NOTE(S):

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3. DESIGN ASSUMPTIONS: IBC 2012 BUILDING CODE; SEE TABLE FOR DESIGN LOADS (STATIC U.N.O.)

4. REFER TO COMPONENT MANUFACTURER’S IFU’S FOR REQUIRED INSTALLATION INFORMATION.

5. FOR APPLICABLE CONCRETE OR STEEL ANCHOR DESIGN CONTACT HILTI OR THE PROJECT SITE ENGINEER OF RECORD.

6. CAPACITIES SHOWN ABOVE ARE BASED ON VERTICAL COMBINED WITH TRANSVERSE AND VERTICAL COMBINED WITH LONGITUDINAL. A SEPERATE ANALYSIS MUST BE PERFORMED IF VERTICAL, TRANSVERSE AND LONGITUDINAL LOADS OCCUR SIMULTANEOUSLY.

7. ANCHOR CAPACITIES NOT CONSIDERED.
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7. ANCHOR CAPACITIES NOT CONSIDERED.

CABLE TRAY CANTILEVER CONCRETE
NOTE(S):
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   METHODOLOGY AND GENERIC NON-PROJECT SPECIFIC ASSUMPTIONS SET FORTH IN PROFIS
   INSTALL SOFTWARE VERSION 2.23. SEE ALLOWABLE LOAD TABLE FOR MAXIMUM ALLOWABLE LOAD
   AND DIMENSION. THE ENGINEER OF RECORD SHALL EVALUATE THIS TYPICAL SUPPORT TO
   DETERMINE ITS SUITABILITY FOR THE ACTUAL PROJECT SPECIFIC DESIGN CRITERIA AND
   REQUIREMENTS.
B. THE EVALUATION OF EXISTING STRUCTURE IS OUTSIDE OF THE TYPICAL DESIGN SCOPE AND
   SHALL BE PERFORMED BY THE ENGINEER OF RECORD.
C. TYPICAL SUPPORT DESIGN IS BASED ON INTERNATIONAL BUILDING CODE (IBC) 2015. SEE TABLES
   IN DETAILS FOR ALLOWABLE DESIGN LOADS (STATIC U.N.O.)
D. ALL LOADS ASSUMED TO ACT ON THE SUPPORT, NO ECCENTRICITY CONSIDERED.
E. MAXIMUM ALLOWABLE LOAD TABLE SHOWN IN THE TYPICAL DETAILS ARE BASED ON THE VERTICAL
   LOAD ONLY. A SEPARATE ANALYSIS MUST BE PERFORMED WHEN TRANSVERSE AND
   LONGITUDINAL LOAD OCCUR SIMULTANEOUSLY WITH VERTICAL LOAD.
F. REFER TO COMPONENT MANUFACTURER'S IFU'S FOR REQUIRED INSTALLATION INFORMATION.
G. MIN. CONCRETE COMPRESSIVE STRENGTH FC=3000 PSI, MIN. CONCRETE EDGE DISTANCE = 4'
   INCHES, MIN. EFFECTIVE EMBEDMENT Hef = 2.0 INCHES
H. CONCRETE ANCHORS NOTED IN THE BILL OF MATERIAL ARE DESIGNED ONLY FOR REACTIONS AT
   BASE DUE TO VERTICAL DEAD LOAD.

<table>
<thead>
<tr>
<th>Max W, in</th>
<th>24</th>
<th>36</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLOCABLE LOADS, lbs</td>
<td>205</td>
<td>115</td>
<td>60</td>
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C/HR
Vault/Designs/Typical_Details/ TD-MQK-158/4-F-CABLE_TRAY/ TD-P/CT-C01_C/DWG/07-P
**ISOMETRIC**

(Scale 1" = 1')

<table>
<thead>
<tr>
<th>ALLOWABLE LOAD TABLE</th>
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</thead>
<tbody>
<tr>
<td>Max W, in</td>
</tr>
<tr>
<td>ALLOWABLE LOADS, Ibs</td>
</tr>
</tbody>
</table>

