Hilti HVU2 Adhesive Capsule (Anchorage)

Submission Folder

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Foil capsule adhesive anchor HVU2

BASE MATERIALS

- Concrete (cracked)
- Concrete (uncracked)

APPLICATIONS

- Anchoring steel structures (e.g. racking, guard rails, fences and gates)
- Anchoring items along roads and in tunnels (e.g. crash and noise barriers, overhead catenary systems)
- Anchoring in industry (e.g. machinery, elevators, cranes and industrial equipment)
- Anchoring at the edge of slabs or on narrow supports (e.g. beams, balconies)

ADVANTAGES

- High performance in cracked and uncracked concrete
- Tough and resilient soft foil capsule – no more risk of breakage, like with glass capsules
- Each capsule contains exactly the right amount of resin, for maximum efficiency and economy – no wastage and no need for complex calculations
- Suitable for use under tough jobsite conditions including watersaturated holes and at low temperatures, even in diamond-cored holes
- Automatic hole cleaning (SafeSet) with TE-CD and TE-YD drill bits in combination with a Hilti vacuum cleaner
- Anchors can be loaded almost instantly – only 5 minutes curing time at 20°C and above

Approvals	
ETA	ETA-18/0185 HVU2 bonded fastener for use in concrete

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

These are abbreviated instructions which may vary according to the application.

Technical data	
Material composition	Epoxy methacrylate
Material, corrosion	Stainless steel, HCR (high corrosion resistance), Carbon steel, HDG (hotdip galvanised)/sherardised, Stainless steel, A2, Carbon steel, zinc-plated
Tested/approved for diamond drilling	Yes

Curing time[1)]

Base material temperature [°C]	Curing time t_{cure} [min]
0-4	40
5-9	20
10 to 19	10
20 to 40	5

[1)] The curing time data are vaild for dry base material only. In wet base material the curing times must be doubled.

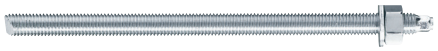
Order Now

Ordering designation	Drill bit diameter	Standard embedment depth	Anchor size	Sales pack quantity	Item number
HVU2 M8x80	10 mm	80 mm	8 mm	20 pcs	**2164505**
HVU2 M10x90	12 mm	90 mm	10 mm	20 pcs	**2164506**
HVU2 M12x110	14 mm	110 mm	12 mm	20 pcs	**2164507**
HVU2 M16x125	18 mm	125 mm	16 mm	20 pcs	**2164508**
HVU2 M20x170	22 mm	170 mm	20 mm	10 pcs	**2164509**
HVU2 M24x210	28 mm	210 mm	24 mm	5 pcs	**2164560**
HVU2 M27x240	30 mm	240 mm	27 mm	4 pcs	**2164561**[1)]
HVU2 M30x270	35 mm	270 mm	30 mm	4 pcs	**2164562**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

Anchor rod HAS-U 5.8 (Galvanized, grade 5.8)



Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 5.8 grade, zinc-plated (min. 5µm)
Material, corrosion	Steel, zinc-plated

Order Now

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 5.8 M6x75	M6	75mm	8mm	7mm	20pc	**2223936**[1)]
HAS-U 5.8 M6x105	M6	105mm	8mm	7mm	20pc	**2223704**[1)]
HAS-U 5.8 M8x80	M8	80mm	10mm	9mm	20pc	**2223852**[1)]
HAS-U 5.8 M8x110	M8	110mm	10mm	9mm	20pc	**2223853**
HAS-U 5.8 M8x150	M8	150mm	10mm	9mm	20pc	**2223854**[1)]
HAS-U 5.8 M10x95	M10	95mm	12mm	12mm	20pc	**2223705**[1)]
HAS-U 5.8 M10x115	M10	115mm	12mm	12mm	20pc	**2223706**[1)]
HAS-U 5.8 M10x130	M10	130mm	12mm	12mm	20pc	**2223707**
HAS-U 5.8 M10x170	M10	170mm	12mm	12mm	20pc	**2223709**[1)]
HAS-U 5.8 M10x190	M10	190mm	12mm	12mm	20pc	**2223820**[1)]
HAS-U 5.8 M12x110	M12	110mm	14mm	14mm	20pc	**2223821**[1)]
HAS-U 5.8 M12x120	M12	120mm	14mm	14mm	20pc	**2223822**[1)]
HAS-U 5.8 M12x160	M12	160mm	14mm	14mm	20pc	**2223823**
HAS-U 5.8 M12x180	M12	180mm	14mm	14mm	20pc	**2223825**[1)]
HAS-U 5.8 M12x200	M12	200mm	14mm	14mm	20pc	**2223826**[1)]
HAS-U 5.8 M12x220	M12	220mm	14mm	14mm	20pc	**2223827**[1)]
HAS-U 5.8 M12x260	M12	260mm	14mm	14mm	20pc	**2223867**[1)]
HAS-U 5.8 M12x300	M12	300mm	14mm	14mm	20pc	**2223868**[1)]
HAS-U 5.8 M16x150	M16	150mm	18mm	18mm	20pc	**2223828**[1)]
HAS-U 5.8 M16x165	M16	165mm	18mm	18mm	20pc	**2223829**[1)]
HAS-U 5.8 M16x190	M16	190mm	18mm	18mm	20pc	**2223830**
HAS-U 5.8 M16x220	M16	220mm	18mm	18mm	10pc	**2223869**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

Customer Hotline: Hong Kong 8228 8118, Macau 00800 8228 8118 Email: hksales@hilti.com

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 5.8 M16x260	M16	260mm	18mm	18mm	10pc	**2223832**[1)]
HAS-U 5.8 M16x300	M16	300mm	18mm	18mm	10pc	**2223870**
HAS-U 5.8 M16x350	M16	350mm	18mm	18mm	10pc	**2223871**[1)]
HAS-U 5.8 M16x500	M16	500mm	18mm	18mm	10pc	**2223872**[1)]
HAS-U 5.8 M20x180	M20	180mm	22mm	22mm	10pc	**2223873**[1)]
HAS-U 5.8 M20x240	M20	240mm	22mm	22mm	10pc	**2223874**
HAS-U 5.8 M20x260	M20	260mm	22mm	22mm	10pc	**2223876**
HAS-U 5.8 M20x300	M20	300mm	22mm	22mm	10pc	**2223877**[1)]
HAS-U 5.8 M20x350	M20	350mm	22mm	22mm	10pc	**2223878**[1)]
HAS-U 5.8 M20x400	M20	400mm	22mm	22mm	10pc	**2223879**[1)]
HAS-U 5.8 M20x480	M20	480mm	22mm	22mm	10pc	**2223880**
HAS-U 5.8 M24x300	M24	300mm	28mm	26mm	5pc	**2223881**
HAS-U 5.8 M24x450	M24	450mm	28mm	26mm	5pc	**2223882**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

HAS-U 5.8 HDG

Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 5.8 grade, zinc-plated (min. 43µm)
Material, corrosion	Steel, zinc-plated

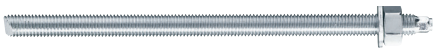
Order Now

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 5.8 HDG M8x80	M8	80mm	10mm	9mm	20pc	**2223856**[1)]
HAS-U 5.8 HDG M8x110	M8	110mm	10mm	9mm	20pc	**2223857**[1)]
HAS-U 5.8 HDG M8x150	M18	150mm	10mm	9mm	20pc	**2223858**[1)]
HAS-U 5.8 HDG M10x95	M10	95mm	12mm	12mm	20pc	**2223859**[1)]
HAS-U 5.8 HDG M10x115	M10	115mm	12mm	12mm	20pc	**2223860**[1)]
HAS-U 5.8 HDG M10x130	M10	130mm	12mm	12mm	20pc	**2223861**[1)]
HAS-U 5.8 HDG M10x170	M10	170mm	12mm	12mm	20pc	**2223862**[1)]
HAS-U 5.8 HDG M10x190	M10	190mm	12mm	12mm	20pc	**2223863**[1)]
HAS-U 5.8 HDG M12x110	M12	110mm	14mm	14mm	20pc	**2223937**[1)]
HAS-U 5.8 HDG M12x120	M12	120mm	14mm	14mm	20pc	**2223938**[1)]
HAS-U 5.8 HDG M12x160	M12	160mm	14mm	14mm	20pc	**2223939**[1)]
HAS-U 5.8 HDG M12x180	M12	180mm	14mm	14mm	20pc	**2223940**[1)]
HAS-U 5.8 HDG M12x200	M12	200mm	14mm	14mm	20pc	**2223941**[1)]
HAS-U 5.8 HDG M12x220	M12	220mm	14mm	14mm	20pc	**2223942**[1)]
HAS-U 5.8 HDG M12x260	M12	260mm	14mm	14mm	20pc	**2223895**[1)]
HAS-U 5.8 HDG M12x300	M12	300mm	14mm	14mm	20pc	**2223896**[1)]
HAS-U 5.8 HDG M16x150	M16	150mm	18mm	18mm	20pc	**2223943**[1)]
HAS-U 5.8 HDG M16x165	M16	165mm	18mm	18mm	20pc	**2223944**[1)]
HAS-U 5.8 HDG M16x190	M16	190mm	18mm	18mm	20pc	**2223945**[1)]
HAS-U 5.8 HDG M16x220	M16	220mm	18mm	18mm	10pc	**2223946**[1)]
HAS-U 5.8 HDG M16x260	M16	260mm	18mm	18mm	10pc	**2223897**[1)]
HAS-U 5.8 HDG M16x300	M16	300mm	18mm	18mm	10pc	**2223898**[1)]
HAS-U 5.8 HDG M16x350	M16	350mm	18mm	18mm	10pc	**2223899**[1)]
HAS-U 5.8 HDG M16x500	M16	500mm	18mm	18mm	10pc	**2223900**[1)]
HAS-U 5.8 HDG M20x180	M20	180mm	22mm	22mm	10pc	**2223901**[1)]
HAS-U 5.8 HDG M20x240	M20	240mm	22mm	22mm	10pc	**2223902**[1)]
HAS-U 5.8 HDG M20x260	M20	260mm	22mm	22mm	10pc	**2223903**[1)]
HAS-U 5.8 HDG M20x300	M20	300mm	22mm	22mm	10pc	**2223904**[1)]
HAS-U 5.8 HDG M20x350	M20	350mm	22mm	22mm	10pc	**2223905**[1)]
HAS-U 5.8 HDG M20x400	M20	400mm	22mm	22mm	10pc	**2223906**[1)]
HAS-U 5.8 HDG M20x480	M20	480mm	22mm	22mm	10pc	**2223907**[1)]
HAS-U 5.8 HDG M24x300	M24	300mm	28mm	26mm	5pc	**2223908**[1)]
HAS-U 5.8 HDG M24x450	M24	450mm	28mm	26mm	5pc	**2223909**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

Anchor rod HAS-U 8.8 (Galvanized, grade 8.8)



Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 8.8 grade, zinc-plated (min. 5µm)
Material, corrosion	Steel, zinc-plated

