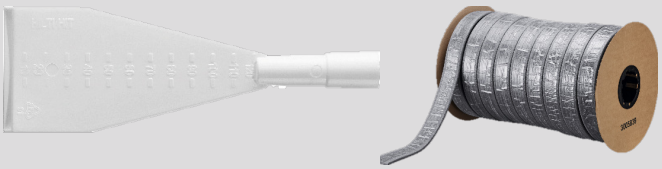
PRODUCT TECHNICAL DATASHEET

HIT-GLASS

Update: Nov 25



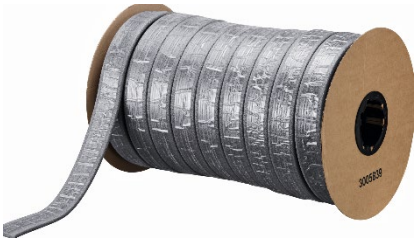
HIT-GLASS

The faster, simpler and safer solution for glass balustrade application

Injection mortar system

HIT-HY 270
(330, 500 ml foil pack)

HIT-RE 60
Glass Mixer Attachment



HIT-Glass Positioning aid
(EP 9,5 foam / EP 13 foam)

Benefits

- Faster glass pane installations – install glass-balustrades and handrails up to 2.5 times faster than traditional installation methods thanks to an innovative adhesive installation system
- Safer application – HIT-RE 60 Glass mixer attachment enables mortar injection from the inner side of the glass pane, eliminating the risk associated with working on the exposed side panels at height
- Simpler maintenance – the HIT-HY 270 mortar does not bond to the glass, allowing you to easily remove and replace panes as needed
- Do more with less – the HIT-Glass system enables design optimization, helping to reduce overall mortar consumption and material costs
- User friendly system for glass balustrade installation - automatic mixing of the components helps to ensure high quality mortar and reliable installations every time, using positioning aids that can be adjusted in length to jobsite-specific application demands

Application

- Ideal for serial installation of glass panels into U-Profile
- Fastening glass panes for internal and external glass balustrades and handrails
- Fastening glass panes on vertically inclined surfaces (up to 35°) in glass balustrade applications

Application

Glass
Balustrade

Load conditions

Static

Other information

PROFIS Engineering software

Linked Approvals/Certificates and Instructions for use.

Approval no	Application / loading condition	Authority / Laboratory	Date of issue
Test Report:25/0004	Determination of material interactions of Hilti HIT for the bearings of fall-protection glazing	Labor für Stahl- und Leichtmetallbau GmbH	31.03.2025
Test Report:2024-3077	Load and impact tests on glass balustrades with Hiti-HIT Glass System	Labor für Stahl- und Leichtmetallbau GmbH	30.04.2025
Test Report:1006-2024	The support of balustrades and balustrade systems made of glass	Hochschule München University of Applied Sciences	24-06-2025

The instructions for use can be viewed using the link in the instructions for use table or the QR code/link in the Hilti webpage table.

Instructions for use (IFU)

Material			
Injection mortars	IFU Hilti HIT-HY 270		
Dispenser	IFU HDM	IFU HDE-500 22	IFU HDE 500-A12
HIT-Glass	IFU HIT-Glass		

Link to Hilti Webpage

Injection mortars / Related products		
HIT-HY 270	HIT-Glass Mixer Attachment	HIT-Glass Positioning Aid

Dispenser		
HDE 500-22	HDE 500-A12	HDM 500

Mechanical property

Based on existing test reports that consider Hilti HIT-HY-270 for the glass balustrade installation application, the following service temperature ranges and corresponding long term characteristic compressive strengths can be selected:

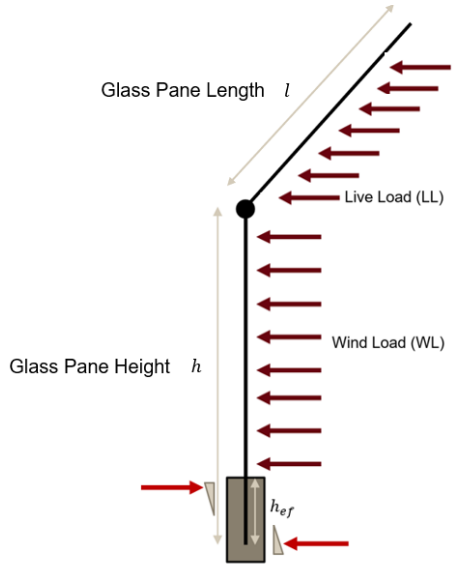
Service Temperature Range T	Long-Term Characteristic Compressive Strength C_a
-40 °C to 60 °C	33,6 N/mm^2
-40 °C to 80 °C	28,0 N/mm^2

