BXUV.D859 - Fire-resistance Ratings - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. D859

December 02, 2020

Restrained Assembly Ratings — 1, 1-1/2, 2 and 3 Hr.

(See Items 9, 9A, 9B, 9C)

Unrestrained Assembly Ratings — 1, 1-1/2, 2, 3 Hr.

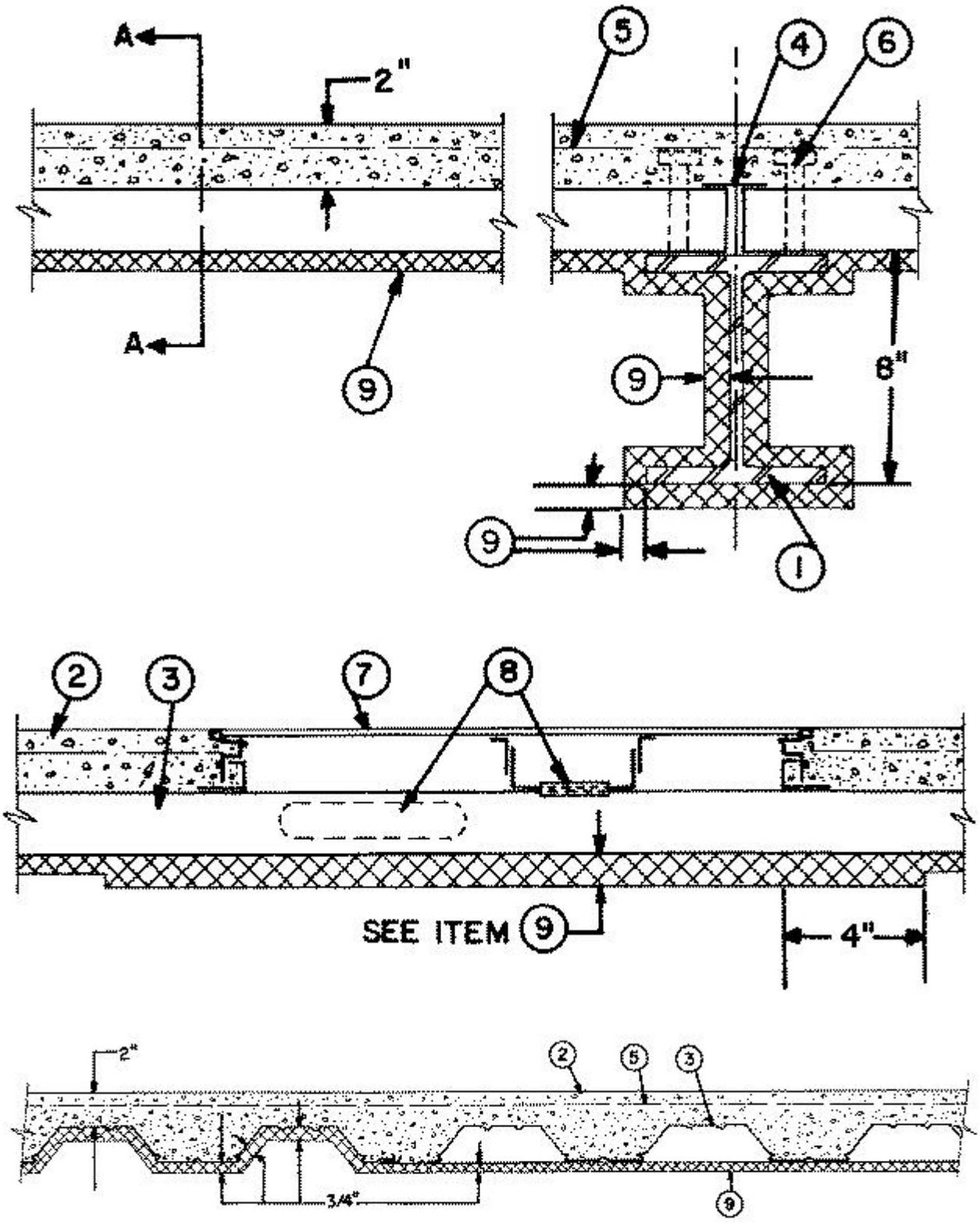
(See Items 9, 9A, 9B, 9C)

Unrestrained Beam Ratings — 1, 1-1/2, 2, 3 Hr.