Order Now

CE

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 8.8 M8x150	M8	150mm	10mm	9mm	20pc	**2223855**[1)]
HAS-U 8.8 M10x190	M10	190mm	12mm	12mm	20pc	**2223833**
HAS-U 8.8 M12x220	M12	220mm	14mm	14mm	20pc	**2223834**
HAS-U 8.8 M12x300	M12	300mm	14mm	14mm	20pc	**2223883**
HAS-U 8.8 M16x190	M16	190mm	18mm	18mm	20pc	**2223835**[1)]
HAS-U 8.8 M16x300	M16	300mm	18mm	18mm	10pc	**2223884**[1)]
HAS-U 8.8 M16x380	M16	380mm	18mm	18mm	10pc	**2223885**
HAS-U 8.8 M20x180	M20	180mm	22mm	22mm	10pc	**2223886**[1)]
HAS-U 8.8 M20x260	M20	260mm	22mm	22mm	10pc	**2223887**[1)]
HAS-U 8.8 M20x400	M20	400mm	22mm	22mm	10pc	**2223888**[1)]
HAS-U 8.8 M24x300	M24	300mm	28mm	26mm	5pc	**2223889**[1)]
HAS-U 8.8 M27x340	M27	340mm	30mm	30mm	5pc	**2223890**[1)]
HAS-U 8.8 M30x380	M30	380mm	35mm	33mm	5pc	**2223891**[1)]
HAS-U 8.8 M33x420	M33	420mm	37mm	36mm	5pc	**2223892**[1)]
HAS-U 8.8 M36x460	M36	460mm	40mm	39mm	5pc	**2223893**[1)]
HAS-U 8.8 M39x510	M39	510mm	42mm	42mm	5pc	**2223894**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

HAS-U 8.8 HDG

Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 8.8 grade, zinc-plated (min. 43µm)
Material, corrosion	Steel, zinc-plated

Order Now

CE

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 8.8 HDG M8x150	M8	150mm	10mm	9mm	20pc	**2223947**[1)]
HAS-U 8.8 HDG M10x190	M10	190mm	12mm	12mm	20pc	**2223948**[1)]
HAS-U 8.8 HDG M12x220	M12	220mm	14mm	14mm	20pc	**2223949**[1)]
HAS-U 8.8 HDG M12x300	M12	300mm	14mm	14mm	20pc	**2223910**[1)]
HAS-U 8.8 HDG M16x190	M16	190mm	18mm	18mm	20pc	**2223703**[1)]
HAS-U 8.8 HDG M16x300	M16	300mm	18mm	18mm	10pc	**2223911**[1)]
HAS-U 8.8 HDG M16x380	M16	380mm	18mm	18mm	10pc	**2223912**[1)]
HAS-U 8.8 HDG M20x180	M20	180mm	22mm	22mm	10pc	**2223913**[1)]
HAS-U 8.8 HDG M20x260	M20	260mm	22mm	22mm	10pc	**2223914**[1)]
HAS-U 8.8 HDG M20x400	M20	400mm	22mm	22mm	10pc	**2223915**[1)]
HAS-U 8.8 HDG M24x300	M24	300mm	28mm	26mm	5pc	**2223916**[1)]
HAS-U 8.8 HDG M27x340	M27	340mm	30mm	30mm	5pc	**2223917**[1)]
HAS-U 8.8 HDG M30x380	M30	380mm	35mm	33mm	5pc	**2223918**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

Anchor rod HAS-U (A4 stainless steel)

Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, A4 (SS316)
Material, corrosion	Steel, stainless

Order Now

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U A4 M8x80	M8	80mm	10mm	9mm	20pc	**2223864**
HAS-U A4 M8x110	M8	110mm	10mm	9mm	20pc	**2223865**
HAS-U A4 M8x150	M8	150mm	10mm	9mm	20pc	**2223866**
HAS-U A4 M10x95	M10	95mm	12mm	9mm	20pc	**2223836**
HAS-U A4 M10x115	M10	115mm	12mm	12mm	20pc	**2223837**[1)]
HAS-U A4 M10x130	M10	130mm	12mm	12mm	20pc	**2223838**
HAS-U A4 M10x170	M10	170mm	12mm	12mm	20pc	**2223839**[1)]
HAS-U A4 M10x190	M10	190mm	12mm	12mm	20pc	**2223840**
HAS-U A4 M10x220	M10	220mm	12mm	12mm	20pc	**2223841**[1)]
HAS-U A4 M12x110	M12	110mm	14mm	14mm	20pc	**2223842**[1)]
HAS-U A4 M12x120	M12	120mm	14mm	14mm	20pc	**2223843**[1)]
HAS-U A4 M12x160	M12	160mm	14mm	14mm	20pc	**2223844**
HAS-U A4 M12x180	M12	180mm	14mm	14mm	20pc	**2223845**[1)]
HAS-U A4 M12x200	M12	200mm	14mm	14mm	20pc	**2223846**[1)]
HAS-U A4 M12x220	M12	220mm	14mm	14mm	20pc	**2223847**
HAS-U A4 M12x260	M12	260mm	14mm	14mm	20pc	**2223919**[1)]
HAS-U A4 M12x300	M12	300mm	14mm	14mm	20pc	**2223920**
HAS-U A4 M16x150	M16	150mm	18mm	18mm	20pc	**2223848**[1)]
HAS-U A4 M16x165	M16	165mm	18mm	18mm	20pc	**2223849**[1)]
HAS-U A4 M16x190	M16	190mm	18mm	18mm	20pc	**2223850**
HAS-U A4 M16x220	M16	220mm	18mm	18mm	20pc	**2223851**
HAS-U A4 M16x260	M16	260mm	18mm	18mm	10pc	**2223921**[1)]
HAS-U A4 M16x300	M16	300mm	18mm	18mm	10pc	**2223922**[1)]
HAS-U A4 M16x350	M16	350mm	18mm	18mm	10pc	**2223923**[1)]
HAS-U A4 M16x380	M16	380mm	18mm	18mm	10pc	**2223924**
HAS-U A4 M20x180	M20	180mm	22mm	22mm	10pc	**2223925**[1)]
HAS-U A4 M20x240	M20	240mm	22mm	22mm	10pc	**2223926**
HAS-U A4 M20x260	M20	260mm	22mm	22mm	10pc	**2223927**
HAS-U A4 M20x300	M20	300mm	22mm	22mm	10pc	**2223928**[1)]
HAS-U A4 M20x350	M20	350mm	22mm	22mm	10pc	**2223929**[1)]
HAS-U A4 M20x400	M20	400mm	22mm	22mm	10pc	**2223930**[1)]
HAS-U A4 M20x480	M20	480mm	22mm	22mm	10pc	**2223931**
HAS-U A4 M24x300	M24	300mm	28mm	26mm	5pc	**2223932**
HAS-U A4 M24x450	M24	450mm	28mm	26mm	5pc	**2223933**[1)]
HAS-U A4 M27x340	M27	340mm	30mm	30mm	5pc	**2223934**[1)]
HAS-U A4 M30x380	M30	380mm	35mm	33mm	5pc	**2223935**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

Internally threaded sleeve HIS-N (Galvanized, grade 5.8)

Approvals	
ETA	ETA 04/0027 for HIT-RE 500 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 04/0027 for HIT-RE 500 V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Inner thread
Material composition	Steel, 5.8 grade, zinc-plated (min. 5 µm)
Material, corrosion	Steel, zinc-plated
Anchor type	Internally threaded

Order Now

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Sales pack quantity	Item number
HIS-N M8x90	M8	14 mm	90 mm	9 mm	10 pc	**258015**[1)]
HIS-N M10x110	M10	18 mm	110 mm	12 mm	10 pc	**258016**[1)]
HIS-N M12x125	M12	22 mm	125 mm	14 mm	5 pc	**258017**[1)]
HIS-N M16x170	M16	28 mm	170 mm	18 mm	5 pc	**258018**[1)]
HIS-N M20x205	M20	32 mm	205 mm	22 mm	5 pc	**258019**[1)]

[1)] This is a non-stock item. For detailed lead time information please contact your Hilti representative.

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

Internally threaded sleeve HIS-RN (A4 stainless steel)

Approvals	
ETA	ETA 04/0027 for HIT-RE 500 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 04/0027 for HIT-RE 500 V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Inner thread
Material composition	Steel, A4 (SS316)
Material, corrosion	Steel, stainless
Anchor type	Internally threaded

Order Now

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Sales pack quantity	Item number
HIS-RN M8x90 A4	M8	14 mm	90 mm	9 mm	10 pc	**258024**[1)]
HIS-RN M10x110 A4	M10	18 mm	110 mm	12 mm	10 pc	**258025**
HIS-RN M12x125 A4	M12	22 mm	125 mm	14 mm	5 pc	**258026**
HIS-RN M16x170 A4	M16	28 mm	170 mm	18 mm	5 pc	**258027**[1)]
HIS-RN M20x205 A4	M20	32 mm	205 mm	22 mm	5 pc	**258028**[1)]

[1)] This is a non-stock item. For detailed lead time information please contact your Hilti representative.

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

Setting tool TE-C (For HVU2 installation)

APPLICATIONS

- Setting tool for installing HVU2 with HAS

Approvals	
ETA	ETA-18/0185 HVU2 bonded fastener for use in concrete

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Dispenser, setting tool, accessory, tester type	Setting tools

Ordering designation	Connection end	Sales pack quantity	Item number
TE-C M8 - M16	TE-C	1 pcs	**2181356**

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

Setting tool TE-C-E (For HVU2 installation)

APPLICATIONS

- Setting tool for installing HVU2 with HAS-E

Technical data	
Dispenser, setting tool, accessory, tester type	Setting tools

Order Now

Ordering designation	Connection end	Sales pack quantity	Item number
TE-C-E M8	TE-C	1 pc	**369223**
TE-C-E M10	TE-C	1 pc	**369224**
TE-C-E M12	TE-C	1 pc	**369225**
TE-C-E M16	TE-C	1 pc	**369226**

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

Setting tool TE-Y-E (For HVU2 installation)

APPLICATIONS

- Setting tool for installing HVU2 with HAS-E

Technical data	
Dispenser, setting tool, accessory, tester type	Setting tools

Order Now

Ordering designation	Connection end	Sales pack quantity	Item number
TE-Y-E M16	TE-Y	1 pc	**369227**[1)]
TE-Y-E M20	TE-Y	1 pc	**369228**[1)]
TE-Y-E M24	TE-Y	1 pc	**369229**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

Setting tool HIS-S (For HVU2 installation)

APPLICATIONS

- Setting tool for installing HVU2 with HIS-N

Technical data	
Dispenser, setting tool, accessory, tester type	Setting tools

Order Now

Ordering designation	Sales pack quantity	Item number
HIS-S M8	1 pc	**45964**[1)]
HIS-S M10	1 pc	**45965**[1)]
HIS-S M12	1 pc	**45966**[1)]
HIS-S M16	1 pc	**45967**[1)]
HIS-S M20	1 pc	**45968**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

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

Mixers for Hilti injectable (RE&HY)

Technical data	
Dispenser, setting tool, accessory, tester type	Mixing nozzles and injection accessories

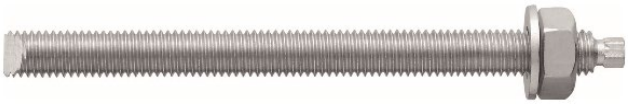
Order Now

Ordering designation	Sales pack quantity	Item number
Mixers HIT-RE-M (for RE&HY)	1 pc	**337111**

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

HVU2 adhesive capsule

Anchor design (EN 1992-4) / Rods&Sleeves / Concrete

Anchor version	Benefits
 HVU2 Mortar capsule	- **SafeSet** technology: Hilti hollow drill bit for automatic cleaning - Suitable for cracked and non-cracked concrete C20/25 to C50/60 both for hammer drilled and diamond cored holes - Highly reliable and safe anchor for seismic design with ETA C1/C2 approval. Seismic C1 ETA available even for Diamond cored holes. - Clean and fast installation that suits hard jobsite conditions - Suitable for dry and water saturated concrete - High loading capacity - Short curing time - In service temperature range up to 120°C short term / 72°C long term
 Anchor rod: HAS-U HAS-U HDG HAS-U A4 HAS-U HCR (M8-M30)	
 Internally threaded sleeve: HIS-N HIS-RN (M8-M20)	

Base material


Concrete (non-cracked)


Concrete (cracked)


Dry concrete


Wet concrete

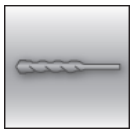
Load conditions


Static/ quasi-static


Fire resistance

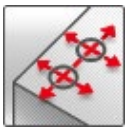

Seismic ETA-C1/C2

Installation conditions


Hammer drilled holes


Diamond drilled holes

SAFESET
Hilti SafeSet technology


Small edge distance and spacing

Other information


European Technical Assessment


CE conformity

PROFIS design Software

Corrosion resistance

High corrosion resistance

Approvals / certificates

Description	Authority / Laboratory	No. / date of issue
European Technical Assessment [a)]	DIBt, Berlin	ETA-16/0515 / 2019-11-13
Fire test assessment	ING.Thiele, Pirmasens	21735 / 2017-08-01

a) All data given in this section according to ETA-16/0515, issue 2019-06-17.

