduit openings permitted.

(5) 1/2 inch trade size is the minimum allowable size for any conduit opening.

(6) Refer to Table A below for maximum allowable conduit sizes.

(7) Class I, Division 1 & Class II Locations require boxes with a wall thickness sufficient to provide a minimum of five (5) full threads (See Chart 2).

(8) Class II Locations, when the box is not supported by the conduits, requires a wall thickness sufficient to provide a minimum of 3-1/2 full threads (See Chart 3).

(9) After the size of the conduit openings has been determied for specific enclosures, measure the wall thickness and refer to the specific Chart per the following steps :

(A) 5 Full Thread Reference Chart 2 (B) 3-1/2 Full Thread Reference Chart 3.

(10) If insufficient wall thickness is encountered, contact Killark Customer Service at 314-531-8839.

INSTALLATION PRECAUTIONS

(1) NEVER use hammers, screwdrivers, or any type of prying device, to open the cover. These types of tools can damage the surface of the flanges and prevent the flamepath joint from sealing properly.

(2) Inspect flanged surfaces of the box and of the cover. Surfaces must be free of nicks, dirt or any foreign particle build-up that would prevent a proper seal.

(3) Should the surfaces be damaged, consult the factory. Never attempt to rework the surfaces in the field. Surfaces must seat fully against each other to provide the proper joint.

(4) Apply a light coating of Killark "LUBG" lubricant to the box flange before closing the cover. All cover screws must be installed tightly to ensure the joint between the box and cover is sealed prior to powering the unit. An improper joint can result in an explosion with the possibility of physical injury and property damage.

TABLE A	
Cat No.	Maximum Conduit Size
SWBC-13	1-1/4 "
SWBC-14	1-1/4 "
SWBC-15	1-1/4 "
SWBC-16	1-1/4 "
SWBC-83	1-1/4 "

TABLE B – Recommended Tap Drill	
TAPPED HOLE SIZE - NPT	TAP DRILL SIZE (Diameter)
½" – 14	23/32"
¾" – 14	59/64"
1" – 11-1/2	1-5/32"
1-1/4" – 11-1/2	1-12"

P/N 00911459 FORM NO. K1022 R8/18 ECO-3-038-18

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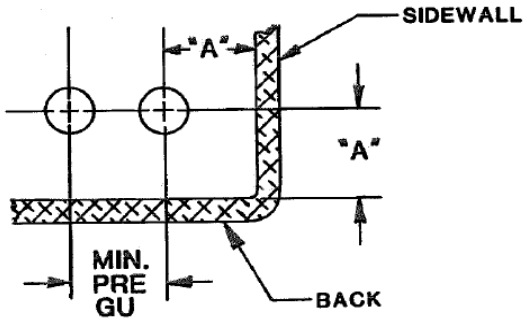
SERIES SWBC EMPTY ENCLOSURES

For Use In Hazardous Locations

Drilling and Tapping Instructions For Conduit Openings

Chart 1: Minimum Centers for Drilled & Tapped Openings for Conduits.
(Allows for locknut, bushing & union clearance)

SIZE	FORM	½	¾	1	1¼
½	(1) MIN	1 3/16			
	(2) PRE	1 3/8			
	(3) GU	1 5/8			
¾	(1) MIN	1 3/8	1½		
	(2) PRE	1½	1 5/8		
	(3) GU	1¾	1 13/16		
1	(1) MIN	1½	1¾	1 13/16	
	(2) PRE	1¾	1 7/8	2	
	(3) GU	1 7/8	2	2 1/8	
1¼	(1) MIN	1 11/16	1 15/16	2 1/16	2 5/16
	(2) PRE	1 15/16	2 1/16	2¼	2½
	(3) GU	2 1/16	2¼	2 5/16	2½
Approx. O.D. of:	LOCKNUT	1¼	1 1/8	1 11/16	2 3/16
	BUSHING	1	1¼	1½	1 15/16
	CONDUIT	7/8	1 1/16	1 3/8	1 11/16



Minimum Spacing of Conduit from Sides & Back				
Conduit Size	½	¾	1	1¼
Dim. "A" *	1	1	1⅛	1⅜

*Note: If Listed "GU" series unions are being used (½" thru 1¼") additional space for clearance may be required. Check dimensions of fittings being used.

(1) Minimum spacing required to provide clearance over locknuts and bushings.
(2) Preferred - More liberal spacings between centers of conduits to be used whenever possible.
(3) GU - When Listed "GU" series unions (½" thru 1¼") are used, additional spacing between conduits will be required, as specified above.

Chart 2: Required minimum wall thickness for five (5) full threads engagement per U.L. 886 Standards.

Class I, Division 1
Class II **Supported by Conduit**

CONDUIT SIZE	MINIMUM NUMBER OF FULL THREADS	MINIMUM WALL THICKNESS
½" & ¾"-14	5	(1) 29/64"
1" & 1¼"-11½	5	(1) 7/16"

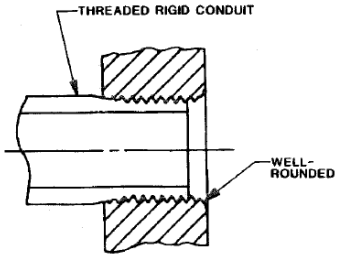
(1) A box used may have thicker walls than required. For thicker walled boxes, the inner end of each conduit opening shall be smooth and well-rounded, as shown below.

Chart 3: Required minimum wall thickness for 3-1/2 full threads engagement.
Class II Locations **Not Supported by Conduit**

CONDUIT SIZE	MINIMUM NUMBER OF FULL THREADS	MINIMUM WALL THICKNESS
½" & ¾"-14	3½	(1) ¼"
1" & 1¼"-11½	3½	(1) 5/16"

(1) Same as shown for Chart 2.

NOTE:
1. Conduit openings must be tapped to a depth which allows the conduit to be fully engaged. Recommended gaging is 1 to 2 turns deep beyond gage mark.
2. **Do not** over-tap conduit openings: the conduit must tighten fully **without** bottoming-out on the unthreaded area of the conduit.



CONDUIT OPENING WITHOUT CONDUIT STOP

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