

Handrail Application Engineering Request Form

To provide you with the best customer and engineering services, please:

- Provide the requested Contact Information, fields 1 to 10 of page 1.
- Provide the requested Project Information, fields 1 to 27 of page 3.
- Page 4 provides description of fields related to Project Information.
- E-mail the form **US+CA.HAC@Hilti.com** or to your local Hilti Field Representative.
- Provide any additional information such as architectural and structural drawings, bracket geometry, additional sketches, etc. that may help to clarify and optimize the HAC design.

Contact Information

1. Project Name:
2. Company Name:
3. Project City: 4.State:
5. Contact Person:
6. Phone Number:
7. Email Address:
8. Date Engineering Solution Required:
9. Bid Date (if applicable):
10. SAP Account (if applicable):



Handrail Application Engineering Request Form

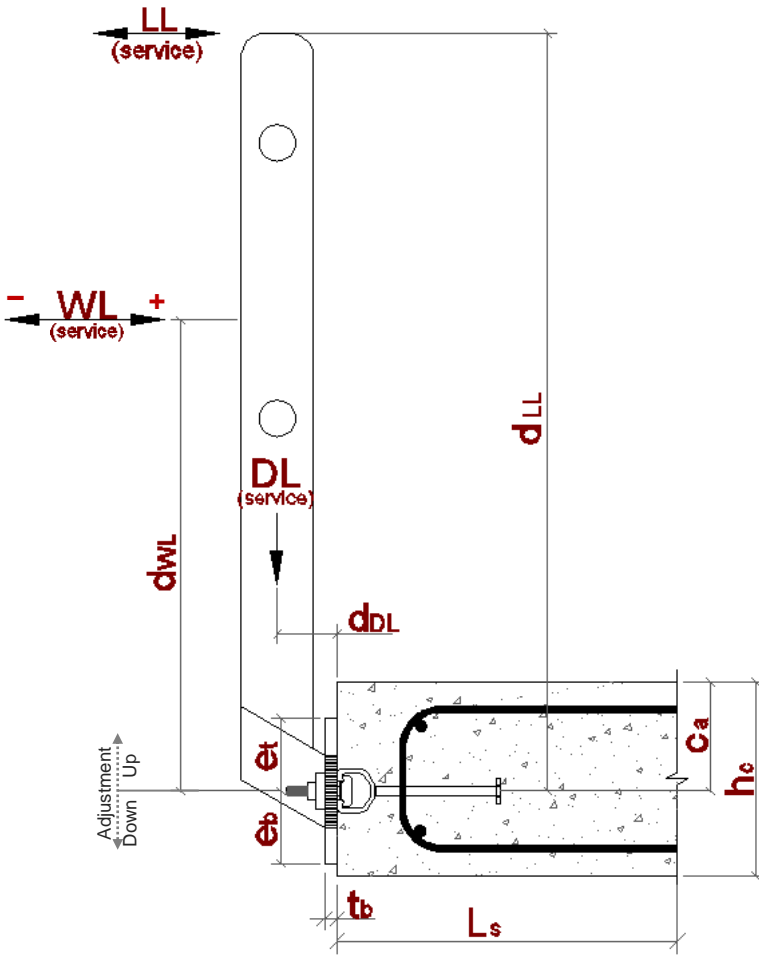
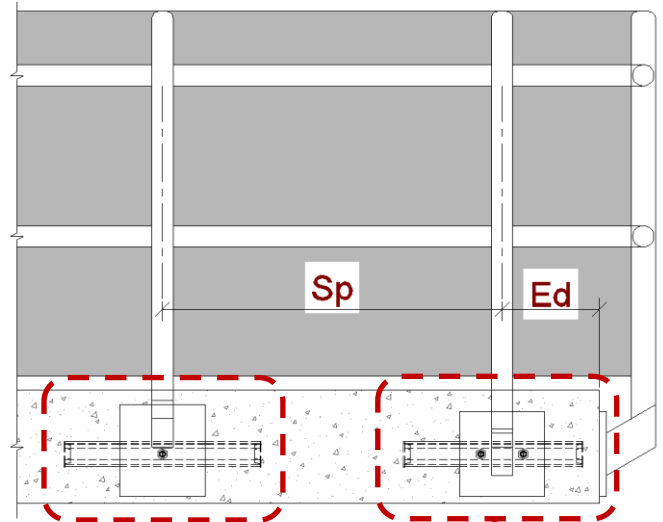