Recommended general notes

* The below clauses based on Hilti product qualifications are for references only. Selection of clauses by the engineer shall be based on the specific application needs. Please contact Hilti's technical team for further details.

- Anchor shall be capsule type adhesive
- Anchor shall be tested for water tightness
- Approved for use in uncracked and cracked concrete under static and quasi-static loading
- Approved for use in diamond cored drilled holes. In such case the performance shall be on the same level of hammer drilled holes when proper installation steps are followed.
- Anchor shall be installed in combination with dust removal drilling accessories to ensure dust free environment and clean borehole.
- Anchor shall be approved for overhead installation.
- Anchors shall obtain the European Technical Assessment (ETA) report.
- The anchor bolt design shall be done either according to "ETAG001 Annex C Design Method" issued by EOTA or "Guides on design of post-installed anchor bolt systems in Hong Kong" issued by HKISC.
- Anchors shall be tested in accordance to either ETAG-001 Annex A or ACI 355.2 by accredited laboratories under HOKLAS Mutual Recognition Arrangement (MRA) Partners.
- Anchor to be approved by NSF for use in contact with drinking water.

For seismic application:

- Approved for use under seismic actions category 1 (C1) and 2 (C2) according to EOTA TR045 "Design of Metal Anchors For Use In Concrete Under Seismic Actions, 02/2013".

Static and quasi-static resistance (for a single anchor)

All data in this section applies to:

- Correct setting (See setting instructions)
- No edge distance and spacing influence
- *Steel* failure
- Minimum base material thickness
- Concrete C20/25, $f_{ck,cube}$ = 25 N/mm²
- Temperature range I: -40 °C to +40 °C
  (max. long term temperature +24 °C and max. short term temperature +40 °C)
- All data given in this section according ETA-16/0515, issue 2019-11-13.
- Short term loading. For long term loading please apply ψ_{sus}.
  Hammer drilled holes and Hammer drilled holes with Hollow Drill Bit: ψ_{sus} = 1.00
  Diamond cored holes: ψ_{sus} = 0.78

Embedment depth and base material thickness

Anchor size			M8	M10	M12	M16	M20	M24	M27	M30
HAS-U										
Eff. Anchorage depth	h_{ef}	[mm]	80	90	110	125	170	210	240	270
Base material thickness	h_{min}	[mm]	110	120	140	160	220	270	300	340
HIS-N										
Eff. Anchorage depth	h_{ef}	[mm]	90	110	125	170	205	-	-	-
Base material thickness	h_{min}	[mm]	120	150	170	230	270	-	-	-

Hammer drilled holes and hammer drilled holes with hollow drill bit[1]:

Characteristic resistance

Anchor size			M8	M10	M12	M16	M20	M24	M27	M30
Non-cracked concrete										
Tension N_{Rk}	HAS-U 5.8	[kN]	*18,3*	*29,0*	*42,2*	68,8	109	150	-	-
	HAS-U 8.8		24,1	42,0	56,8	68,8	109	150	183	218
	HAS-U A4		24,1	*40,6*	56,8	68,8	109	150	183	218
	HAS-U HCR		24,1	42,0	56,8	68,8	109	150	-	-
	HIS-N 8.8		*25,0*	*46,0*	*67,0*	109	*116*	-	-	-

	HIS-RN 70		*26,0*	*41,0*	*59,0*	109	144	-	-	-
Shear V_{Rk}	HAS-U 5.8	[kN]	*9,2*	*14,5*	*21,1*	*39,3*	*61,3*	*88,3*	-	-
	HAS-U 8.8		*14,6*	*23,2*	*33,7*	*62,8*	*98,0*	*141*	*184*	*224*
	HAS-U A4		*12,8*	*20,3*	*29,5*	*55,0*	*85,8*	*124*	*115*	*140*
	HAS-U HCR		*14,6*	*23,2*	*33,7*	*62,8*	*98,0*	*124*	-	-
	HIS-N 8.8		*13,0*	*23,0*	*34,0*	*63,0*	*58,0*	-	-	-
	HIS-RN 70		*13,0*	*20,0*	*30,0*	*55,0*	*83,0*	-	-	-
Cracked concrete										
Tension N_{Rk}	HAS-U 5.8	[kN]	10,1	24,0	35,2	48,1	76,3	105	-	-
	HAS-U 8.8		10,1	24,0	35,2	48,1	76,3	105	128	153
	HAS-U A4		10,1	24,0	35,2	48,1	76,3	105	128	153
	HAS-U HCR		10,1	24,0	35,2	48,1	76,3	105	-	-
	HIS-N 8.8		23,0	37,1	48,1	76,3	101	-	-	-
	HIS-RN 70		23,0	37,1	48,1	76,3	101	-	-	-
Shear V_{Rk}	HAS-U 5.8	[kN]	*9,2*	*14,5*	*21,1*	*39,3*	*61,3*	*88,3*	-	-
	HAS-U 8.8		*14,6*	*23,2*	*33,7*	*62,8*	*98,0*	*141*	*184*	*224*
	HAS-U A4		*12,8*	*20,3*	*29,5*	*55,0*	*85,8*	*124*	*115*	*140*
	HAS-U HCR		*14,6*	*23,2*	*33,7*	*62,8*	*98,0*	*124*	-	-
	HIS-N 8.8		*13,0*	*23,0*	*34,0*	*63,0*	*58,0*	-	-	-
	HIS-RN 70		*13,0*	*20,0*	*30,0*	*55,0*	*83,0*	-	-	-

1) Hilti hollow drill bit is available for the element sizes M12 to M30.

Design resistance

Anchor size			**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
Non-cracked concrete										
Tension N_{Rd}	HAS-U 5.8	[kN]	12,2	19,3	28,1	45,8	72,7	99,8	-	-
	HAS-U 8.8		16,1	28,0	37,8	45,8	72,7	99,8	122	145
	HAS-U A4		15,3	24,2	35,1	45,8	72,7	99,8	80,2	98,1
	HAS-U HCR		16,1	28,0	37,8	45,8	72,7	99,8	-	-
	HIS-N 8.8		16,7	30,7	44,7	72,7	77,3	-	-	-
	HIS-RN 70		13,9	21,9	31,6	58,8	69,2	-	-	-
Shear V_{Rd}	HAS-U 5.8	[kN]	7,3	11,6	16,9	31,4	49,0	70,6	-	-
	HAS-U 8.8		11,7	18,6	27,0	50,2	78,4	113	147	180
	HAS-U A4		9,2	14,5	21,1	39,3	55,0	79,2	48,2	58,9
	HAS-U HCR		11,7	18,6	27,0	50,2	78,4	70,6	-	-
	HIS-N 8.8		10,4	18,4	27,2	50,4	46,4	-	-	-
	HIS-RN 70		8,3	12,8	19,2	35,3	41,5	-	-	-
Cracked concrete										
Tension N_{Rd}	HAS-U 5.8	[kN]	6,7	16,0	23,5	32,1	50,9	69,9	-	-
	HAS-U 8.8		6,7	16,0	23,5	32,1	50,9	69,9	85,4	102
	HAS-U A4		6,7	16,0	23,5	32,1	50,9	69,9	80,2	98,1
	HAS-U HCR		6,7	16,0	23,5	32,1	50,9	69,9	-	-
	HIS-N 8.8		15,3	24,7	32,1	50,9	67,4	-	-	-
	HIS-RN 70		13,9	21,9	31,6	50,9	67,4	-	-	-
Shear V_{Rd}	HAS-U 5.8	[kN]	7,3	11,6	16,9	31,4	49,0	70,6	-	-
	HAS-U 8.8		11,7	18,6	27,0	50,2	78,4	113	147	180
	HAS-U A4		9,2	14,5	21,1	39,3	55,0	79,2	48,2	58,9
	HAS-U HCR		11,7	18,6	27,0	50,2	78,4	70,6	-	-
	HIS-N 8.8		10,4	18,4	27,2	50,4	46,4	-	-	-
	HIS-RN 70		8,3	12,8	19,2	35,3	41,5	-	-	-

1) Hilti hollow drill bit is available for the element sizes M12 to M30.

Recommended loads[2)]

Anchor size			**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
Non-cracked concrete										
Tension N_{Rec}	HAS-U 5.8	[kN]	6,1	9,7	14,1	22,9	36,3	50,0	-	-
	HAS-U 8.8		8,0	14,0	18,9	22,9	36,3	50,0	61,0	72,7
	HAS-U A4		8,0	13,5	18,9	22,9	36,3	50,0	61,0	72,7
	HAS-U HCR		8,0	14	18,9	22,9	36,3	50,0	-	-

	HIS-N 8.8		8,3	15,3	22,3	36,3	38,7	-	-	-
	HIS-RN 70		8,7	13,7	19,7	36,3	48,0	-	-	-
Shear V_{Rec}	HAS-U 5.8	[kN]	3,1	4,8	7,0	13,1	20,4	29,4	-	-
	HAS-U 8.8		4,9	7,7	11,2	20,9	32,7	47,0	61,3	74,7
	HAS-U A4		4,3	6,8	9,8	18,3	28,6	41,3	38,3	46,7
	HAS-U HCR		4,9	7,7	11,2	20,9	32,7	41,3	-	-
	HIS-N 8.8		4,3	7,7	11,3	21,0	19,3	-	-	-
	HIS-RN 70		4,3	6,7	10,0	18,3	27,7	-	-	-
Cracked concrete										
Tension N_{Rec}	HAS-U 5.8	[kN]	3,4	8,0	11,7	16,0	25,4	35,0	-	-
	HAS-U 8.8		3,4	8,0	11,7	16,0	25,4	35,0	42,7	51,0
	HAS-U A4		3,4	8,0	11,7	16,0	25,4	35,0	42,7	51,0
	HAS-U HCR		3,4	8,0	11,7	16,0	25,4	35,0	-	-
	HIS-N 8.8		7,7	12,4	16,0	25,4	33,7	-	-	-
	HIS-RN 70		7,7	12,4	16,0	25,4	33,7	-	-	-
Shear V_{Rec}	HAS-U 5.8	[kN]	3,1	4,8	7,0	13,1	20,4	29,4	-	-
	HAS-U 8.8		4,9	7,7	11,2	20,9	32,7	47,0	61.3	74.7
	HAS-U A4		4,3	6,8	9,3	18,3	28,6	41,3	38,3	46,7
	HAS-U HCR		4,9	7,7	11,2	20,9	32,7	41,3	-	-
	HIS-N 8.8		4,3	7,7	11,3	21,0	19,3	-	-	-
	HIS-RN 70		4,3	6,7	10,0	18,3	27,7	-	-	-

1) HIti hollow drill bit is available for the element sizes M12-M30.
2) With overall safety factor for action γ = 3.0. The partial safety factors for action depend on the type of loading and shall be taken from national regulations.

