Hilti HAP 1.15 Elevator Hoist Anchor Point

Submission Folder

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Hoist anchor point HAP 1.15

APPLICATIONS

- Designed for load lifting applications

Technical data	
Dispenser, setting tool, accessory, tester type	Hoist anchor points

ADVANTAGES

- No limitations in load directions, also for use on the wall
- Compact design and low profile
- Two or more HAP 1.15 can be combined to increase the total WLL
- Design meets application requirements for dynamic loads in any direction (dynamic safety factor = 1.8)
- HAP 1.15 is designed for use with standard HST3 M12 anchors
- Supplied pre-assembled (one piece), no need to assemble individual components

Technical data	
Anchor type	Plastic anchor
Head configuration	Flat head, Round head
Material composition	Polyamide PA 6
Material, corrosion	Plastic
In-service temperature – range	-40 - 80 °C
Installation direction	Wall

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Order Now

Ordering designation	Sales pack quantity	Item number
HAP 1.15	2 pc	**2032179**

Please visit Hilti website for the latest item numbers and related products

HAP 1.15 Hoist anchor plate

Proven solution for hoisting applications

Anchor version

Benefits

- No limitation in load direction, hook (shackle) can rotate and swivel, symmetric design of base plate with 4 anchors
- Design fits application requirements of vibratory dynamic loads from motorized hoisting with dynamic safety factor of 1.8
- Anchorage of hoist point can be designed with PROFIS Anchor software, cracked and un-cracked concrete, ≥ C20/25
- Recommended anchor HST3 M12 (h_{ef}=70mm)
- Two or more HAP 1.15 can be combined to increase total WLL
- Delivered pre-assembled (one piece), no need for assembly
- Compact design, only 155 x 155 x 52 mm (when shackle is folded to plate)
- Global safety factor of 4 for all steel connections

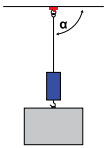
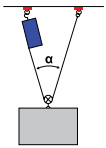
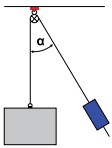
Applications

The HAP 1.15 is designed for temporary and permanent application under dry indoor conditions, to be used as post installed “master hoist point” for installation and/or maintenance in elevator shafts. It can be used with manual or motor hoists and bears a working load up to 1.15 metric tons in variable directions.

Basic loading data (for a single anchor)

Data for WLL_{total} applies to

- Correct design of anchorage (see “design of anchorage”)
- Correct setting of anchors
- No edge distance influence
- Cracked concrete, C20/25, $f_{ck,cube}$ = 25 N/mm²
- Cracked concrete, ACI 318-14 design (cylindrical test method): f'_c = 2500 psi
- No shock loading; vibratory dynamic safety factor γ_{dyn} up to 1.8

			Single point	Single pulley	Fixed motor hoist
					
α < 20°	WLL total	[metric ton]	1,15	2,25	0,55
20° < α < 45°	WLL total	[metric ton]	1,15	2,10	0,50
45° < α < 60°	WLL total	[metric ton]	1,15	2,00	0,45
60° < α < 90°	WLL total	[metric ton]	1,15	1,60	0,40
90° < α < 120°	WLL total	[metric ton]	Not applicable	1,15	Not applicable

a) Keep distance of min. 4 x hef between anchors of the two HAP’s

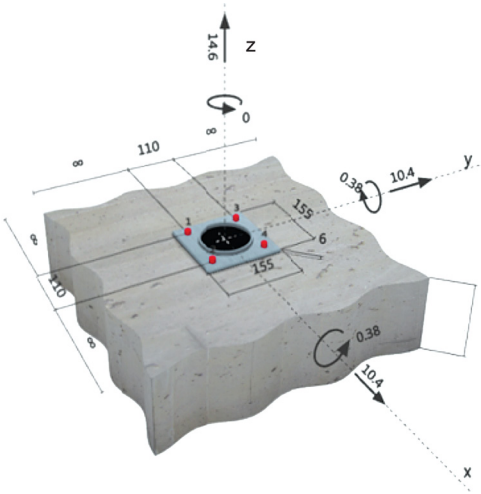
Design of anchorage

HAP 1.15 is designed to be used as hoist point for lifting loads under variable directions in elevator installation or maintenance.