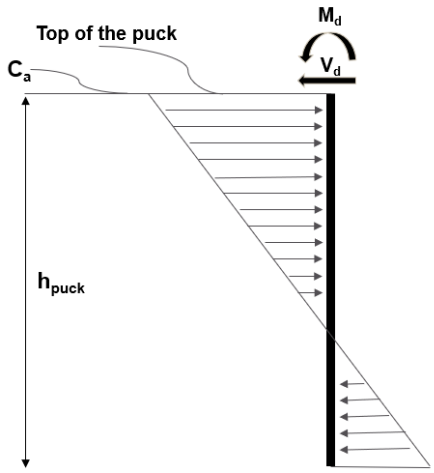
Static loading-based test report:1006-2024

All data in this section applies to:

- HIT-Glass system design covers connection between the glass panel and the U-profile.
- The design methodology is applicable for straight and level glass balustrades that will utilize the HIT-Glass Method. All loads are assumed to act orthogonal to the balustrade, and no in-plane forces are considered. Curved and/or inclined glass balustrade designs are not included within this design method.
- The verification of the resistance of the glass panel and of the U-Profile is not covered by this design methodology.
- The compressive stresses on the pucks do not act uniformly. Instead, the greatest stresses are seen at either the top or bottom of the puck and gradually decrease to a stress of 0 in a triangular loading pattern. See figures below for the free body load diagram and stress distribution assumed by this design report. The engineer of record (EOR) should verify that this load diagram is applicable for the actual application.
- The design is only valid if the installation of the HIT-Glass system is carried out by trained and experienced personnel following the Instructions for Use (IFU).

For specific design cases refer to PROFIS Engineering





Input parameter						
Glass pane length	l	[mm]	1000			
Glass pane thickness	t_{Glass}		21,52			
Glass pane height	h		1000			
Interior U-Profile height	h_u		105			
Interior U-Profile width	w_u		40			
Gap between U-Profile and glass pane	t_{Gap}		9,2			
Effective puck height	h_{puck}		90,8			
Service Live-Load	LL	[kN/mm]	0,001			
Design Wind-Load	WL	[kN/m²]	2,5	5,0	6,5	7,5
Calculated results for Service temp (-40 to 80) °C based on above input parameter						
Max on centre spacing between pucks		[mm]	457,2	457,2	457,2	457,2
Total free space = l - (x* (w_{puck} + 2 *$w_{positioning\ aid}$))			460	280	100	100
Distance between 2 mortar pucks			410	273,3	205	205
Number of HIT- HY 270 mortar pucks (pucks per panel per side)		-	3	4	5	5
Number of 330 ml foil packs			2	2	3	3
Number of 500 ml foil packs			1	2	2	2

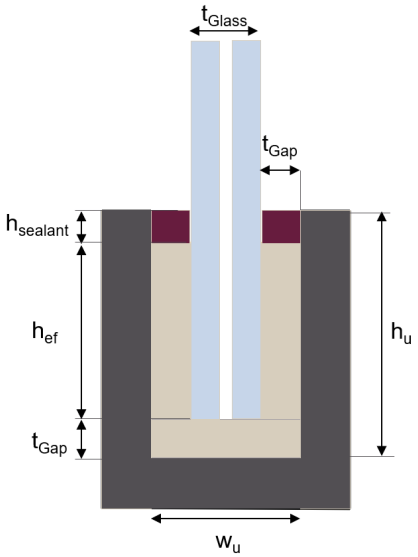
Setting information

Setting limitation

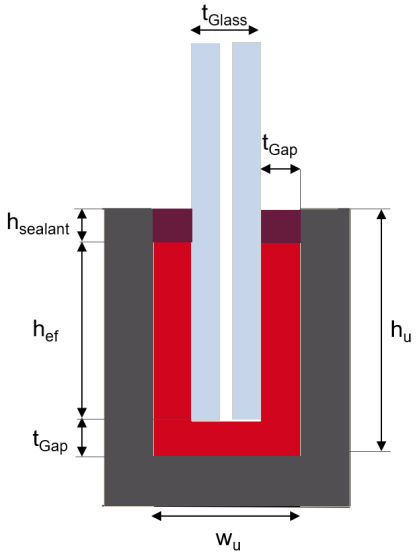
Parameter			Range
Effective puck height	h_{ef}	[mm]	80 … 150
Glass pane thickness	t_{Glass}		13,52 … 25,52
Gap between U-Profile and glass pane	t_{Gap}		6 … 12
Glass pane height	h		≤ 1650

HIT- Glass foam thickness			HIT-Glass	
			EP 9.5 Foam	EP 13 Foam
Gap between U-Profile and glass pane	t_{Gap}	[mm]	6 … 10	9 … 12

Cross section view of U-Profile for foam area



Cross section view of U-Profile for HIT-HY 270 Injection mortar area



Working time and curing time for HIT-HY 270

Temperature in the base material	Maximum working time	Minimum curing time
T_{BM}	t_{work}	t_{cure}
5 °C to 9 °C	10 min	2,5 h
10 °C to 19 °C	7 min	1,5 h
20 °C to 29 °C	4 min	30 min
30°C to 39 °C	2 min	20 min
40 °C	1 min	15 min

Installation equipment
For detailed setting information on installation see instructions for use given with the product.

Dispenser		HDE 500-22 HDE 500-A12 HDM 500 HDM 330