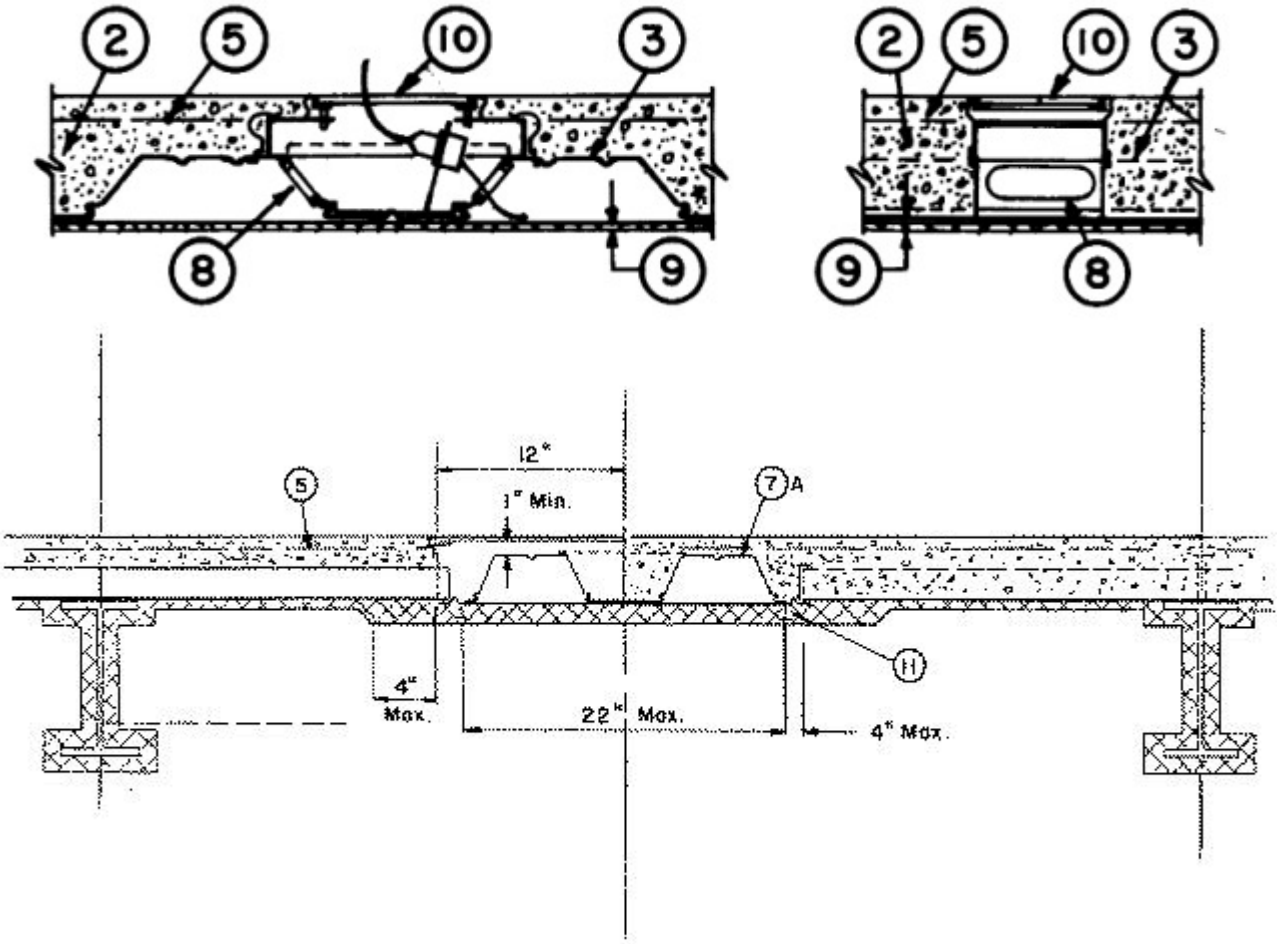
(See Items 9, 9A, 9B, 9C)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



SECTION A-A



1. **Beam —** W8X20, min size.

2. **Normal Weight or Light Weight Aggregate Concrete —** Normal weight concrete, carbonate or siliceous aggregate, 145 (+ or -) 3 pcf unit weight, 3000 psi compressive strength, 4 to 7 percent entrained air, vibrated. Light weight concrete, expanded shale or slate aggregate by rotary-kiln method; or expanded clay aggregate by rotary-kiln or sintered-grate method, 113 (+2, -5) pcf unit weight, 3000 psi compressive strength, 4 to 7 percent entrained air, vibrated.