**ELEVATION**

(Scale 1" = 1')

**NOTE(S):**

A. THE TYPICAL SUPPORT IS LOAD RATED AND DIMENSIONALLY LIMITED BASED ON DESIGN METHODOLOGY AND GENERIC NON-PROJECT SPECIFIC ASSUMPTIONS SET FORTH IN PROFIS INSTALL SOFTWARE VERSION 2.23. SEE ALLOWABLE LOAD TABLE FOR MAXIMUM ALLOWABLE LOAD AND DIMENSION. THE ENGINEER OF RECORD SHALL EVALUATE THIS TYPICAL SUPPORT TO DETERMINE ITS SUITABILITY FOR THE ACTUAL PROJECT SPECIFIC DESIGN CRITERIA AND REQUIREMENTS.

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E. MAXIMUM ALLOWABLE LOAD TABLE SHOWN IN THE TYPICAL DETAILS ARE BASED ON THE VERTICAL LOAD, A SEPARATE ANALYSIS MUST BE PERFORMED WHEN TRANSVERSE AND LONGITUDINAL LOAD OCCUR SIMULTANEOUSLY WITH VERTICAL LOAD.

F. REFER TO COMPONENT MANUFACTURER’S IFU’s FOR REQUIRED INSTALLATION INFORMATION.

G. MIN. STEEL BASE THICKNESS SHALL BE 5/16" MIN EDGE DISTANCE SHALL BE 3/8" MIN YIELD STRENGTH OF STEEL SHALL BE Fy=36ksi

<table>
<thead>
<tr>
<th>TABLE A</th>
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<tr>
<td>MQK-158/4-F-XX ITEM NO.</td>
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<td>2248532</td>
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TABLE-A

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<td>MQK-158/4-D-F-36</td>
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<td>2248535</td>
<td>MQK-158/4-D-F-48</td>
</tr>
</tbody>
</table>

NOTE(S):
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ELEVATION
(Scale 1"=1'-0")

ISOMETRIC
(Scale 1"=1'-0")

ALLOWABLE LOAD TABLE

<table>
<thead>
<tr>
<th>Max W, in</th>
<th>24</th>
<th>36</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLOWABLE LOADS, lbs</td>
<td>619</td>
<td>375</td>
<td>256</td>
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</table>

WARNING: All testing and design criteria supplied by customer is assumed accurate. Only the selected Design Assumptions were considered, and must be verified by the responsible Engineer of Record (EOR).

The basis of Hilti component and connection design is the published data in the current Hilti Technical Guide, including material and cross-section properties, allowable load values, factors of safety, methods of calculation, and linking factors. The EOR must verify suitability for any specific application. Hilti does not assume responsibility for any specific design or construction details. Hilti recommends that the end user review the design criteria and associated engineering manuals before installation.

Hilti is not responsible for any injury to persons or property, or for any damage to equipment or material sustained as a result of the improper use of Hilti products. Hilti recommends that the end user review the design criteria and associated engineering manuals before installation.
### Table A

<table>
<thead>
<tr>
<th>Description</th>
<th>Item No.</th>
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<tbody>
<tr>
<td>MQK-158/4-D-F-XX (SEE TABLE A)</td>
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<td>CHANNEL END CAP MEK RED</td>
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### Allowable Loads Table

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<th>Max W, in</th>
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<td>48</td>
<td>155</td>
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</table>

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### Technical Details

**Typical Details**

- **Typical Detail Name:** TD-P/CT-C04-S
- **Typical Detail Description:** MQK-158/4-D-F CANTILEVER STEEL
- **Typical Detail Number:** HILTI TD-P/CT-C04-S

### Revision History

- **Date:** 07/28/2020
- **Comment:** ISSUE FOR USE

---

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<th>DESCRIPTION</th>
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<tr>
<td>A</td>
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</table>
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REVISION HISTORY