Diamond cored holes:

Characteristic resistance

Anchor size			**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
Non-cracked concrete										
Tension N_{Rk}	HAS-U 5.8	[kN]	-	*29,0*	*42,2*	68,8	109	150	-	-
	HAS-U 8.8		-	39,6	56,8	68,8	109	150	183	218
	HAS-U A4		-	39,6	56,8	68,8	109	150	183	218
	HAS-U HCR		-	39,6	56,8	68,8	109	150	-	-
	HIS-N 8.8		*25,0*	*46,0*	*67,0*	109	*116*	-	-	-
	HIS-RN 70		*26,0*	*41,0*	*59,0*	109	144	-	-	-
Shear V_{Rk}	HAS-U 5.8	[kN]	-	*14,5*	*21,1*	*39,3*	*61,3*	*88,3*	-	-
	HAS-U 8.8		-	*23,2*	*33,7*	*62,8*	*98,0*	*141*	*184*	*224*
	HAS-U A4		-	*20,3*	*29,5*	*55,0*	*85,8*	*124*	*115*	*140*
	HAS-U HCR		-	*23,2*	*33,7*	*62,8*	*98,0*	*124*	-	-
	HIS-N 8.8		*13,0*	*23,0*	*34,0*	*63,0*	*58,0*	-	-	-
	HIS-RN 70		*13,0*	*20,0*	*30,0*	*55,0*	*83,0*	-	-	-
Cracked concrete										
Tension N_{Rk}	HAS-U 5.8	[kN]	-	19,8	29,0	44,0	74,8	105	-	-
	HAS-U 8.8		-	19,8	29,0	44,0	74,8	105	128	153
	HAS-U A4		-	19,8	29,0	44,0	74,8	105	128	153
	HAS-U HCR		-	19,8	29,0	44,0	74,8	105	-	-
	HIS-N 8.8		15,9	25,7	36,2	61,0	80,0	-	-	-
	HIS-RN 70		15,9	25,7	36,2	61,0	80,0	-	-	-
Shear V_{Rk}	HAS-U 5.8	[kN]	-	*14,5*	*21,1*	*39,3*	*61,3*	*88,3*	-	-
	HAS-U 8.8		-	*23,2*	*33,7*	*62,8*	*98,0*	*141*	*184*	*224*
	HAS-U A4		-	*20,3*	*29,5*	*55,0*	*85,8*	*124*	*115*	*140*
	HAS-U HCR		-	*23,2*	*33,7*	*62,8*	*98,0*	*124*	-	-
	HIS-N 8.8		*13,0*	*23,0*	*34,0*	*63,0*	*58,0*	-	-	-
	HIS-RN 70		*13,0*	*20,0*	*30,0*	*55,0*	*83,0*	-	-	-

Design resistance

Anchor size			M8	M10	M12	M16	M20	M24	M27	M30
Non-cracked concrete										
Tension N_{Rd}	HAS-U 5.8	[kN]	-	19,3	28,1	45,8	72,7	99,8	-	-
	HAS-U 8.8		-	26,4	37,8	45,8	72,7	99,8	122	145
	HAS-U A4		-	24,2	35,1	45,8	72,7	99,8	80,2	98,1
	HAS-U HCR		-	26,4	37,8	45,8	72,7	99,8	-	-
	HIS-N 8.8		16,7	30,7	44,7	72,7	77,3	-	-	-
	HIS-RN 70		13,9	21,9	31,6	58,8	69,2	-	-	-
Shear V_{Rd}	HAS-U 5.8	[kN]	-	11,6	16,9	31,4	49,0	70,6	-	-
	HAS-U 8.8		-	18,6	27,0	50,2	78,4	113	147	180
	HAS-U A4		-	14,5	21,1	39,3	55,0	79,2	48,2	58,9
	HAS-U HCR		-	18,6	27,0	50,2	78,4	70,6	-	-
	HIS-N 8.8		10,4	18,4	27,2	50,4	46,4	-	-	-
	HIS-RN 70		8,3	12,8	19,2	35,3	41,5	-	-	-
Cracked concrete										
Tension N_{Rd}	HAS-U 5.8	[kN]	-	13,2	19,4	29,3	49,8	69,9	-	-
	HAS-U 8.8		-	13,2	19,4	29,3	49,8	69,9	85,4	102
	HAS-U A4		-	13,2	19,4	29,3	49,8	69,9	80,2	98,1
	HAS-U HCR		-	13,2	19,4	29,3	49,8	69,9	-	-
	HIS-N 8.8		10,6	17,1	24,2	40,7	53,3	-	-	-
	HIS-RN 70		10,6	17,1	24,2	40,7	53,3	-	-	-
Shear V_{Rd}	HAS-U 5.8	[kN]	-	11,6	16,9	31,4	49,0	70,6	-	-
	HAS-U 8.8		-	18,6	27,0	50,2	78,4	113	147	180
	HAS-U A4		-	14,5	21,1	39,3	55,0	79,2	48,2	58,9
	HAS-U HCR		-	18,6	27,0	50,2	78,4	70,6	-	-
	HIS-N 8.8		10,4	18,4	27,2	50,4	46,4	-	-	-
	HIS-RN 70		8,3	12,8	19,2	35,3	41,5	-	-	-

Recommended loads [a)]

Anchor size			M8	M10	M12	M16	M20	M24	M27	M30
Non-cracked concrete										
Tension N_{Rec}	HAS-U 5.8	[kN]	-	9,7	14,1	23,0	36,4	50,0	-	-
	HAS-U 8.8		-	13,2	18,9	23,0	36,4	50,0	61,0	72,7
	HAS-U A4		-	13,2	18,9	23,0	36,4	50,0	61,0	72,7
	HAS-U HCR		-	13,2	18,9	23,0	36,4	50,0	-	-
	HIS-N 8.8		8,3	15,3	22,3	36,4	38,7	-	-	-
	HIS-RN 70		8,7	13,7	19,7	36,4	48,0	-	-	-
Shear V_{Rec}	HAS-U 5.8	[kN]	-	4,8	7,0	13,1	20,5	29,5	-	-
	HAS-U 8.8		-	7,7	11,2	21,0	32,7	47,0	61,4	74,7
	HAS-U A4		-	6,8	9,8	18,4	28,6	41,4	38,4	46,7
	HAS-U HCR		-	7,7	11,2	21,0	32,7	41,4	-	-
	HIS-N 8.8		4,3	7,7	11,3	21,0	19,4	-	-	-
	HIS-RN 70		4,3	6,7	10,0	18,4	27,7	-	-	-
Cracked concrete										
Tension N_{Rec}	HAS-U 5.8	[kN]	-	6,6	9,7	14,7	25,0	35,0	-	-
	HAS-U 8.8		-	6,6	9,7	14,7	25,0	35,0	42,7	51,0
	HAS-U A4		-	6,6	9,7	14,7	25,0	35,0	42,7	51,0
	HAS-U HCR		-	6,6	9,7	14,7	25,0	35,0	-	-
	HIS-N 8.8		5,3	8,6	12,1	20,4	26,7	-	-	-
	HIS-RN 70		5,3	8,6	12,1	20,4	26,7	-	-	-
Shear V_{Rec}	HAS-U 5.8	[kN]	-	4,8	7,1	13,1	20,5	29,5	-	-
	HAS-U 8.8		-	7,7	11,3	21,0	32,7	47,0	61,4	74,7
	HAS-U A4		-	6,7	9,9	18,4	28,6	41,4	38,4	46,7
	HAS-U HCR		-	7,7	11,3	21,0	32,7	41,4	-	-
	HIS-N 8.8		4,3	7,7	11,4	21,0	19,4	-	-	-
	HIS-RN 70		4,3	6,7	10,0	18,4	27,7	-	-	-

a) With overall safety factor for action γ = 3.0. The partial safety factors for action depend on the type of loading and shall be taken from national regulations.

Materials

Mechanical properties for HAS-U

Anchor size			M8	M10	M12	M16	M20	M24	M27	M30
Nominal tensile strength f_{uk}	HAS-U 5.8	[N/mm²]	500	500	500	500	500	500	-	-
	HAS-U 8.8		800	800	800	800	800	800	800	800
	HAS-U A4		700	700	700	700	700	700	500	500
	HAS-U HCR		800	800	800	800	800	700	-	-
Yield strength f_{yk}	HAS-U 5.8	[N/mm²]	440	440	440	440	400	400	-	-
	HAS-U 8.8		640	640	640	640	640	640	640	640
	HAS-U A4		450	450	450	450	450	450	210	210
	HAS-U HCR		640	640	640	640	640	400	-	-
Stressed cross-section A_s	HAS-U	[mm²]	36,6	58,0	84,3	157	245	353	459	561
Moment of resistance W	HAS-U	[mm³]	31,2	62,3	109	277	541	935	1387	1874

Mechanical properties for HIS-N

Anchor size			M8	M10	M12	M16	M20
Nominal tensile strength f_{uk}	HIS-N	[N/mm²]	490	490	490	490	490
	Screw 8.8		800	800	800	800	800
	HIS-RN		700	700	700	700	700
	Screw 70		700	700	700	700	700
Yield strength f_{yk}	HIS-N	[N/mm²]	390	390	390	390	390
	Screw 8.8		640	640	640	640	640
	HIS-RN		350	350	350	350	350
	Screw 70		450	450	450	450	450
Stressed cross-section A_s	HIS-(R)N	[mm²]	51,5	108	169	256	238
	Screw		36,6	58,0	84,3	157	245
Moment of resistance W	HIS-(R)N	[mm³]	145	430	840	1595	1543
	Screw		31,2	62,3	109	277	541

Material quality for HAS-U

Part	Material
Metal parts made of zinc coated steel	
HAS-U	M8 to M24 Strength class 5.8: - Rupture elongation (l_0 = 5d) > 8% ductile M8 to M30: Strength class 8.8: - Rupture elongation (l_0 = 5d) > 12% ductile Electroplated zinc coated ≥5 µm; (F) hot dip galvanized ≥45 µm
Washer	Electroplated zinc coated ≥5 µm; hot dip galvanized ≥45 µm
Nut	Strength class adapted to strength class of threaded rod. Electroplated zinc coated ≥5 µm; hot dip galvanized ≥45 µm
Metal parts made of stainless steel	
HAS-U A4	M8 to M24 Strength class 70: M27 to M30 Strength class 50: - Rupture elongation (l_0=5d) > 8% ductile - Stainless steel A4 according to EN 10088-1:2014
Washer	Stainless steel A4 according to EN 10088-1:2014
Nut	Strength class adapted to strength class of threaded rod. Stainless steel A4 according to EN 10088-1:2014
Metal parts made of high corrosion resistant steel	
HAS-U HCR	M8 to M20 Strength class 70: M24 Strength class 80: Rupture elongation (l_0 = 5d) > 8% ductile High corrosion resistant steel according to EN 10088-1:2014
Washer	High corrosion resistant steel according to EN 10088-1:2014
Nut	Strength class adapted to strength class of threaded rod High corrosion resistant steel according to EN 10088-1:2014

Material quality for HIS-N

Part		Material
Metal parts made of zinc coated steel		
HIS-N	Internal threaded sleeve	Electroplated zinc coated ≥5 µm
	Screw 8.8	Strength class 8.8, A5 > 8 % Ductile Steel galvanized ≥ 5 µm
Metal parts made of stainless steel		
HIS-RN	Internal threaded sleeve	Stainless steel A4 according to EN 10088-1:2014
	Screw 70	Strength class 70, A5 > 8 % Ductile Stainless steel 1.4401; 1.4404, 1.4578; 1.4571; 1.4439; 1.4362

Setting information

Installation temperature range:
-10°C to +40°C for the standard variation of temperature and rapid variation of temperature after installation.