3. **Steel Floor and Form Units* —** Composite 2 or 3 in. deep galv units. Min gauges are 22 MSG for fluted and 20/20 MSG for cellular. For spans with trench headers the allowable loading shall be based on non-composite design. The following combination of units may be used: (1) All fluted; (2) All 24, 30 or 36 in. wide cellular; (3) Any blend of fluted and 24, 30 or 36 in. wide cellular; (4) One or two 12 in. wide cellular alternating with fluted or 24 and 36 in. wide cellular. Spacing of welds attaching units to supports shall not exceed 12 in. OC. Unless noted otherwise, adjacent units welded together 60 in. max along side joints.

ASC STEEL DECK, DIV OF ASC PROFILES L L C — 36 in. wide, Types 2WH-36, 2WHS-36, 2WHF-36, 2WHF-36A, 3WxH-36, 3WxHF-36, 3WxHF-36A, 3WH-36, 3WHF-36, 3WHF-36A, 3W-36, 3WF-36, DG3W-36, DG3WF-36. All units may be galvanized or Prime Shield. Non-cellular decks may be vented designated with a "V" suffix to the product name.

CANAM GROUP INC — 36 in. wide Type P-3623 composite; 24 in. wide Type P-2432 composite; 24 or 36 in. wide Type LF3. Type LF3 unit may be phos/ptd.

CANAM STEEL CORP — 36 in. wide Type P-3623 composite; 24 in. wide Type P-2432 composite

KAM INDUSTRIES LTD, DBA CORDECK — QL Types, 12 in. wide TKC; 24 in.wide 2 or 3 in. 21, 99, 121, AKX, NKX, WKX, TKX, AKD, WKD; 36 in. wide 2 or 3 in. 99, AKX, WKX, AKD, WKD; 24 or 30 in. wide 3 in. QL-GKX, -GKXH, -GKX-A. Adjacent QL Types 2 or 3 in. 99, AKX, WKX, -GKX, -GKX-A, ADK, WKD, Metric units-QL-77-600, -77-900 and all QLC Type units may be screwed together 48 in. OC max along side joints (in lieu of welds 60 in. OC max) with 1 in. long, No. 10 self-tapping and self-drilling steel screws

CANAM STEEL CORP — 12, 24 or 36 in. wide Types LF2 or LF3; LFC2 or LFC3. Types LF2, LF3 may be phos/ptd

DECK WEST INC — 36 in. wide Type 2-DW or 3-DW

DESIGN ASSISTANCE CONSTRUCTION SYSTEMS INC — 24 in. wide Type DACS2.0CD, or DACS3.0CD

EPIC METALS CORP — 24 in. wide Types EC366, ECP366; 24 or 30 in. wide Types EPC2, EPC3; 36 in. wide Types EC266, ECP266

MARLYN STEEL DECKS INC — Type 1.5 CF, 2.0 CF or 3.0 CF

NEW MILLENNIUM BUILDING SYSTEMS L L C — 24 or 36 in. wide Types 2.0CD, 3.0CD, 2.0CFD, 3.0CFD, 3.0CFDES. Fluted units may be phos/painted or galvanized

STEEL MASTERS INTERNATIONAL DEPENDABLE STEEL — 36 in. wide Types 2WH-36, 3WH-36. Units may be phos/painted or galvanized.

VERCO DECKING INC - A NUCOR CO — FORMLOK™ deck types PLB, B, BR, PLN3, N3, PLN, N, PLW2, W2, PLW3, W3. Units are min 24 in. wide and may be galvanized or phos./ptd. Units may be cellular with the suffix "CD" added to the product name, respectively. All non-cellular deck may be vented or non-vented.

VULCRAFT, DIV OF NUCOR CORP — 24 or 36 in. wide Type 2VLI, 2.0PLVLI, 3VLI, 3.0PLVLI, 2VLP, 2.0PLVLP, 3VLP, 3.0PLVLP. Types 2VLI, 2.0PLVLI, 3VLI, 3.0PLVLI units may be phos./ptd. 24 or 36 in wide Types 2.0 SB, 3.0 SB; Units may be phos/ptd.

4. **Joint Cover —** 2 in. wide pressure-sensitive cloth tape applied following the contour of the steel floor units.

5. **Welded Wire Fabric —** 6 x 6 — W1.4 x W1.4.