TYPICAL DETAILS
TD-CT-GP111-S

TYPICALS

PAPER SIZE: ANSI A

PROJECT NUMBER:

BAP

CHECKED: BAP

DESIGNED: AIM

INITIALS

C:\Hil1 Vault\Projects\10000 Internal Projects\10017 Typicals\CABLE TRAY\TD-CT-GP111-S.dgn
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7. ANCHOR CAPACITIES NOT CONSIDERED.
# CABLE TRAY, CLIPS, HEXBOLTS (BY OTHERS)

## ISOMETRIC

- **Scale:** 5/8"=1'-0"

### Qty.*

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7. **ANCHOR CAPACITIES NOT CONSIDERED.**

### REVISION HISTORY

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D. ALL LOADS ASSUMED TO ACT ON THE SUPPORT, NO ECCENTRICITY CONSIDERED.
E. MAXIMUM ALLOWABLE LOAD TABLE SHOWN IN THE TYPICAL DETAILS ARE BASED ON THE COMBINATION OF VERTICAL LOAD WITH TRANSVERSE LOAD OR VERTICAL LOAD WITH LONGITUDINAL LOAD. A SEPARATE ANALYSIS MUST BE PERFORMED WHEN TRANSVERSE AND LONGITUDINAL LOAD OCCUR SIMULTANEOUSLY.
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G. MIN. CONCRETE COMpressive STRENGTH Fc=3000 PSI, MIN. CONCRETE EDGE DISTANCE = 4.0 INCHES. MIN. EFFECTIVE EMBEDMENT Heff = 2.0 INCHES.
H. CONCRETE ANCHORS NOTED IN THE BILL OF MATERIAL ARE DESIGNED ONLY FOR REACTIONS AT BASE PLATE DUE TO VERTICAL DEAD LOAD.

<table>
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<tr>
<th>ALLOWABLE LOADS, lbs</th>
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<td>Longitudinal</td>
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**TYPICAL DETAILS**

**TYPICAL DETAIL NAME:**

MQK-158/4-F STANCHION CONCRETE

**TYPICAL DETAIL DESCRIPTION:**

MQK-158/4-F-XX STANCHION CONCRETE

**REVISION HISTORY**

07/28/2020 ISSUE FOR USE

**TYPICAL DETAIL NUMBER:**

TD-P-PS05-C

**PAPER SIZE:**

ANSI A

**DETAIL SHEET:**

TD-P-PS05-C

**DRAWN:**

JRS

**CHECKED:**

GAB

**DESIGNED:**

ISE

**REVIEWED:**

ISE
**TABLE A**

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<td>2248532</td>
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G. MIN. STEEL BASE THICKNESS SHALL BE 5/16 INCH. MIN EDGE DISTANCE SHALL BE 3/8 INCH. MIN YIELD STRENGTH OF STEEL SHALL BE Fy=36KSI
TABLE A

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Qty</th>
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<tbody>
<tr>
<td>MQK-158/4-D-XX</td>
<td>MQK-158/4-D-XX DESCRIPTION</td>
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<td>2248533</td>
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NOTE(S):

A. THE TYPICAL SUPPORT IS LOAD RATED AND DIMENSIONALLY LIMITED BASED ON DESIGN METHODOLOGY AND GENERIC NON-PROJECT SPECIFIC ASSUMPTIONS SET FORTH IN PROFIS INSTALL SOFTWARE VERSION 2.23. THE ENGINEER OF RECORD SHALL EVALUATE THIS TYPICAL SUPPORT TO DETERMINE ITS SUITABILITY FOR THE ACTUAL PROJECT SPECIFIC DESIGN CRITERIA AND REQUIREMENTS.

B. THE EVALUATION OF EXISTING STRUCTURE IS OUTSIDE OF THE TYPICAL DESIGN SCOPE AND SHALL BE PERFORMED BY THE ENGINEER OF RECORD.