Figure 1.0 Typical Section - Face of Slab Handrail



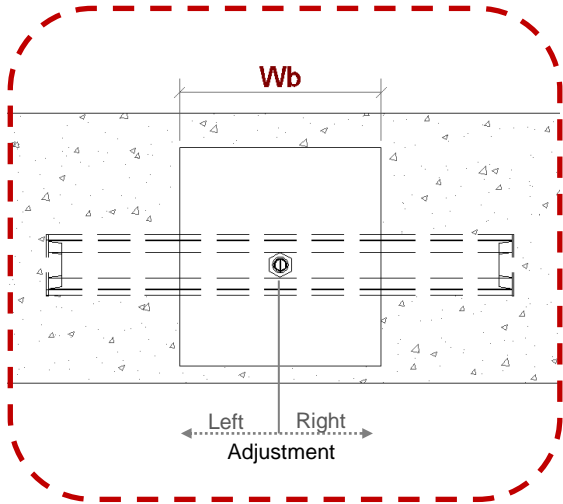
Detail 2A

Detail 2B

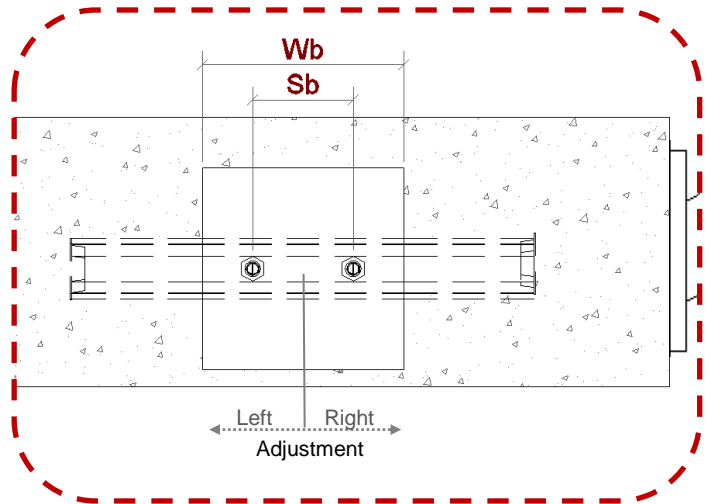
Figure 2.0 Elevation

Single bolt configuration

Two or more bolts configuration



Detail 2.A - Post Connection



Detail 2.B - Post Connection

Handrail Application Engineering Request Form

Project Information

Project Name:

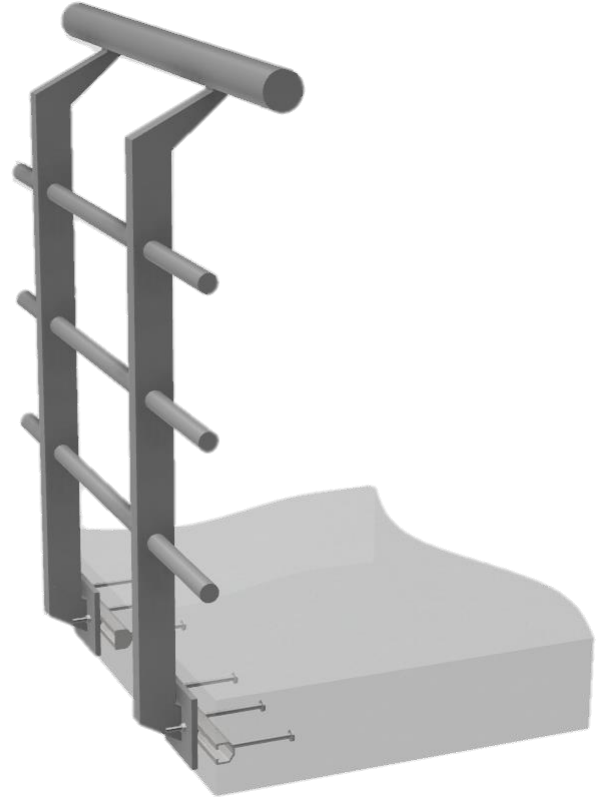
Condition No.: Detail No.:

Materials

- 1. Concrete Strength, f'_c : psi
- 2. Lightweight Concrete:
- 3. Density of Concrete, ρ : pcf
- 4. Reinforcement Type:
- 5. Yield Strength, f_y : psi
- 6. Stirrup Spacing, s : in
- 7. Stirrup Diameter, d_a : in

Geometry

- 8. h_c : in
- 9. C_a : in
- 10. e_b : in
- 10b. e_t : in
- 11. L_s : in
- 12. t_b : in
- 13. S_p : in
- 14. E_d : in
- 15. W_b : in
- 16. No. of Bolts:
- 17. S_b : in



- 18. HAC Anchor Channel Adjustment
Left: in Right: in
- 19. Bracket Adjustment
Up: in Down: in