6. **Shear Connector Studs — Optional** — Studs, 3/4 in. diam, headed type or equivalent per AISC Specifications. Welded to the top flange of beam through the steel floor units. Min 1/2 in. concrete cover over studs.

7. **Trench Header —** (Bearing the UL Listing Mark). Constructed of steel and provided with metal edge screeds. When the trench header is located near a support the load carrying capacity of the span may be based on the allowable moment or shear stress of the floor units at the edge of the trench header away from the support, or on the allowable composite moment or shear capacity of the slab at the center of the span, whichever governs.

As an alternate, trench headers (Bearing the UL Listing Mark) without the bottom pan may be used. The allowable superimposed load for spans with a bottomless trench header shall be based on non-composite design. The bottomless trench header, with a max width of 36 in., consists of two cell closers which conform to the contour of the floor units, placed along the sides of the desired trench header location and welded to the floor units. The side rails, consisting of extruded aluminum screeds secured to galv steel channels (min 18 MSG), are positioned over the cell closers, aligned, and welded or riveted to the cell closers and floor units. A separate U-shaped galv steel channel (min 18 MSG), serving as the power compartment, is welded or riveted to the floor units. Steel cover plates, 1/4 in. thick, shall be adequately secured to the side rails. In bottomless trench headers wider than 18 in., each side joint of the steel floor units shall be welded with a 1 in. long weld near the trench header centerline. For QL-GKX-24 or -30 cellular floor units only, a separate KED-PTS (UL Listed) power transition sleeve is secured to power compartment with one rivet or screw. The use of the bottomless trench header requires additional protection underneath the trench header. (See Item 9).

7A. **Feeder Duct System —** (As an alternate to Item 7). Consists of 3 in. deep, nom 24 in. wide, 20/18 MSG Type QL-WKM or WL-WKM-E cellular steel floor unit (Feeder duct) and nom 24 by 24 in. junction boxes. The valley between the two cells of the feeder duct may or may not be covered by a steel plate to form a third cell. Feeder duct installed at the same elevation and perpendicular to 2 or 3 in. deep fluted and/or cellular steel floor units which are cantilevered from support beams on one or both sides of the feeder duct.

The junction boxes consisting of extruded aluminum screeds, 18 galv steel compartment divider and 0.21 in. thick steel cover plate are used at intersections of 2 or 3 in. cellular units and the feeder duct, where desired, bottom tabs of the flute closures are fastened to the valleys of the 2 or 3 in. units and to the feeder duct with self-drilling tek fasteners, while the cover plate is retained in position by four

latch clips, one near each corner of the plate. The height and the level of the aluminum screed are adjusted by four adjustment screws, two each on opposite sides. In between the junction boxes the ends of the 2 or 3 in. fluted and/or cellular units are covered with steel end closure angles tack-welded to the top of the units.

8. **Access Openings —** As required, with grommets.

9. **Spray-Applied Fire Resistive Materials* —** Applied by spraying with water, in several coats, to final untamped thicknesses shown on design sketch and in tables below, to steel surfaces which are free of dirt, oil or scale. Use of adhesive is required under bottomless trenches and on cellular units, optional on other conditions. Min avg untamped density is 13 pcf on beam and steel form units with min ind untamped density of 11 pcf for Types II, II HS, or DC/F. Min avg and min ind densities of 22 and 19 pcf, respectively, for Type HP. For method of density determination refer to Design Information Section.
ISOLATEK INTERNATIONAL — Type D-C/F, Type HP, Type II, Type II HS; Type EBS or Type X Adhesive

9A. **Spray-Applied Fire Resistive Materials* - As An Alternate to Item 9 —** Applied by mixing with water in accordance with instructions on each bag and applied in one or more coats to a final thickness as shown in table below to steel beam and fluted steel deck surface which is free of dirt, oil or scale. The area between the steel deck and the top flange of the steel beam shall be filled. Min average and min individual density is 15 and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively.
BERLIN CO LTD — Type 300, Type 300ES, Type 300N or Type SB.

GREENTECH ASIA PACIFIC SDN BDH — Type 300, 300ES, or 300HS

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, or 400AC.

ISOLATEK INTERNATIONAL — Type 300, Type 300AC, Type 300ES, Type 300HS, Type 300N, Type SB, Type 400AC, Type 400ES, Type 3000 or Type 3000ES.

NEWKEM PRODUCTS CORP — Type 300, Type 300ES, Type 300N, or Type SB.