C. TYPICAL SUPPORT DESIGN IS BASED ON INTERNATIONAL BUILDING CODE (IBC) 2015. SEE TABLES IN DETAILS FOR ALLOWABLE DESIGN LOADS (STATIC U.N.O.); LATERAL LOADS CALCULATED AS 30% OF DEAD LOAD.

D. ALL LOADS ASSUMED TO ACT ON THE SUPPORT, NO ECCENTRICITY CONSIDERED.

E. MAXIMUM ALLOWABLE LOAD TABLE SHOWN IN THE TYPICAL DETAILS ARE BASED ON THE COMBINATION OF VERTICAL LOAD WITH TRANSVERSE LOAD OR VERTICAL LOAD WITH LONGITUDINAL LOAD. A SEPARATE ANALYSIS MUST BE PERFORMED WHEN TRANSVERSE AND LONGITUDINAL LOAD OCCURS SIMULTANEOUSLY.

F. REFER TO COMPONENT MANUFACTURER’S FOR REQUIRED INSTALLATION INFORMATION.

G. MIN. CONCRETE COMPRESSIVE STRENGTH FC=3000 PSI, MIN. CONCRETE EDGE DISTANCE = 4.0 INCHES, MIN. EFFECTIVE EMBEDMENT Heff = 2.0 INCHES.

H. CONCRETE ANCHORS NOTED IN THE BILL OF MATERIAL ARE DESIGNED ONLY FOR WIND LATERAL LOADING. EOR TO VERIFY ADEQUACY OF ANCHOR WHEN TYPICAL IS BEING USED FOR SEISMIC LATERAL LOADING.
**ISOMETRIC**

 SCALE: 1" = 1'-0"

<table>
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<tr>
<th>ALLOCABLE LOADING, lbs</th>
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<tbody>
<tr>
<td>Vertical</td>
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<tr>
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**ELEVATION**

 SCALE: 1" = 1'-0"

**TABLE A**

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**NOTE(S):**

A. THE TYPICAL SUPPORT IS LOAD RATED AND DIMENSIONALLY LIMITED BASED ON DESIGN

B. THE EVALUATION OF EXISTING STRUCTURE IS OUTSIDE OF THE TYPICAL DESIGN SCOPE AND SHALL BE PERFORMED BY THE ENGINEER OF RECORD.

C. TYPICAL SUPPORT DESIGN IS BASED ON INTERNATIONAL BUILDING CODE (IBC) 2016. SEE TABLES IN DETAILS FOR ALLOWABLE DESIGN LOADS (STATIC U.N.O.) C. LATERAL LOADS CALCULATED AT 30% OF DEAD LOAD.

D. ALL LOADS ASSUMED TO ACT ON THE SUPPORT, NO ECCENTRICITY CONSIDERED.

E. MAXIMUM ALLOWABLE LOAD TABLE SHOWN IN THE TYPICAL DETAILS ARE BASED ON THE COMBINATION OF VERTICAL LOAD WITH TRANSVERSE LOAD OR VERTICAL LOAD WITH LONGITUDINAL LOAD. A SEPARATE ANALYSIS MUST BE PERFORMED WHEN TRANSVERSE AND LONGITUDINAL LOAD OCCURS SIMULTANEOUSLY.

F. REFER TO COMPONENT MANUFACTURER’S IFUs FOR REQUIRED INSTALLATION INFORMATION.

G. MIN. STEEL BASE THICKNESS SHALL BE 5/16 INCH. MIN EDGE DISTANCE SHALL BE 3/8 INCH. MIN YIELD STRENGTH OF STEEL SHALL BE F=36KSI