Loads

- 20. Building Code:
- 21. Cracking at Service Loads:
- 22. DL : lbs
- 23. d_{DL} : in
- 24. $WL-$: lbs
- 25. d_{WL-} : in
- 24b. $WL+$: lbs
- 25b. d_{WL+} : in
- 26. LL : lbs
- 27. d_{LL} : in

If loads are unknown, please provide the following information:

- a. Post Height.: ft
- b. Post Centers: ft
- c. Wind Pressure: psf
- d. Wind Suction: psf
- e. System DL: psf

Comments:

Handrail Application Engineering Request Form

Materials

1. **Concrete Strength, $f'c$:**
Specified 28 day compressive strength of concrete.
5. **Yield Stress, f_y :**
Specified yield strength of reinforcement.
6. **Stirrup Spacing, s :**
Specified center to center offset stirrup distance.

Geometry

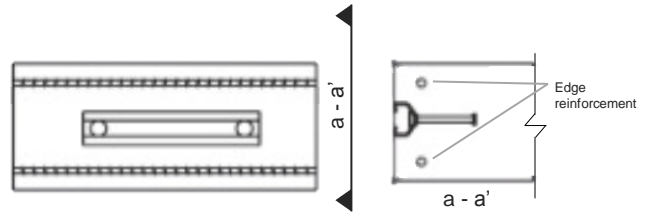
8. **Thickness of the concrete member, h_c :**
Thickness of the concrete member where the anchor channel will be installed, typically slab (applicable to any other concrete members).
9. **Edge Distance, Ca :**
Distance from center of channel to edge of slab.
10. **Bracket Bottom Distance, eb :**
Distance from the center of the anchor channel to the lower end of the bracket.
- 10b. **Bracket Top Distance, et :**
Distance from the center of the anchor channel to the upper end of the bracket.
11. **Length of Concrete Member, L_s :**
Length of concrete members. This applies to narrow sections (e.g. beams, columns) only.
12. **Thickness of Bracket, tb :**
Specified thickness of bracket.
14. **Edge Distance, Ed :**
Distance from center of the post to the edge of the slab. This field is applicable for corner conditions.
16. **Number of Bolts:**
Number of bolts that will connect the bracket to the anchor channel.
18. **HAC Anchor Channel Adjustment:**
Desired lateral adjustment provided by the HAC Anchor Channel

Loads

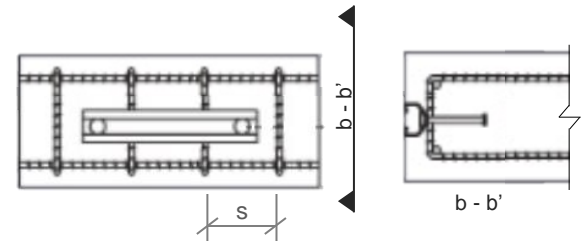
20. **Building Code and Year:**
Provide the Building Code used for the design and analysis of the project.
22. **Service Dead Load, DL :**
Unfactored dead load. Loads will be factored based on Load and Resistance Factor Design (LRFD also known as Strength Design), unless noted otherwise.
24. **Service Wind Load, WL :**
Maximum and minimum unfactored wind loads. Loads will be factored based on Load and Resistance Factor Design (LRFD also known as Strength Design), unless noted otherwise.
26. **Service Live Load, LL :**
Maximum and minimum unfactored live loads. Loads will be factored based on Load and Resistance Factor Design (LRFD also known as Strength Design), unless noted otherwise.
27. **Live Load Distance, dLL :**
Vertical distance from the center plane of the anchor channel to the resultant live load.

4. Reinforcement Type:

Straight edge reinforcement – anchor channel in concrete with straight edge reinforcement:



Reinforcement with stirrups – anchor channel in concrete with edge reinforcement and stirrups with a spacing “ s ”:



13. **Post spacing, Sp :**
Specified center to center post distance.
15. **Width of Bracket, Wb :**
Specified width of bracket.
17. **Bolt Spacing, Sb :**
Distance from center to center of bolts.
19. **Bracket Adjustment:**
Provide the maximum and minimum vertical adjustment provided by the bracket.

21. **Cracking at Service Loads:**
Specify if analysis indicates cracking of concrete at service load levels. If unknown, cracked concrete will be assumed.
23. **Dead Load Distance, dDL :**
Horizontal distance from the slab edge to the resultant dead load.
25. **Wind Load Distance, dWL :**
Horizontal distance from the center plane of the anchor channel to the resultant wind load..

Hilti
5400 S. 122nd E. Ave
Tulsa, OK 74146
Phone: 1-800-879-8000
Fax: 1-800-879-7000
Email: US+CA.HAC@Hilti.com
www.us.hilti.com/hac-anchor-channel