9B. **Spray-Applied Fire Resistive Materials*— As An Alternate to Item 9 A —** Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale and oil. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged. When metal lath is not required, Type PC Pre coat is required on all cellular units when Type 300TW is used. The Type PC Pre coat shall be applied to cover approximately 70 percent of the flat plate surface. Thickness of the Type PC Pre coat is included in the total thickness of the protection material. Min average and min individual density of 17.5 and 16 pcf, respectively for Type300TW. Min average and min individual density of 22 and 19 pcf, respectively for Type 400. For method of density determination, see Design Information Section, Sprayed Material. When Type 400 is used on cellular units, metal lath (Item 12) must be used.
BERLIN CO LTD — Type 400.

GREENTECH ASIA PACIFIC SDN BDH — Type 400

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400.

ISOLATEK INTERNATIONAL — Type 300TWor 400, Type PC.

NEWKEM PRODUCTS CORP — Type 400

Restrained Assembly Rating Hr	Concrete (Type) NW or LW	Min Required Unrestrained Beam Rating Hr	Min Mtl Thkns on Beam In.
1		1	1/2
1-1/2	NW or LW	1	1/2
2	NW or LW	1	1/2
3	NW or LW	1-1/2	7/8
—	NW or LW	2	1-1/16
—	LW	3	1-1/2
—	NW	3	1-3/8

Form Unit Type	Concrete Type	Min Mtl Thkns In. Crests	Valley	Flat Plate	Restrained & Unrestrained Assembly Rating Hr
(GENERAL FLOOR AREA)					
(1) 2 or 3 in. QL-21,	NW or	9/16	9/16	9/16	1
-99, -121; Metric	LW				
Units-QL-77-600,					
-77-900; QLC-78-600,					
-78-900; 2VLI, 3VLI;					
EC266, -366;					
P20LF, P30LF, P31LF;					
F2, F3; LF2, LF3;					
2W, 3W; W2, W3;					
212V-Grip, 312V-Grip,					
CFD-2, -3;					
QL-AKX, -NKX,					
-TKX, -WKX, -WKD,					
-GKX, -GKX-A; ECP-					
266; ECP366; EPC2,					
EPC3; LF2C,					
LF3C; C20LF, C30LF, C31LF,					
C33LF, C34LF; 2VLP, 3VLP;					

212VW2-Wireway, 312VW2-					
Wireway, 212VW3-Wireway,					
312VW3-Wireway; 2-DW, 3-DW;					
(2) QL-AKX, -AKD	NW	—	—	7/16	1
(3) QL-WKX, -WKD,	NW	—	—	3/8	1
-GKX, -GKX-A;					
Metric Units-					
QLC-78-600,					
-78-900					
(4) 2 or 3 in. QL-21, -99,	NW or	5/8	5/8	5/8	1-1/2
-121; Metric	LW				
Units-QL-77-					
600, -77-900;					
QLC-78-600, -78-					
900; EC266, EC366,					
P20LF, P30LF, P31LF;					
212V-Grip, 312V-Grip;					
CFD-2, -3; F2, F3;					
LF2, LF3; 2VLI, 3VLI;					
2W, 3W; W2,W3; QL-AKX,					
-NKX, -TKX, -WKD, -WKX,					
-AKD, -GKX, -GKX-A; ECP-					
266, ECP366; EPC2,					
EPC3; LF2C, LF3C; C20LF,					
C30LF, C31LF, C33LF,					
C34LF; 2VLP, 3VLP;					
212VW2-Wireway, 312VW2-					
Wireway, 212VW3-Wireway,					
312VW3-Wireway; 2-DW					
3-DW;					
(5) 2 or 3 in. QL-21,	NW or	3/4	3/4	3/4	2

-99, -121; Metric	LW				
Units-QL-77-600,					
-77-900; EC266, EC-					
366, P20LF, P30LF;					
F2, F3; LF2, LF3;					
2VLI, 3VLI, 2W, 3W; W2, W3;					
212V-Grip, 312V-Grip;					
CFD-2, -3; QL-AKX,					
-NKX, -TKX, -WKX,					
-AKD, -WKD, -GKX,					
-GKX-A, -78-900;					
ECP-266, -366, EPC2,					
EPC3; C20LF, C30LF,					
C31LF, C33LF, C34LF;					
2VLP, 3VLP;					
212VW2-Wireway, 312VW2-					
Wireway, 212VW3-Wireway,					
312VW3-Wireway;					
Metric Units-QLC-78-600;					
2-DW, 3-DW;					
(6) 2 or 3 in. QL-99;	NW or	1-1/4	1-1/8	1-1/8	3
QL-AKX, -WKX, -GKX,	LW				
-GKX-A,-AKD, -WKD					
Metric Units-					
QL-77-600, -77-					
900; QLC-78-600,					
-78-900; 2-DW, 3-DW;					
(STANDARD TRENCH HEADER)					
(7) 2 or 3 in. QL-99,	NW or	9/16	9/16	9/16+	1
QL-21, -121; Metric	LW				
Units-QL-77-600,					