**REVISION HISTORY**

DATE: 07/28/2020  ISSUE FOR USE

**TYPICAL DETAIL NAME:**

TYPICAL DETAILS

TD-P-PS08-S

**TYPICAL DETAIL DESCRIPTION:**

MQK-158/D-F STANCHION STEEL

**PAPER SIZE:**

ANSI A

**TYPICAL DETAIL NUMBER:**

TD-P-PS08-S

**DRAWN:**

JRS

**CHECKED:**

GAB

**DESIGNED:**

ISE

**REVIEWSED:**

ISE

**NOTE:**

The testing and design criteria supplied by customer is assumed accurate. Only the elevated Design Assumptions were considered, and must be verified by the responsible Engineer of Record (EOR). The basis and pertinent information is the published data of the current IFU. The data and pertinent information is the published data of the current IFU. The data and pertinent information is the published data of the current IFU.
NOTE(S):
1. THIS DRAWING REPRESENTS A COMMON CONFIGURATION FOR THIS APPLICATION. THE CABLE TRAY (CT) SUPPORT IS LOAD RATED AND DIMENSIONALLY LIMITED BASED ON HILTI-PUBLISHED STATIC LOAD DATA AND DESIGN METHODOLOGIES, AND GENERIC, NON-PROJECT SPECIFIC DESIGN ASSUMPTIONS. THE ENGINEERING OF RECORD SHALL EVALUATE THIS SUPPORT TO DETERMINE ITS SUITABILITY FOR THE ACTUAL, PROJECT SPECIFIC DESIGN CRITERIA AND REQUIREMENTS.
2. ALL LOADS ASSUMED TO ACT ON THE SUPPORT, NO ECCENTRIC LOADS INCLUDED. CT CONNECTION HARDWARE MUST BE CHECKED SEPARATELY.
3. DESIGN ASSUMPTIONS: IBC 2012 BUILDING CODE; SEE TABLE FOR DESIGN LOADS (STATIC U.N.O.)
4. REFER TO COMPONENT MANUFACTURER’S IFU’S FOR REQUIRED INSTALLATION INFORMATION.
5. FOR APPLICABLE CONCRETE OR STEEL ANCHOR DESIGN CONTACT HILTI OR THE PROJECT SITE ENGINEER OF RECORD.
6. CAPACITIES SHOWN ABOVE ARE BASED ON VERTICAL COMBINED WITH TRANSVERSE AND VERTICAL COMBINED WITH LONGITUDINAL. A SEPARATE ANALYSIS MUST BE PERFORMED IF VERTICAL, TRANSVERSE AND LONGITUDINAL LOADS OCCUR SIMULTANEOUSLY.
7. ANCHOR CAPACITIES NOT CONSIDERED.

**REVISION HISTORY**

**PROJECT NAME:**

**TYPICAL DETAILS**

**TD-CT-TR121-C**

**PROJECT DESCRIPTION:**

**CABLE TRAY TRAPEZE CONCRETE**

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**PAPER SIZE:**

**ANSI A**

**PROJECT NUMBER:**

**10017 - CT - 1**

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<td>2</td>
<td>2119866</td>
<td>GIRDER MQC-90</td>
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**Max W, in**
- Vertical: 48
- Transverse: 2800
- Longitudinal: 400

**Max H, in**
- Vertical: 36
- Transverse: 250
- Longitudinal: 440

**LRFD, lbs**
- Vertical: 1900
- Transverse: 160
- Longitudinal: 440

**ASD, lbs**
- Vertical: 1900
- Transverse: 160
- Longitudinal: 440
NOTE(S):
1. THIS DRAWING REPRESENTS A COMMON CONFIGURATION FOR THIS APPLICATION. THE CABLE TRAY (CT) SUPPORT IS LOAD RATED AND DIMENSIONALLY LIMITED BASED ON HILTI-PUBLISHED STATIC LOAD DATA AND DESIGN METHODOLOGIES, AND GENERIC, NON-PROJECT SPECIFIC DESIGN ASSUMPTIONS. THE ENGINEERING OF RECORD SHALL EVALUATE THIS SUPPORT TO DETERMINE ITS SUITABILITY FOR THE ACTUAL, PROJECT SPECIFIC DESIGN CRITERIA AND REQUIREMENTS.
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---

**REVISION HISTORY**

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