In service temperature range

Hilti HVU2 adhesive may be applied in the temperature ranges given below. An elevated base material temperature may lead to a reduction of the design bond resistance.

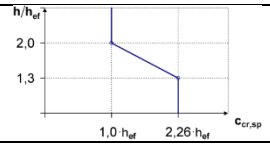
Temperature range	Base material temperature	Maximum long term base material temperature	Maximum short term base material temperature
Temperature range I	-40 °C to +40 °C	+24 °C	+40 °C
Temperature range II	-40 °C to +80 °C	+50 °C	+80 °C
Temperature range III	-40 °C to +120 °C	+72 °C	+120 °C

Max short term base material temperature
Short-term elevated base material temperatures are those that occur over brief intervals, e.g. as a result of diurnal cycling.
Max long term base material temperature
Long-term elevated base material temperatures are roughly constant over significant periods of time.

Curing time

Temperature of the base material	Minimum curing time t_{cure}
-10 °C to -6 °C	5 hours
-5 °C to -1 °C	3 hours
0 °C to 4 °C	40 min
5 °C to 9 °C	20 min
10 °C to 19 °C	10 min
20 °C to 40 °C	5 min

Setting details for HAS-U

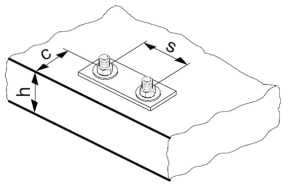
Anchor size			**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
Foil capsule HVU2			**8x80**	**10x90**	**12x110**	**16x125**	**20x170**	**24x210**	**27x240**	**30x270**
Diameter of element	$d_1=d_{nom}$	[mm]	8	10	12	16	20	24	27	30
Nom. diameter of drill	d_0	[mm]	10	12	14	18	22	28	30	35
Eff. Embedment depth and drill hole in the fixture	$h_{ef}=h_0$	[mm]	80	90	110	125	170	210	240	270
Max. diameter of clearance hole in the fixture	d_f	[mm]	9	12	14	18	22	26	30	33
Min. thickness of concrete member	h_{min}	[mm]	110	120	140	160	220	270	300	340
Max. torque moment a)	T_{max}	[Nm]	10	20	40	80	150	200	270	300
Min. spacing	s_{min}	[mm]	40	50	60	75	90	115	120	140
Min. edge distance	c_{min}	[mm]	40	45	45	50	55	60	75	80
Critical spacing for splitting failure	$s_{cr,sp}$		2 $c_{cr,sp}$							
Critical edge distance for splitting failure b)	$c_{cr,sp}$	[mm]	**$1{,}0 \cdot h_{ef}$**	for $h / h_{ef} \geq 2{,}0$						
			$4{,}6\ h_{ef} - 1{,}8\ h$	for $2{,}0 > h/h_{ef} > 1{,}3$						
			$2{,}26\ h_{ef}$	for $h / h_{ef} \leq 1{,}3$						
Critical spacing for concrete cone failure	$s_{cr,N}$	[mm]	2 $c_{cr,N}$					3 h_{ef}		
Critical edge distance for concrete cone	$c_{cr,N}$	[mm]	1,5 h_{ef}							

For spacing (edge distance) smaller than critical spacing (critical edge distance) the design loads have to be reduced.

a) Max. recommended torque moment to avoid splitting failure during installation with min. spacing and/or edge distance

b) h: base material thickness ($h \geq h_{min}$)

c) The critical edge distance for concrete cone failure depends on the embedment depth h_{ef} and the design bond resistance. The simplified formula given in this table is on the save side.

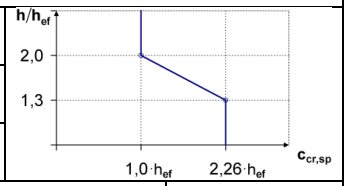


HAS-U-…

Marking:

Steel grade number and length identification letter: e.g. 8L

Setting details for HIS-N

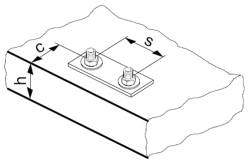
Anchor size			M8	M10	M12	M16	M20
Foil capsule HVU2			**10x90**	**12x110**	**16x125**	**20x170**	**24x210**
Diameter of element	$d_1=d_{nom}$	[mm]	12,5	16,5	20,5	25,4	27,8
Nominal diameter of drill bit	d_0	[mm]	14	18	22	28	32
Eff. Embedment depth and drill hole in fixture	$h_{ef}=h_0$	[mm]	90	110	125	170	205
Max. diameter of clearance hole in the	d_f	[mm]	9	12	14	18	22
Min. thickness of concrete member	h_{min}	[mm]	120	150	170	230	270
Max. torque moment[a)]	T_{max}	[Nm]	10	20	40	80	150
Thread engagement	h_s	[mm]	8-20	10-25	12-30	16-40	20-50
Min. spacing	s_{min}	[mm]	60	75	90	115	130
Min. edge distance	c_{min}	[mm]	40	45	55	65	90
Critical spacing for	$s_{cr,sp}$		2 $c_{cr,sp}$				
Critical edge distance for splitting failure [b)]	$c_{cr,sp}$	[mm]	**$1,0 \cdot h_{ef}$**	for $h / h_{ef} \geq 2,0$			
			$4,6\ h_{ef} - 1,8\ h$	for $2,0 > h/h_{ef} > 1,3$			
			$2,26\ h_{ef}$	for $h / h_{ef} \leq 1,3$			
Critical spacing for concrete cone failure	$s_{cr,N}$	[mm]	2 $c_{cr,N}$				1,5 h_{ef}
Critical edge distance for concrete cone	$c_{cr,N}$	[mm]	1,5 h_{ef}				

For spacing (edge distance) smaller than critical spacing (critical edge distance) the design loads have to be reduced.

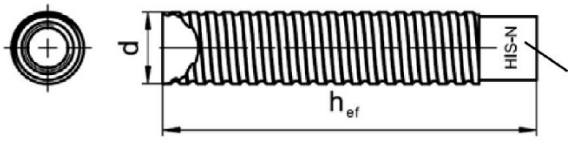
a) Max. recommended torque moment to avoid splitting failure during installation with min. spacing and/or edge distance

b) h: base material thickness ($h \geq h_{min}$)

c) The critical edge distance for concrete cone failure depends on the embedment depth h_{ef} and the design bond resistance. The simplified formula given in this table is on the safe side.



Internally threaded sleeve HIS-(R)N...



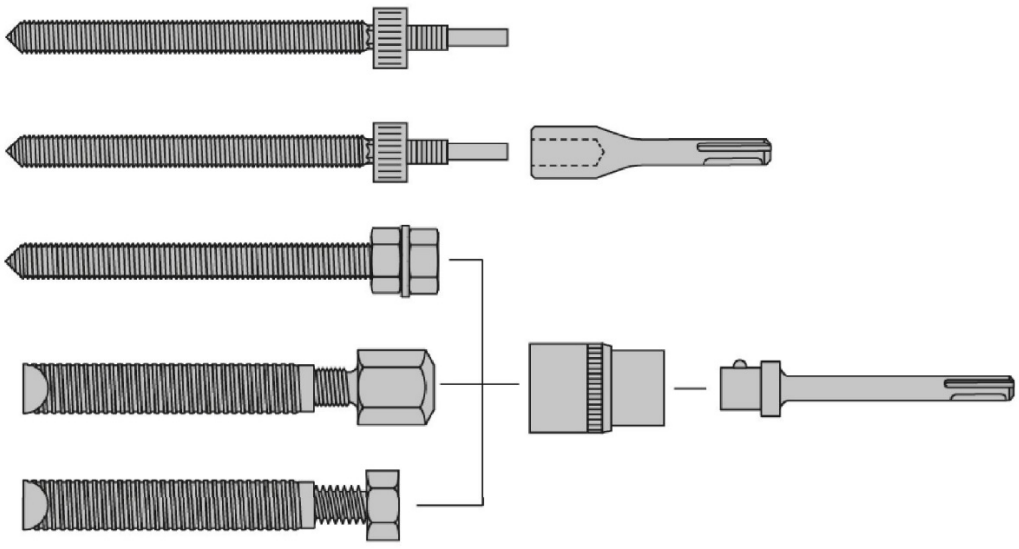
Marking:
Identifying mark - HILTI and
embossing “HIS-N” (for zinc coated steel)
embossing “HIS-RN” (for stainless steel)

Drilling and cleaning parameters

HAS-U	HIS-N	Hammer drilling	Hollow Drill Bit	Diamond coring	Brush HIT-RB
		d_0 [mm]			size [mm]
M8	**-**	10	-	-	-
M10	**-**	12	-	12	12
M12	**M8**	14	14	14	14
M16	**M10**	18	18	18	18
M20	**M12**	22	22	22	22
M24	**M16**	28	28	28	28
M27	**-**	30	-	30	30
-	**M20**	32	32	32	32
M30	**-**	35	35	35	35

Setting tools parameters

HAS	HIS-N	TE (A)	SID 4 A-22	SIW 22T-A	SF(H)	RPM
					or	
M8	**-**	1…7	+	+	2, 6, 8, 10, 14, 22	450…1300
M10	**M8**	1…7	+	+	6, 8, 10, 14, 22	450…1300
M12	**M10**	1…40	+	+	6, 8, 10, 14, 22	450…1300
M16	**M12**	1…40	+	-	6, 8, 10, 14, 22	450…1300
M20	**-**	50…60	-	-	-	-
-	**M16**	40…80	-	-	-	-
M24	**-**	50…80	-	-	-	-
-	**M20**	40…80	-	-	-	-
M27	**-**	60…80	-	-	-	-
M30	**-**	60…80	-	-	-	-



Setting tool		Article number	TE (A) 1…40	TE 50…80	SF (H)	SID 4-A22	HIS-S
-		-	-	-	+	-	-
TE-C HVU2		#2181356	+	-	-	-	-
TE-Y HVU2		#2230162…5	-	+	-	-	-
TE-C ½"		#32220	+	-	-	-	+
TE-Y ¾"		#32221	-	+	-	-	+
SI-SA ¼"-½"		#2077174	-	-	+	+	+
SI-SA 7/16"		#2134075	-	-	+	-	+

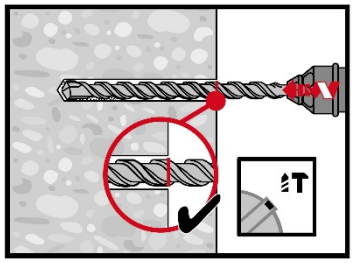
Setting instructions

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

Safety regulations.

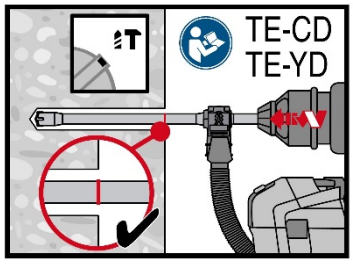
Review the Material Safety Data Sheet (MSDS) before use for proper and safe handling! Wear well-fitting protective goggles and protective gloves when working with Hilti HVU2.