-77-900; EC266,					
-366, P20LF, P30LF,					
P31LF; 2VLI, 3VLI;					
LF2C, LF3C; 2W, 3W; W2, W3;					
212V-Grip; 312V-Grip;					
CFD-2, -3; QL-AKX,					
-NKX, -TKX, -WKX,					
-GKX, -GKX-A,					
-AKD, -WKD;					
Metric Units-QLC-78-600,					
-78-900; ECP-266,					
ECP366, EPC2,					
EPC3; C20LF, C30LF,					
C31LF, C33LF, C34LF;					
2VLP, 3VLP;					
212VW2-Wireway, 312VW2-					
Wireway, 212VW3-Wireway,					
312VW3-Wireway; 2-DW, 3-DW;					
(8) 2 in. QL-99, EC266,	NW or	7/8	11/16	11/16+	1-1/2
P20LF; LF2, 2W; W2; 2VLI,	LW				
212V-Grip; CFD-2; QL-					
AKX, ECP266, EPC2;					
C20LF; LFC2; 2VLP;					
212VW2-Wireway, 212VW3-					
Wireway; 2-DW;					
(9) 3 in. QL-99; Metric	NW or	5/8	5/8	5/8+	1-1/2
Units-QL-77-600,					
-77-900; QLC-78-					
600, -78-900; EC366;					
P30LF; 3W; W3; 3VLI,	LW				
3122V-Grip; CFD-3, QL-WKX,					

-GKX, -GKX-A, -WKD;					
ECP366, EPC3; C30LF,					
C31LF; 3VLP; 312VW2-					
Wireway, 312VW3-Wireway;					
3-DW;					
(10) 3 in. QL-99; Metric	NW or	7/8++	3/4++	3/4++	2
Units-QL-77-600, -77-					
-900; QLC-78-600, -78-					
-900; EC366;					
P30LF, P31LF; 3W, W3, 3VLI,	LW				
312V-Grip; CFD-3; QL-WKX,					
-GKX, -GKX-A, -WKD; ECP366,					
EPC3; C30LF, C31LF; 3VLP;					
3-DW;					
(11) 2 in. -99, QL-21, -121;	NW	1-1/8++	7/8++	7/8++	2
EC266; P20LF, P33LF,	or				
P34LF; LF2, 2VLI,	LW				
2W; W2; 212V-					
Grip; CFD-2; QL-AKX,					
-NKX, -TKC, -TKX;					
ECP-266, EPC2; C20LF,					
C33LF, C34LF; LF2C,					
LF3C; 2VLP					
212VW2-Wireway, 212VW3-					
Wireway; 2-DW;					
(Bottomless					
Trench Header					
or Feeder Duct)					
(12) 2 or 3 in. QL-99;	NW	1-3/16	1	1+	1
Metric Units-QL-					
77-600, -77-900;					

QLC-78-600, -78-					
900; EC					
266, EC366; P20LF,	or				
P30LF, P31LF; LF2, LF3;	LW				
2VLI,3VLI, 2W, 3W; W2, W3;					
212V-Grip, 312V-Grip;					
CFD-2, -3; QL-AKX, -NKX,					
-TKX, -WKX, -GKX,					
-GKX-A, -AKD, -WKD;					
ECP266, -366, EPC2,					
-3; C20LF, C30LF, C31LF,					
C33LF, C34LF; LF2C, LF3C;					
2VLP, 3VLP, 212VW2-Wireway,					
312VW2-Wireway, 212VW3-					
Wireway, 312VW3-Wireway;					
2-DW, 3-DW;					
(13) 2 or 3 in. QL-99;	NW	1-1/2	1-1/4	1-1/4+	1-1/2
Metric Units-QL-77-					
600, -77-900; QLC-					
78-600, -78-900; EC					
266, EC366; P20LF,	or				
P30LF; LF2, LF3; 2W,	LW				
3W; W2, W3; 2VLI, 3VLI;					
212V-Grip, 312V-					
Grip; CFD-3, -2;					
QL-AKX, -NKX, -TKX,					
-WKX, -GKX, -GKX-A,					
-WKD;-AKD, ECP266, -366;					
EPC2, -3; C20LF,					
C30LF, C31LF, C33LF, C34LF;					
LF2C, -3C; 2VLP, 3VLP					