The design of an anchorage for the HAP 1.15 must account for varying load conditions (varying directions, dynamic effects, etc.) For this the anchorage for HAP 1.15 has to be designed according to extreme load cases: A concrete anchor can only be considered as suitable for use with the HAP 1.15 hoist point if the approved anchor satisfies ALL of the following load scenarios (e.g. by PROFIS calculation1) with ETAG or ICC calculation method:

ETA Design

- Base material: acc. to onsite conditions
- Cracked or un-cracked concrete
- Slab thickness: onsite slab thickness[2]
- Dimensions of baseplate see picture
- Partial safety factor for load γ_L= 1.8



Load scenario 1 (pure tension):

F_z	20.7	kN

Load scenario 2 (diagonal 45°):

F_z	14.6	kN
F_x	10.4	kN
F_y	10.4	kN
M_x	0.38	kNm
M_y	0.38	kNm

Load scenario 3 (diagonal shear):

F_x	14.6	kN
F_y	14.6	kN
M_x	0.54	kNm
M_y	0.54	kNm

For use of HAP 1.15 as ETAG approved anchorage, Hilti recommends use of HST3 M12

[1] Free download of PROFIS Anchor design software from www.hilti.com Service & Support

[2] Minimum slab thickness according to tech. data of applied anchors

Onsite qualification

1. Make sure anchors for the HAP 1.15 are correctly installed. Make sure shackle is not attached (de-install shackle if necessary). Connect ring bolt adapter of HAT 30 to center bolt.

2. Connect HAT 30 with ring bolt adapter and position the tester with edges of tester baseplate parallel to edges of HAP plate.

   Turn crank in clockwise direction until legs are in contact with the base material. Check that pullout force acts parallel to the axis of the anchors and parallel to the legs of the HAT 30 and HAP 1.15 is centered with HAT 30.

3. Set the red hand of the gauge to zero.

4. Hold the HAT 30 by the grip while increasing the load on the HAP 1.15 by turning the crank in a clockwise direction. Increase the load until proof load of 26.5 kN is attained.

5. Keep the proof load on HAP 1.15 for at least 5 minutes.

6. Check the load on the HAT 30 after 5 minutes (black hand) and note down the difference to the initially applied proof load (red hand).

   Release the load by turning the crank counterclockwise.

7. Remove HAT 30 and ring bolt adapter.

   Perform visual check on HAP 1.15 and base material (damages, deformations, cracks).

   The Hoist Anchor Kit has passed the test and can be loaded with a maximal working load of 1.15 metric tons if the following requirements are met:
   - The applied proof load of 26.5 kN decreased less than 10% during the 5 minutes test duration
   - No damage or deformation of the HAP 1.15
   - No damage (e.g. cracks) in the base material

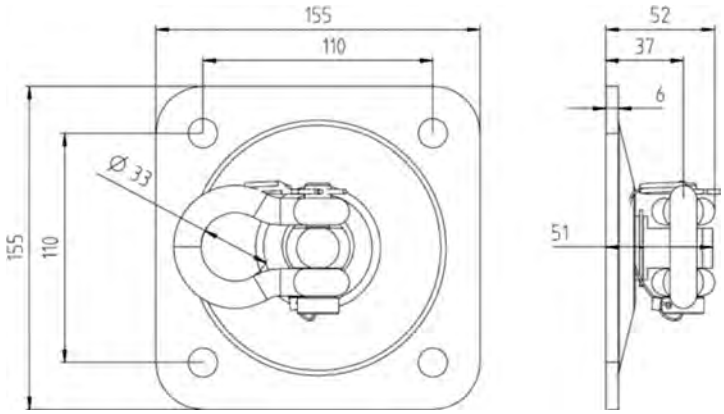
8. Install the shackle and plug in the safety pin, optional is to mark or label the HAP 1.15 with date of proof loading, name of testing person

Materials

Material quality

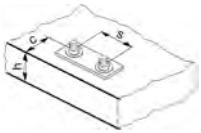
Part	Material / Mechanical properties or standard
Shackle axis	Galvanized steel R_m > 550N/mm²
Shackle (U-bolt)	Material, functional dimensions and mech. properties acc. to EN 13889, coated with 100my powder laque
Eye Bolt	Galvanized steel R_m > 550N/mm²
Base plate	Galvanized steel R_m > 355N/mm²