Hole drilling



Hammer drilled hole

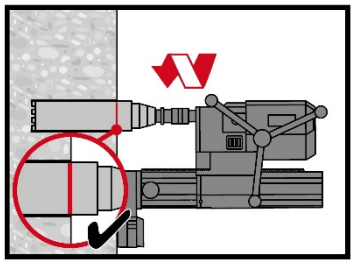
For dry or wet concrete and installation in flooded holes (no sea water).



Hammer drilled hole with Hollow drill bit

For dry and wet concrete, only.

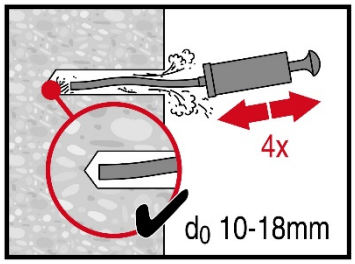
No cleaning required.



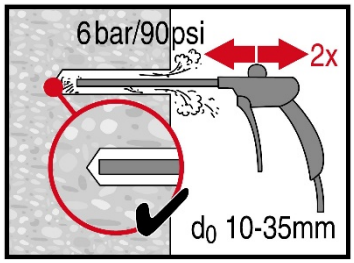
Diamond Coring

For dry or wet concrete only.

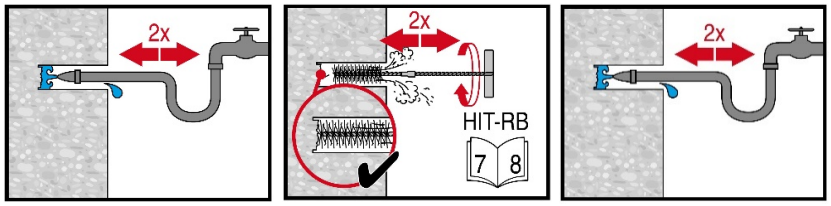
Hole cleaning



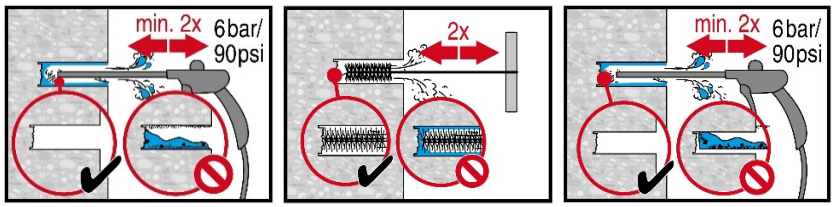
Manual cleaning for hammer drilled hole
for drill hole diameters $d_0 \leq 18$ mm and drill hole depths $h_0 \leq 10 \cdot d$.



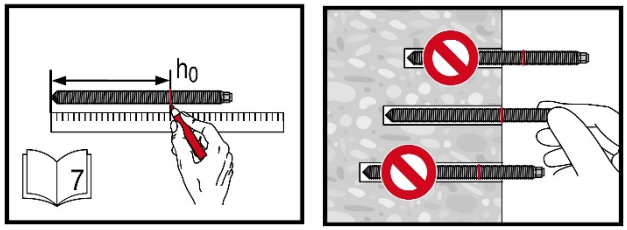
Compressed air cleaning (CAC) for hammer drilled hole
for all drill hole diameters d_0 and all drill hole depths h_0.



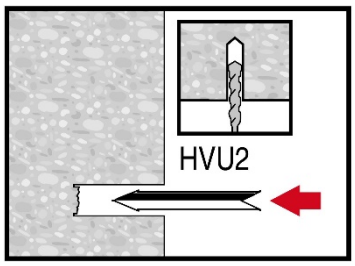
Hammer drilled flooded holes and diamond cored holes:
for all drill hole diameters d_0 and all drill hole depths h_0.



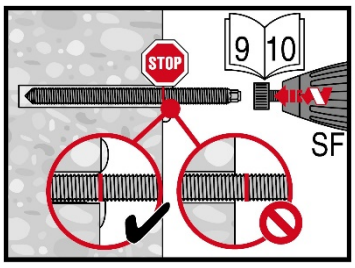
Setting the element

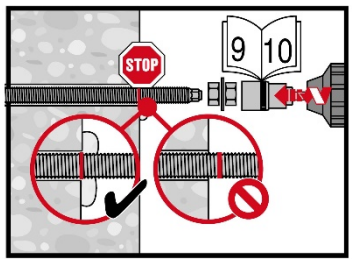


Check setting depth.

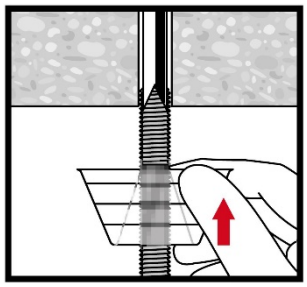


Insert the foil capsule with the peak ahead to the back of the hole.



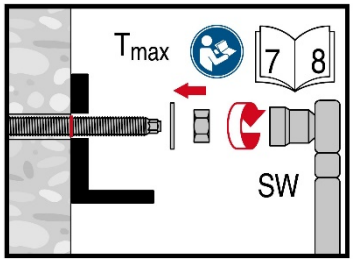


Drive the anchor rod with the plugged tool into the hole.



Overhead installation

For HVU2 M8 to M24.



Loading the anchor after required curing time $t_{cure.}$

Attn. : To whom it may concern

Date : 26 September 2023
Ref. : 133/AM/DY/23

Subject : Country of Origin- Hilti HVU2 Anchor Capsule

Dear Sir / Madam,

Enclosed please find the information of Hilti HVU2 Anchor Capsule.

Brand Name : Hilti

Model Name : Hilti HVU2 Anchor Capsule

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

Hilti (Hong Kong) Ltd.
701-704 | Tower A | Manulife Financial Centre
223 Wai Yip Street | Kwun Tong
Kowloon | Hong Kong
P +852-8228 8118 I **F** +852-2954 1751
www.hilti.com.hk

Item number	Model name	Country of Origin
2223936	HAS-U 5.8 M6x75	China
2223704	HAS-U 5.8 M6x105	China
2223852	HAS-U 5.8 M8x80	China
2223853	HAS-U 5.8 M8x110	China
2223854	HAS-U 5.8 M8x150	China
2223705	HAS-U 5.8 M10x95	China
2223706	HAS-U 5.8 M10x115	China
2223707	HAS-U 5.8 M10x130	China
2223709	HAS-U 5.8 M10x170	China
2223820	HAS-U 5.8 M10x190	China
2223821	HAS-U 5.8 M12x110	China
2223822	HAS-U 5.8 M12x120	China
2223823	HAS-U 5.8 M12x160	China
2223825	HAS-U 5.8 M12x180	China
2223826	HAS-U 5.8 M12x200	China
2223827	HAS-U 5.8 M12x220	China
2223867	HAS-U 5.8 M12x260	China
2223868	HAS-U 5.8 M12x300	China
2223828	HAS-U 5.8 M16x150	China
2223829	HAS-U 5.8 M16x165	China
2223830	HAS-U 5.8 M16x190	China
2223869	HAS-U 5.8 M16x220	China
2223832	HAS-U 5.8 M16x260	China
2223870	HAS-U 5.8 M16x300	China
2223871	HAS-U 5.8 M16x350	China
2223872	HAS-U 5.8 M16x500	China
2223873	HAS-U 5.8 M20x180	China
2223874	HAS-U 5.8 M20x240	China
2223876	HAS-U 5.8 M20x260	China
2223877	HAS-U 5.8 M20x300	China
2223878	HAS-U 5.8 M20x350	China
2223879	HAS-U 5.8 M20x400	China
2223880	HAS-U 5.8 M20x480	China
2223881	HAS-U 5.8 M24x300	China
2223882	HAS-U 5.8 M24x450	China
2223856	HAS-U 5.8 HDG M8x80	China
2223857	HAS-U 5.8 HDG M8x110	China
2223858	HAS-U 5.8 HDG M8x150	China
2223859	HAS-U 5.8 HDG M10x95	China
2223860	HAS-U 5.8 HDG M10x115	China
2223861	HAS-U 5.8 HDG M10x130	China
2223862	HAS-U 5.8 HDG M10x170	China
2223863	HAS-U 5.8 HDG M10x190	China
2223937	HAS-U 5.8 HDG M12x110	China
2223938	HAS-U 5.8 HDG M12x120	China
2223939	HAS-U 5.8 HDG M12x160	China
2223940	HAS-U 5.8 HDG M12x180	China

2223941	HAS-U 5.8 HDG M12x200	China
2223942	HAS-U 5.8 HDG M12x220	China
2223895	HAS-U 5.8 HDG M12x260	China
2223896	HAS-U 5.8 HDG M12x300	China
2223943	HAS-U 5.8 HDG M16x150	China
2223944	HAS-U 5.8 HDG M16x165	China
2223945	HAS-U 5.8 HDG M16x190	China
2223946	HAS-U 5.8 HDG M16x220	China
2223897	HAS-U 5.8 HDG M16x260	China
2223898	HAS-U 5.8 HDG M16x300	China
2223899	HAS-U 5.8 HDG M16x350	China
2223900	HAS-U 5.8 HDG M16x500	China
2223901	HAS-U 5.8 HDG M20x180	China
2223902	HAS-U 5.8 HDG M20x240	China
2223903	HAS-U 5.8 HDG M20x260	China
2223904	HAS-U 5.8 HDG M20x300	China
2223905	HAS-U 5.8 HDG M20x350	China
2223906	HAS-U 5.8 HDG M20x400	China
2223907	HAS-U 5.8 HDG M20x480	China
2223908	HAS-U 5.8 HDG M24x300	China
2223909	HAS-U 5.8 HDG M24x450	China
2223855	HAS-U 8.8 M8x150	China
2223833	HAS-U 8.8 M10x190	China
2223834	HAS-U 8.8 M12x220	China
2223883	HAS-U 8.8 M12x300	China
2223835	HAS-U 8.8 M16x190	China
2223884	HAS-U 8.8 M16x300	China
2223885	HAS-U 8.8 M16x380	China
2223886	HAS-U 8.8 M20x180	China
2223887	HAS-U 8.8 M20x260	China
2223888	HAS-U 8.8 M20x400	China
2223889	HAS-U 8.8 M24x300	China
2223890	HAS-U 8.8 M27x340	China
2223891	HAS-U 8.8 M30x380	China
2223892	HAS-U 8.8 M33x420	China
2223893	HAS-U 8.8 M36x460	China
2223894	HAS-U 8.8 M39x510	China
2223947	HAS-U 8.8 HDG M8x150	China
2223948	HAS-U 8.8 HDG M10x190	China
2223949	HAS-U 8.8 HDG M12x220	China
2223910	HAS-U 8.8 HDG M12x300	China
2223703	HAS-U 8.8 HDG M16x190	China
2223911	HAS-U 8.8 HDG M16x300	China
2223912	HAS-U 8.8 HDG M16x380	China
2223913	HAS-U 8.8 HDG M20x180	China
2223914	HAS-U 8.8 HDG M20x260	China
2223915	HAS-U 8.8 HDG M20x400	China
2223916	HAS-U 8.8 HDG M24x300	China
2223917	HAS-U 8.8 HDG M27x340	China