212VW2-Wireway, 312VW2-					
Wireway, 212VW3-Wireway,					
312VW3-Wireway; 2-DW, 3-DW;					
(14) 2 or 3 in. QL-21, -99,	NW	1-3/4++	1-3/8++	1-5/8++	2
-121; Metric Units-	or				
QL-77-600, -77-900;	LW				
QLC-78-600, -78-900;					
EC266, EC366,					
P20LF, P30LF, P33LF;					
LF2, LF3; 2VLI,					
3VLI; 2W, 3W; W2, W3;					
212V-Grip; 312V-Grip;					
CFD-2, -3;					
QL-AKX, -NKX, -TKC,					
-TKX, -WKX, -GKX,					
-GKX-A, -AKD, -WKD;					
ECP266, -366; EPC2,					
-3; C20LF, C30LF, C31LF,					
C33LF; LF2C, -3C; 2VLP,					
-3VLP; 212VW2-Wireway,					
312VW2-Wireway,					
212VW3-Wireway,					
312VW3-Wireway;2-DW, 3-DW;					
(15) 2 or 3 in. QL-99;	NW	2-1/2++	2-5/16++	2-5/16++	3#
Metric Units-QL-					
77-600, -77-900;					
QLC-78-600, -78- 900;					
QL-AKX, -WKX, -GKX,					
-GKX-A, -AKD,-WKD; 2-DW, 3-DW;					
(Under Epic Metals Corp., EPC20-I or EPC30-I Electrical Inserts.)					
EPC2 or EPC3	NW	—	—	5/8	1

EPC2 or EPC3	NW	—	—	15/16	1-1/2
EPC2 or EPC3	NW	—	—	13/16	2
EPC2 or EPC3	NW	—	—	1-13/16++	3
(Under KAM INDUSTRIES LTD, DBA CORDECK — Tapmate II or II-EA Electrical Inserts)					
QL-AKX, -WKX;	NW	—	—	3/8	1
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	15/16	1-1/2
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	13/16	2
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	1-13/16++	3#
Metric Units-					
QLC-78-600,					
-78-900					
(Under KAM INDUSTRIES LTD, DBA CORDECK — Tapmate II-FN or II-EAFN Electrical Inserts)					
QL-WKX; Metric	NW	—	—	5/8	1
Units-QLC-78-600,					
-78-900					
QL-AKX	NW	—	—	9/16	1
QL-AKX, -WKX;	NW	—	—	5/8	1-1/2
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	3/4	2
Metric Units-					

QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	1-1/8	3#
Metric Units-					
QLC-78-600,					
-78-900					
(Under KAM INDUSTRIES LTD, DBA CORDECK — Tapmate III FN or III EAFN Electrical Inserts)					
QL-WKD; Metric	NW	—	—	7/16	1
Units-QLC-78-600,					
-78-900, -78-A-					
600, -78-B-600,					
-78-C-900, -78-					
E-900, -78-F-900					
QL-AKD	NW	—	—	9/16	1
QL-AKD, -WKD;	NW	—	—	5/8	1-1/2
Metric Units-QLC-					
78-600, -78-900,					
78-A-600, -78-B-					
600, -78-C-900,					
-78-E-900, -78-					
F-900					
QL-AKD, -WKD;	NW	—	—	3/4	2
Metric Units-QLC-					
78-600, -78-900,					
78-A-600, -78-B-					
600, -78-C-900,					
-78-E-900, -78-					
F-900					
QL-AKD, -WKD;	NW	—	—	1-1/8	3
Metric Units-QLC-					
78-600, -78-900,					

78-A-600, -78-B-					
600, -78-C-900,					
-78-E-900,					
-78-F-900					
(Under **BHP Steel Building Products USA Inc.** Electrical Inserts)					
ASC3	NW	—	—	13/16	2

Unrestrained Assembly Rating is 2 Hr.

+ Steel studs and discs (Item 11A) required for Types 300, 300TW, 300ES, 300N, or SB (Item 9B). When Type 400 is used on cellular deck, metal lath (Item 12) is required.