Setting information



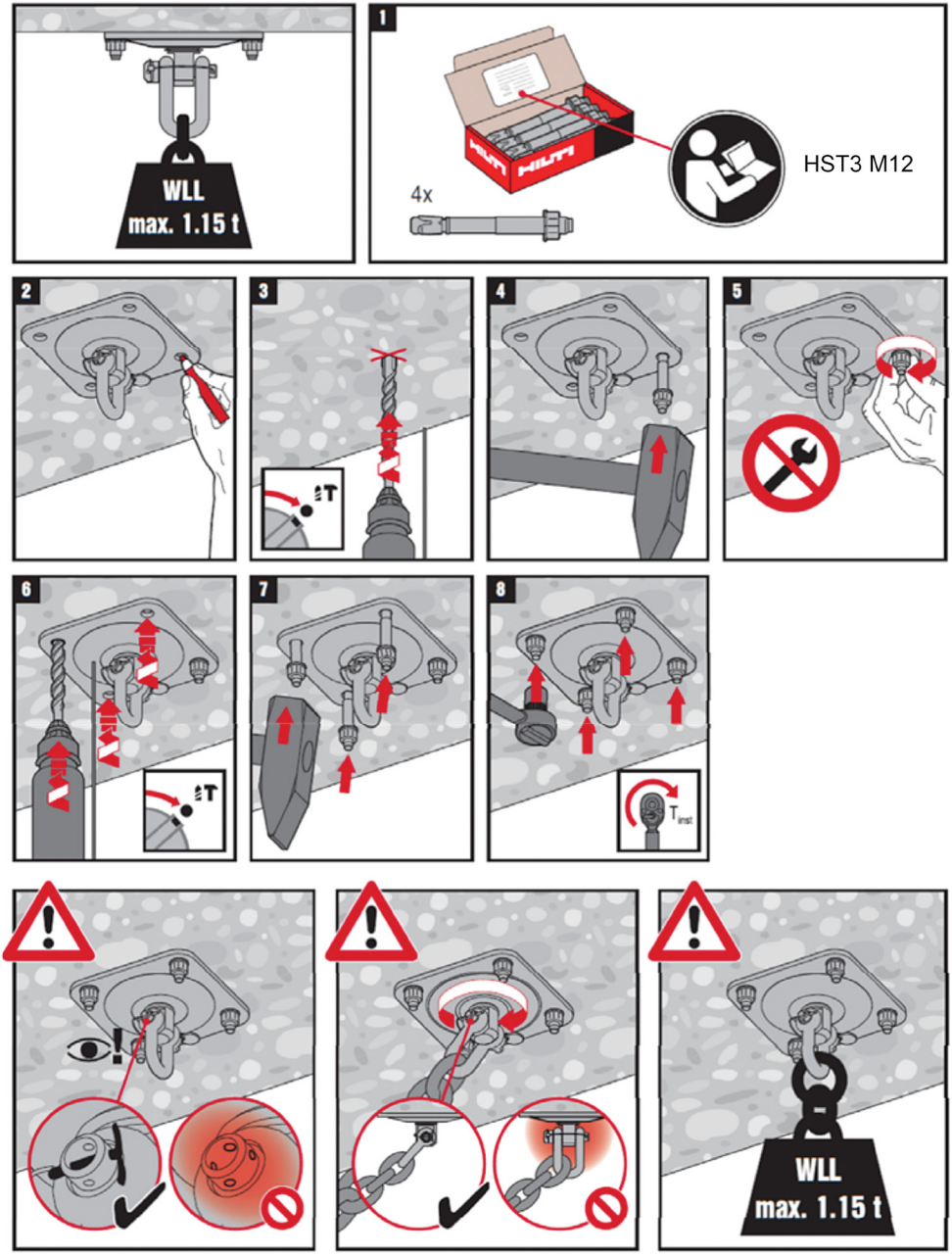
HAP 1.15			
Minimum base material thickness	h_{min}	[mm]	according to technical data of applied anchors
Spacing (Hoist Anchor Plate)	s	[mm]	110
Edge distance	c		according to technical data of applied anchors a)

a) For smaller edge distances the design loads have to be reduced (see ETAG 001, Annex C).



Setting instructions

*** For detailed information on installation see instruction for use given with the package of the product**



Attn. : To whom it may concern

Date : 26 September 2023
Ref. : 094/FP/DY/23

Subject : Country of Origin – Hilti HAP 1.15 Hoist Anchor Plate

Dear Sir / Madam,

Enclosed please find the information of Hilti HAP 1.15 Hoist Anchor Plate.

Brand Name : Hilti

Model Name : Hilti HAP 1.15 Hoist Anchor Plate

Manufacturer : Hilti Corporation

Address of Manufacturer : FL-9494, Principality of Liechtenstein.

Manufacturer Contact Person : Dennis Yeung

Supplier : Hilti (Hong Kong) Ltd

Address of Supplier : 701-704, 7/F, Tower A, Manulife Financial Centre,
223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Supplier Contact Person : Dennis Yeung (+852 9723 4621)

Country of Origin : Germany

Should you have further questions, please do not hesitate to contact our Technical Representatives, Customer Service Hotline at 8228-8118, or email us at hksales@hilti.com.