2223918	HAS-U 8.8 HDG M30x380	China
2223864	HAS-U A4 M8x80	China
2223865	HAS-U A4 M8x110	China
2223866	HAS-U A4 M8x150	China
2223836	HAS-U A4 M10x95	China
2223837	HAS-U A4 M10x115	China
2223838	HAS-U A4 M10x130	China
2223839	HAS-U A4 M10x170	China
2223840	HAS-U A4 M10x190	China
2223841	HAS-U A4 M10x220	China
2223842	HAS-U A4 M12x110	China
2223843	HAS-U A4 M12x120	China
2223844	HAS-U A4 M12x160	China
2223845	HAS-U A4 M12x180	China
2223846	HAS-U A4 M12x200	China
2223847	HAS-U A4 M12x220	China
2223919	HAS-U A4 M12x260	China
2223920	HAS-U A4 M12x300	China
2223848	HAS-U A4 M16x150	China
2223849	HAS-U A4 M16x165	China
2223850	HAS-U A4 M16x190	China
2223851	HAS-U A4 M16x220	China
2223921	HAS-U A4 M16x260	Denmark
2223922	HAS-U A4 M16x300	China
2223923	HAS-U A4 M16x350	China
2223924	HAS-U A4 M16x380	China
2223925	HAS-U A4 M20x180	China
2223926	HAS-U A4 M20x240	China
2223927	HAS-U A4 M20x260	China
2223928	HAS-U A4 M20x300	China
2223929	HAS-U A4 M20x350	China
2223930	HAS-U A4 M20x400	China
2223931	HAS-U A4 M20x480	China
2223932	HAS-U A4 M24x300	China
2223933	HAS-U A4 M24x450	China
2223934	HAS-U A4 M27x340	China
2223935	HAS-U A4 M30x380	China
258015	HIS-N M8x90	China
258016	HIS-N M10x110	China
258017	HIS-N M12x125	China
258018	HIS-N M16x170	China
258019	HIS-N M20x205	China
258024	HIS-RN M8x90 A4	China
258025	HIS-RN M10x110 A4	China
258026	HIS-RN M12x125 A4	China
258027	HIS-RN M16x170 A4	China
258028	HIS-RN M20x205 A4	China
2018364	HIT-Z M8x80	Liechtenstein
2018365	HIT-Z M8x100	Liechtenstein

2018366	HIT-Z M8x120	Liechtenstein
2018367	HIT-Z M10x95	Liechtenstein
2018369	HIT-Z M10x135	Liechtenstein
2018410	HIT-Z M10x160	Liechtenstein
2018411	HIT-Z M12x105	Liechtenstein
2018412	HIT-Z M12x140	Liechtenstein
2018413	HIT-Z M12x155	Liechtenstein
2018415	HIT-Z M12x196	Liechtenstein
2018416	HIT-Z M16x155	Liechtenstein
2018418	HIT-Z M16x205	Liechtenstein
2018419	HIT-Z M16x240	Liechtenstein
2018420	HIT-Z M20x215	Liechtenstein
2018421	HIT-Z M20x250	Liechtenstein
2018422	HIT-Z-R M8x80	Liechtenstein
2018423	HIT-Z-R M8x100	Liechtenstein
2018424	HIT-Z-R M8x120	Liechtenstein
2018425	HIT-Z-R M10x95	Liechtenstein
2018426	HIT-Z-R M10x115	Liechtenstein
2018427	HIT-Z-R M10x135	Liechtenstein
2018428	HIT-Z-R M10x160	Liechtenstein
2018429	HIT-Z-R M12x105	Liechtenstein
2018430	HIT-Z-R M12x140	Liechtenstein
2018431	HIT-Z-R M12x155	Liechtenstein
2018433	HIT-Z-R M12x196	Liechtenstein
2018434	HIT-Z-R M16x155	Liechtenstein
2018435	HIT-Z-R M16x175	Liechtenstein
2018436	HIT-Z-R M16x205	Liechtenstein
2018437	HIT-Z-R M16x240	Liechtenstein
2018438	HIT-Z-R M20x215	Liechtenstein
2018439	HIT-Z-R M20x250	Liechtenstein

Attn. : To whom it may concern

Date : 1 April 2025
Ref. : 071/AN/SC/25

Subject : Country of Origin - Hilti Meter Rod Portfolio

Dear Sir / Madam,

Enclosed please find the information of Hilti meter rod portfolio.

Brand Name : Hilti

Manufacturer : Hilti Corporation

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

Manufacturer Contact Person : Spencer Cheung

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 : Spencer Cheung (+852 9732 1231)

Country of Origin : *(Attached)*

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,

Spencer C.

Spencer Cheung
Head of Product Leadership Strategy

Hilti (Hong Kong) Ltd.
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223 Wai Yip Street | Kwun Tong
Kowloon | Hong Kong
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Item number	Model name	Country of Origin
2184473	Hexagon nut M8 DIN 934 A4-70	Malaysia
2184474	Hexagon nut M10 DIN 934 A4-70	Philippines
2184475	Hexagon nut M12 DIN 934 A4-70	Malaysia
2184476	Hexagon nut M16 DIN 934 A4-70	China
2184536	Hexagon nut M20 DIN 934 A4-70	Malaysia
387993	Hexagon nut M24 A4-70	India
2184478	Flat washer 8 8,4x16x1,6 ISO 7089 A4 200	China
2184477	Flat washer 10 10,5x20x2 ISO 7089 A4 200	China
2184549	Flat washer 12 13x24x2,5 ISO 7089 A4 200	China
2184535	Flat washer 16 17x30x3 ISO 7089 A4 200 H	India
387990	Flat washer A 21/37 A4	India
387991	Flat washer A 25/44 A4	China
58666	Threaded rod AM8x1000 A4-70	Italy
58670	Threaded rod AM10x1000 A4-70	Italy
58671	Threaded rod AM12x1000 A4-70	Italy
58683	Threaded rod AM16x1000 A4-70	Italy
58688	Threaded rod AM20x1000 A4-70	Italy
58689	Threaded rod AM24x1000 A4-70	Italy
2184525	Hexagon nut M10-F DIN 934 8	China
2184526	Hexagon nut M12-F DIN 934 8	China
2184527	Hexagon nut M16-F DIN 934 8	China
2184528	Hexagon nut M20-F DIN 934 8	China
2008236	Hexagon nut M24-F	China
2008237	Hexagon nut M27-F	China
2008238	Hexagon nut M30-F	Germany
2008239	Hexagon nut M33-F	China
2008290	Hexagon nut M36-F	China
2184530	Flat washer 10 10,5x20x2-F ISO 7089 200	Germany
2184531	Flat washer 12 13x24x2,5-F ISO 7089 200	China
2184532	Flat washer 16 17x30x3-F ISO 7089 200 HV	Germany
2008399	Flat washer A 21/37-F	Germany
2008287	Flat washer A 25/44-F	Germany
2008288	Flat washer A 28/50-F	Germany
2008289	Flat washer A 31/56-F	Germany
2008360	Flat washer A 34/60-F	Germany
419102	Threaded rod AM 8.8 M10x1000 HDG	China
419103	Threaded rod AM 8.8 M12x1000 HDG	China
419104	Threaded rod AM 8.8 M16x1000 HDG	China
2232592	Threaded rod M20x1000 8.8 HDG	China
2232593	Threaded rod M24x1000 8.8 HDG	China
2008338	Threaded rod AM 8.8 M27x1000 HDG	China
2008339	Threaded rod AM 8.8 M30x1000 HDG	China
2008340	Threaded rod AM 8.8 M33x1000 HDG	China
2008341	Threaded rod AM 8.8 M36x1000 HDG	China
2184504	Hexagon nut M8 Zn DIN 934 8	Taiwan
2184505	Hexagon nut M10 Zn DIN 934 8	Taiwan
2184554	Hexagon nut M12 Zn DIN 934 8	China

2184506	Hexagon nut M16 Zn DIN 934 8	China
2184507	Hexagon nut M20 Zn DIN 934 8	China
2184508	Hexagon nut M24 Zn DIN 934 8	Malaysia
362307	Hexagon nut M27 zinced	China
362309	Hexagon nut M30 zinced	Germany
362134	Hexagon nut M33 zinced	Germany
362135	Hexagon nut M36 zinced	China
362136	Hexagon nut M39 zinced	Germany
2184556	Flat washer 8 8,4x16x1,6 Zn ISO7089 200H	Germany
2184511	Flat washer 10 10,5x20x2 Zn ISO7089 200H	Germany
2184512	Flat washer 12 13x24x2,5 Zn ISO7089 200H	Germany
2184513	Flat washer 16 17x30x3 Zn ISO7089 200HV	Germany
2184514	Flat washer 20 21x37x3 Zn ISO7089 200HV	Germany
2184515	Flat washer 24 25x44x4 Zn ISO7089 200HV	Germany
2008282	Flat washer A 28/50 zinced	Germany
2008283	Flat washer A 31/56 zinced	China
2048043	Flat washer A 34/60 zinced	Germany
2048044	Flat washer A 37/66 zinced	China
2008286	Flat washer A 42/72 zinced	Germany
407496	Threaded rod AM 8.8 M8x1000 zinced	China
407497	Threaded rod AM 8.8 M10x1000 zinced	China
407498	Threaded rod AM 8.8 M12x1000 zinced	China
407499	Threaded rod AM 8.8 M16x1000 zinced	China
407500	Threaded rod AM 8.8 M20x1000 zinced	China
407501	Threaded rod AM 8.8 M24x1000 zinced	China
2008138	Threaded rod AM 8.8 M27x1000 zinced	China
2008139	Threaded rod AM 8.8 M30x1000 zinced	China
2008330	Threaded rod AM 8.8 M33x1000 zinced	China
2008331	Threaded rod AM 8.8 M36x1000 zinced	China
2008332	Threaded rod AM 8.8 M39x1000 zinced	China

Department BU Anchors - Marketing
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D July 8, 2019

Confirmation of performance equivalence for replacing HILTI HAS(-E) anchor rod with HILTI HAS-U

To whom it may concern,

Hilti has launched HAS-U anchor rods to replace both HAS and HAS-E to better serve the customer needs and simplify the product portfolio. HAS-U anchor rod was tested according to European Assessment Document: EAD 330499 to take ETA approval and fully complies with the ISO 898 standard.

HAS-U includes the chiseling tip like HAS (-E) rods which makes it suitable for Hilti HVU2 capsule anchor system.

HAS-U has hex head (like HAS rod) is designed to provide an easy installation to the user. Hex head should not be included in the anchor length therefore it is strongly recommended to take only threaded part into consideration.

HAS-U shows the same performance with HAS (-E) for post-installed anchor applications in concrete as long as same embedment depth and same anchor plate width remains. **HAS-U's embedment depth must comply with design specification parameters.**

HAS-U has the same steel strength with the other anchor rods based on 5.8 and 8.8 steel grades. HAS-U (-R, -HDG)'s corrosion resistance is the same with HAS(-E) (-R, -HDG)'s.

The installation procedure does not need to be changed with the replacement of HAS-U. ETA document of HAS-U shows the same installation parameters with HAS(-E).

Profis Engineering will be updated with HAS-U and you will be able to perform necessary calculations and explore all the potential applications for the new anchor rod.

In case of questions, please do not hesitate to contact one of our technical experts or sales representatives.