++ Metal lath (Item 11A) required for Types 300, 300TW, 300ES, 300N, SB, or 400 (Item 9B).

10. **Electrical Inserts —** Classified as **"Outlet Boxes and Fittings Classified for Fire Resistance."** *

(1) **KAM INDUSTRIES LTD, DBA CORDECK** Inserts.

(Tapmate II, -II-EA, -II-FN, -II,EAFN; Series KEB)

Installed per accompanying installation instructions over factory-punched holes in 24 or 36 in. wide QL Types AKX, WKX, and Metric Units QLC Types steel floor units. Spacing shall be not more than one insert in each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent inserts. Required material thickness (see Item 9) on floor units with inserts shall be sprayed the entire length and width of units between supports and extended beyond the edge of inserts onto adjacent floor units for a horizontal width of 12 in. The holes cut in insert cover for passage of wires shall be no more then 1/8 in. layer diam than the wire. For abandonment of Tapmate inserts, see installation instructions. Abandonment requires use of KEB-PC or -PCL insert cover with no holes in it (for all Tapmate inserts), or an abandonment plate for Tapmate II only, or a KEB-PC2 or -PC2-A1 abandonment cover for Tapmate II-EA and II-EAFN only.

The Tapmate II-FN insert may use KEB-HP-1 outlet box fittings in lieu of the KEB-PC flush cover fittings.

Tapmate III, FN, III, EAFN; Series KEC.

Installed per accompanying installation instructions over factory-punched holes in 24 or 36 in. wide QL Types AKD, WKD and Metric Units-QLC Types steel floor units. Spacing shall be not more than one insert in each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent inserts. Required Material thickness (see Item 9) on floor units with inserts shall be sprayed the entire length and width of units between supports and extended beyond the edge of inserts onto adjacent floor units for a horizontal width of 12 in. The holes cut in insert cover for passage of wires shall be no more than -1/8 in. larger diam than the wire. For abandonment of Tapmate inserts, see installation instructions.

The Tapmate III insert may use KEB-HP-1; Series KEC outlet box fittings with the same hourly rating, insert spacing and fireproofing thicknesses as specified for the Tapmate III-EAFN electrical inserts.

KAM INDUSTRIES LTD, DBA CORDECK — Tapmate II, -II-EA, -II-FN, -II-EAFN; Series KEB, Tapmate III-FN, -III-EAFN; Series KEC.

11. **Steel Studs With Discs —** The stud consists of No. 12 SWG steel wire, 5/8, 7/8 or 1-1/4 in. long for 1, 1-1/2 and 2 hr. protection thicknesses, respectively, with one end welded to 1-3/16 in. diam, No. 28 MSG steel disc. The ends of the studs opposite the discs shall be welded to the feeder duct in rows running parallel with the feeder duct. The distance between the outer rows of the studs and the edge of the feeder duct shall not exceed 4 in. The spacing between the rows shall not exceed 22 in. The spacing between studs in each row shall not exceed 24 in.

11A. **Steel Studs With Discs —** (Not Shown) — For use on cellular steel floor and form units under the trench headers with Types 300, 300TW, 300ES, 300N, or SB (Item 9B). The stud consists of No. 12 SWG steel wire, 1-1/4 in. long with one end welded to 1-1/2 in. diam, No. 28 MSG galvanized steel disc. The total number of studs shall average at least one stud per 250 sq in. The ends of the studs opposite the discs shall be welded to the cellular units in rows parallel with the trench header.The distance between the outer rows of the studs and the edge of the trench header shall not exceed 8-1/2 in. The spacing between the rows shall not exceed 9-1/2 in. The spacing between studs in each row shall not exceed 12 in.

12. **Metal Lath —** (Not shown) — For use with Types 300, 300TW, 300ES, 300N or SB (Item 9B) on fluted and cellular steel floor and form units under the trench-headers where thicknesses in the tables are noted by "++". Also requires on cellular units when inserts are used and thicknesses in the tables are noted by "++". Also required on all cellular units when Type 400 is used — 3/8 in. diamond, expanded steel weighing 3.4 lb per sq yd, secured to the underside of the trench-header. The width of the lath shall extend a min of 1-1/2 in. on either side of the trench-header. The lath is to be placed with the ribs upward and secured with S-12 by 3/8 in. long panhead, self-drilling, self-tapping steel screws spaced max 12 in. O.C. Steel screws to be fitted with 1/2 in. diam steel washers.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2020-12-02