Yours faithfully,

Dennis Yeung
Head of Product Leadership Strategy, F&P

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Hilti HAP 1.15 Elevator Hoist Anchor Point Job Reference

Year	Project Name	Customer Name	Project type
2022	R6 TKO BRIDGE & P2 ROAD NE/2015/02	GOOD MIND ENGINEERING LIMITED	Infrastructure
2022	HKIA 3508 TERMINAL 2	GAMMON ENGINEERING & CONSTRUCTION	Transport
2022	R6 TKO-LAM TIN TUNNEL NE/2015/01	GOOD MIND ENGINEERING LIMITED	Infrastructure
2022	WAN CHAI HOPEWELL CENTRE 2	CHINA OVERSEAS BUILDING	Hospitality
2022	ON SAU RD, SITE KT2A, ANDERSON RD QUARRY - S	CHUN WO-STEC-VASTEAM JOINT VENTURE	Education
2022	SAI SHA SAI KUNG N.157 GOLF CLUB	SANFIELD - GAMMON CONSTRUCTION	Community & Cultural
2022	ANDERSON ROAD QUARRY, SITE R2-3	CHINA OVERSEAS BUILDING	Residential
2022	KING FUK ST, KAI SAN RD & TSAT PO ST, NKIL 6540	SAN PO METAL ENGINEERING LIMITED	Community & Cultural
2022	LANTAU ISLAND EAST (ARTIFICIAL ISLAND NEAR KA	EAST GAIN METAL WORKS ENGINEERING	Residential
2022	R6 CTL KLN ROUTE-BUILDING AND E&M HY/2019/13	GAMMON CONSTRUCTION LIMITED	Infrastructure
2022	HKIA P583 T1 ANNEX BLDG & CP4 EXT	LEIGHTON CONTRACTORS (ASIA) LTD	Infrastructure
2022	R6 CTL KLN ROUTE-CENTRAL TUNNEL HY/2018/08	BOUYGUES TRAVAUX PUBLICS	Infrastructure
2023	HKIA 3508 TERMINAL 2	GAMMON ENGINEERING & CONSTRUCTION	Transport
2023	WEST KOWLOON - LYRIC THEATRE - (IPS)	GAMMON CONSTRUCTION LIMITED	Community & Cultural
2023	SCL 1123 EXHIBITION STATION	LEIGHTON - CHINA STATE JOINT	Infrastructure
2023	R6 CTL KLN ROUTE-BUILDING AND E&M HY/2019/13	GAMMON CONSTRUCTION LIMITED	Infrastructure
2023	117-119 JERVOIS ST	W. M. CONSTRUCTION LIMITED	Office
2023	WAN CHAI HOPEWELL CENTRE 2	CHINA OVERSEAS BUILDING	Hospitality
2023	FORMER EXCELSIOR REDEVELOP - PROJECT BLUE	GAMMON ENGINEERING & CONSTRUCTION	Office
2023	46-56 QUEEN'S RD EAST, 1-11 LANDALE ST & 2-12 AI	GAMMON ENGINEERING & CONSTRUCTION	Office
2023	ORGANIC RESOURCES RECOVERY CENTRE PH2 (W	JEC - AGRIVERT IJV	Utilities
2023	New - Infrastructure - Island Eastern Corridor	IEC BOARDWALK JV	Infrastructure
2024	WEST KOWLOON - LYRIC THEATRE - (IPS)	ENTASIS LIMITED	Community & Cultural
2024	HKIA 3508 TERMINAL 2	GAMMON ENGINEERING & CONSTRUCTION	Transport
2024	R6 CTL KLN ROUTE-BUILDING AND E&M HY/2019/13	GAMMON CONSTRUCTION LIMITED	Infrastructure
2024	R6 CTL KLN ROUTE-KAI TAK WEST HY/2014/07	GAMMON CONSTRUCTION LIMITED	Infrastructure
2024	QUEEN MARY HOSPITAL PH 2	HARVEST TIME FACADE LIMITED	Health
2024	KWAI CHUNG HOSPITAL PH2 & 3	HARVEST TIME FACADE LIMITED	Health
2024	R6 TRUNK ROAD T2 ED/2018/04	BOUYGUES TRAVAUX PUBLICS	Infrastructure
2024	WONG CHUK HANG STATION PH4 (SITE D)	CHINA OVERSEAS BUILDING	Residential
2024	CYBERPORT PH5	GAMMON CONSTRUCTION LIMITED	Office
2024	TKO GOVERNMENT OFFICES	HARVEST TIME FACADE LIMITED	Office