Yours sincerely,

Andrea Copponi
Global Product Manager
BU Anchors, Schaan

Emrecan Turkes
Global Technical Marketing Manager
BU Anchors, Schaan

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Rechtsform: Aktiengesellschaft I Sitz: 9494 Schaan
HR-Nr.: FL-1.011.557-0 I MWST-Nr.: 50 555

HVU2 M8 - M30

Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Date of issue: 15/01/2019 Revision date: 15/01/2019 Supersedes: 15/06/2018

Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	Mixture
Generic name	HVU2 M8 - M30
Product code	BU Anchor

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	Adhesive anchor capsule for anchor fastening in concrete

1.3. Details of the supplier of the safety data sheet

Supplier
Hilti (Hong Kong) Ltd.
701-704, 7/F, Tower A, Manulife Financial Centre
223 Wai Yip Street, Kwun Tong
Kowloon - Hong Kong
T +852 27734 700
hksales@hilti.com

Department issuing data specification sheet
Hilti Entwicklungsgesellschaft mbH
Hiltistraße 6
86916 Kaufering - Deutschland
T +49 8191 906310 - F +49 8191 90176310
anchor.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +852 27734 700

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS (Rev. 4, 2011)

Org. Perox. Not classified	
Skin Sens. 1	H317
Repr. 1B	H360
Aquatic Acute 2	H401
Aquatic Chronic 2	H411

Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS (Rev. 4, 2011)

Hazard pictograms (GHS UN)

GHS07 GHS08 GHS09

Signal word (GHS UN)	Danger
Hazardous ingredients	dibenzoyl peroxide; dicyclohexyl phthalate; 2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol; 2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester
Hazard statements (GHS UN)	H317 - May cause an allergic skin reaction. H360 - May damage the unborn child.. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (GHS UN)	P280 - Wear eye protection, protective clothing, protective gloves. P262 - Do not get in eyes, on skin, or on clothing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P333+P313 - If skin irritation or rash occurs: Get medical advice, medical attention.

P337+P313 - If eye irritation persists: Get medical advice, medical attention.
P302+P352 - IF ON SKIN: Wash with plenty of water.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	(CAS-No.) 27813-02-1	5 - 10	Flammable liquids Not classified Acute toxicity (oral) Not classified Serious eye damage/eye irritation, Category 2A, H319 Skin sensitisation, Category 1, H317 Hazardous to the aquatic environment - Acute Hazard Not classified Hazardous to the aquatic environment - Chronic Hazard Not classified
2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester	(CAS-No.) 2082-81-7	2.5 - 5	Acute toxicity (oral) Not classified Skin sensitisation, category 1B, H317 Hazardous to the aquatic environment — Acute Hazard, Category 3, H402 Hazardous to the aquatic environment — Chronic Hazard, Category 3, H412
dibenzoyl peroxide	(CAS-No.) 94-36-0	1 - 2.5	Organic Peroxides, Type B, H241 Serious eye damage/eye irritation, Category 2A, H319 Skin sensitisation, Category 1, H317 Hazardous to the aquatic environment — Acute Hazard, Category 1, H400 (M=10) Hazardous to the aquatic environment — Chronic Hazard, Category 1, H410 (M=10)
dicyclohexyl phthalate	(CAS-No.) 84-61-7	1 - 2.5	Acute toxicity (oral) Not classified Acute toxicity (dermal) Not classified Skin sensitisation, Category 1, H317 Reproductive toxicity, Category 1B, H360 Hazardous to the aquatic environment - Acute Hazard Not classified Hazardous to the aquatic environment — Chronic Hazard, Category 3, H412
1,1'-(p-tolylimino)dipropan-2-ol	(CAS-No.) 38668-48-3	0.1 - 1	Acute toxicity (oral), Category 2, H300 Serious eye damage/eye irritation, Category 2A, H319 Hazardous to the aquatic environment — Acute Hazard, Category 3, H402 Hazardous to the aquatic environment — Chronic Hazard, Category 3, H412

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general — Take off immediately all contaminated clothing. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact	Wash contaminated clothing before reuse. Wash with plenty of water/…. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	Rinse mouth. Drink plenty of water. Get medical advice/attention. Do not induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	May cause an allergic skin reaction.
Symptoms/effects after eye contact	May cause severe irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide. Dry powder. Foam. Sand.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Spilled material may present a slipping hazard.

6.1.1.For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2.For emergency responders

Protective equipment	Use personal protective equipment as required. Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	Collect spillage.
Methods for cleaning up	This material and its container must be disposed of in a safe way, and as per local legislation. Mechanically recover the product. Store away from other materials.
Other information	Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Wear personal protective equipment. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures	Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Keep cool. Protect from sunlight. Expiry date: See date printed on box and capsule. Do not use if expiry date has been exceeded!.
Incompatible products	Strong bases. Strong acids.
Incompatible materials	Sources of ignition. Direct sunlight.
Storage temperature	-20 - 25 °C
Heat and ignition sources	Keep away from heat and direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Environmental exposure controls	Avoid release to the environment.
Consumer exposure controls	Avoid contact during pregnancy/while nursing.
Other information	Do not eat, drink or smoke during use.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection: Wear protective gloves. The permeation time is not the maximum wearing time! Generally speaking, it must be reduced. Contact with either mixtures of substances or different substances may shorten the protective function's effective duration.

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,12		EN 374

Eye protection: Wear security glasses which protect from splashes

Type	Use	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166, EN 170

Skin and body protection: Wear suitable protective clothing

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	foil capsule.
Colour	resin: yellowish liquid hardener: white powder.
Odour	characteristic.
Odour threshold	No data available
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	> 101 °C (DIN EN ISO 1523)
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapour pressure	0.1 hPa
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	2.95 g/cm³
Solubility	insoluble in water.
Log Pow	No data available
Viscosity, kinematic	20 Seconds (ISO 2431)
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

9.2. Other information

SADT	55 °C (Peroxide)

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

dicyclohexyl phthalate (84-61-7)	
LD50 oral rat	41400 mg/kg (Rat)
LD50 dermal rabbit	> 7940 mg/kg (Rabbit)

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
LD50 oral rat	> 5000 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; >=2000 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	>= 5000 mg/kg bodyweight (Rabbit; Experimental value)

2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
LD50 oral rat	10066 mg/kg
LD50 dermal rat	> 3000 mg/kg

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
LD50 oral rat	25 mg/kg
LD50 dermal rat	> 2000 mg/kg

Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	May damage the unborn child..
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	Toxic to aquatic life.
Classification procedure (Acute aquatic toxicity)	Calculation method
Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.
Classification procedure (Chronic aquatic toxicity)	Calculation method

dibenzoyl peroxide (94-36-0)	
EC50 Daphnia 1	0.11 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
LC50 fish 2	0.0602 mg/l (96h; Oncorhynchus mykiss; ECHA)
NOEC (acute)	0.0316 mg/l (96h; Oncorhynchus mykiss; ECHA)
NOEC chronic fish	< 0.001

dicyclohexyl phthalate (84-61-7)	
LC50 fish 1	> 10000 mg/l (96 h; Brachydanio rerio; Static system)
LC50 other aquatic organisms 1	1.04 mg/l
NOEC (acute)	> 2 mg/l
NOEC chronic crustacea	0.181 mg/l

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
LC50 fish 1	493 mg/l (48 h; Leuciscus idus; GLP)
EC50 Daphnia 1	> 143 mg/l (48 h; Daphnia magna; GLP)
Threshold limit algae 1	> 97.2 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)
Threshold limit algae 2	> 97.2 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)

2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
LC50 fish 1	32.5 mg/l
LC50 other aquatic organisms 1	9.79 mg/l
NOEC (acute)	7.51 mg/l
NOEC (chronic)	20 mg/l

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
LC50 fish 1	≈ 17 mg/l
LC50 other aquatic organisms 1	245 mg/l
EC50 Daphnia 1	28.8 mg/l
NOEC (acute)	57.8 mg/l

12.2. Persistence and degradability

dibenzoyl peroxide (94-36-0)	
Persistence and degradability	Readily biodegradable in water. Not established. May cause long-term adverse effects in the environment.

dicyclohexyl phthalate (84-61-7)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water.
ThOD	2.376 g O_2/g substance

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
Persistence and degradability	Readily biodegradable in water.

2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
Biodegradation	84 %

12.3. Bioaccumulative potential

dibenzoyl peroxide (94-36-0)	
Log Pow	3.71
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

dicyclohexyl phthalate (84-61-7)	
BCF fish 1	640 (Pisces)
Log Pow	3 - 6.2
Bioaccumulative potential	High potential for bioaccumulation (Log Kow > 5).

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
BCF fish 1	<= 100
BCF fish 2	3.2 Quantitative structure-activity relationship (QSAR)
Log Pow	0.97 (OECD 102 method)
Bioaccumulative potential	Low bioaccumulation potential (BCF < 500).

2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
Log Pow	3.1

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
BCF fish 1	≈
Log Kow	2.1

12.4. Mobility in soil

dibenzoyl peroxide (94-36-0)	
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Ecology - soil	Adsorbs into the soil.

dicyclohexyl phthalate (84-61-7)	
Log Pow	See section 12.1 on ecotoxicology

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
Log Pow	See section 12.1 on ecotoxicology
Ecology - soil	Low potential for adsorption in soil.

2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
Log Pow	See section 12.1 on ecotoxicology

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
Log Kow	See section 12.1 on ecotoxicology

12.5. Other adverse effects

Ozone: Not classified

Other adverse effects: No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste): Disposal must be done according to official regulations.

Product/Packaging disposal recommendations: After curing, the product can be disposed of with household waste. . Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. Packaging contaminated by the product : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
14.1. UN number			
Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
Environmentally hazardous substances derogation applies (quantity of liquids ≤ 5 litres or net mass of solids ≤ 5 kg)			
No supplementary information available			

14.6. Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Rail transport

Carriage prohibited (RID) No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

No additional information available

SECTION 16: Other information

Date of issue 15/01/2019
Revision date 15/01/2019
Supersedes 15/06/2018

Indication of changes:

Section	Changed item	Change	Comments
2.1	Classification (GHS UN)	Modified	
2.2	Hazard pictograms (GHS UN)	Added	
2.2	Hazard statements (GHS UN)	Modified	
3	Composition/information on ingredients	Modified	
7.2	Storage temperature	Modified	

Other information None.

Full text of H-statements:

H241	Heating may cause a fire or explosion.
H300	Fatal if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SDS_UN_Hilti

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

Hilti HVU2 Anchor Capsule Job Reference

Year	Project Name	Customer Name	Project type
2022	HKIA 3303 3RW & ASSOCIATED WORK	ROCK-ONE (HONG KONG) ENGINEERING	Infrastructure
2022	VICTORIA GARDEN - RENOVATION WORKS	ICGL TECHNICAL WORKS (HK) LIMITED	Residential
2022	YUEN LONG STATION YLTL 510	SANFIELD (MANAGEMENT) LIMITED	Residential
2022	TUEN MUN AREA 54 HOUSING SITE 5	KONE ELEVATOR (HK) LIMITED	Residential
2023	YING TUNG RD, AREA 99 - PUBLIC HOUSING	YAU LEE CONSTRUCTION MATERIALS LTD	Residential
2023	MA SIK RD, SHEUNG SHUI LOT 262	BUILD KING CONSTRUCTION LIMITED	Residential
2023	SHEK WU HUI EFFLUENT POLISHING PLANT	WO KAI DEVELOPMENT LIMITED	Utilities
2023	YUEN LONG EFFLUENT POLISHING PLANT (DC/2019/1(	ATAL ENGINEERING LIMITED	Utilities
2024	KAI TAK SPORTS PARK	LUEN HOP METAL AND ALUMINIUM	Sport & Recreation
2024	ORGANIC RESOURCES RECOVERY CENTRE PH2 (WA	LEE'S WINDFIELD ENGINEERING	Utilities
2024	YUEN LONG EFFLUENT POLISHING PLANT (DC/2019/1(	ATAL ENGINEERING LIMITED	Utilities