Operating Manual for

GRIPPER CLAMP for Crane Application

TYPE GB-222

Weight: 18 kg

Max. permissible load-bearing capacity: 250 kg

Gripping range: 60 - 240 mm

Manufacturer

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1. Technical description

Due to the natural weight of the load and frictional contact of the clamp jaws the required contact force is generated by a set of levers with chain suspension. The contact force of the clamping jaws depends on the natural weight of the load. Various plate thicknesses can be set by means of the hole matrix of the gripper clamp. Any fine deviations in thickness (< 10 mm) are compensated for by the lever of the lever clamp. A tension spring ensures appropriate retention force of the gripper clamp so that it can be held in position without load. Data such as load-bearing capacity, weight, manufacturer, test number, and year of manufacture are provided on the type plate of the gripper clamp.

2. Definitions

Warning:
Indicates a hazardous situation. Non-compliance will result in death or most severe injuries.

Attention:
Indicates a hazardous situation and also provides information. Non-compliance may result in moderate or minor injuries or property damage. The warning simultaneously provides information about incorrect use.

3. Operation

Attention: With the help of the handle, open the movable clamping jaw with your right hand to the stop and shift it over the edge of the sandwich panel. The hole matrix must be adjusted such that in opened condition the gripper clamp can be slid over the panel with only little clearance. The contact surfaces of both clamping jaws must form full contact with the panel. The gripper clamp is held and fastened at the crane hook.

Mount the gripper clamp

Check the position

Tension the chain

4. Safety information

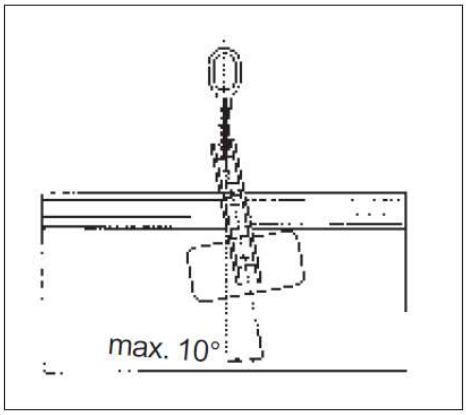
4.1 Intended use

The gripper clamp must only be used for lifting and turning of BRUCHAPaneel wall, roof and façade elements according to point 4.2. The plate core consists of polyurethane foam or mineral wool. The plate thickness is 60-220 mm. Due to their trapezoid outer profile, roof elements provide for form closure of the clamping jaws in case that frictional closure might fail.
When installing BRUCHAPaneel walls or façades, the elements must be additionally secured against slipping due to the lack of form closure. During lifting by crane, prevent the load from swinging by additionally guiding the sandwich elements using ropes.

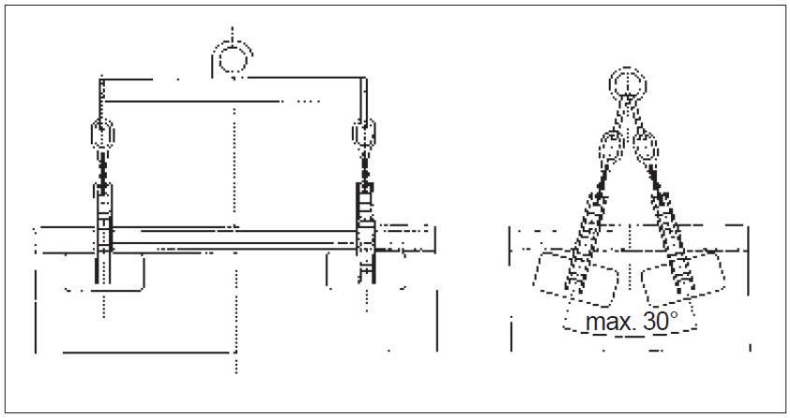


Warning:
The following items must always be complied with:

- The clamping jaws must be installed in the middle of the panel edge.
- The clamping jaws must be kept free from oil and lubricants.
- Only one panel must be lifted at a time.
- An angle of 10° (between chain and clamping case) must not be exceeded.

- For sandwich elements with excess lengths and/or exceedance of the load-bearing capacity (see item 4.2) of one gripper clamp, a cross-bar with two gripper clamps must be used.
- For lifting using a double-stranded system, the spread angle must not exceed 30°.

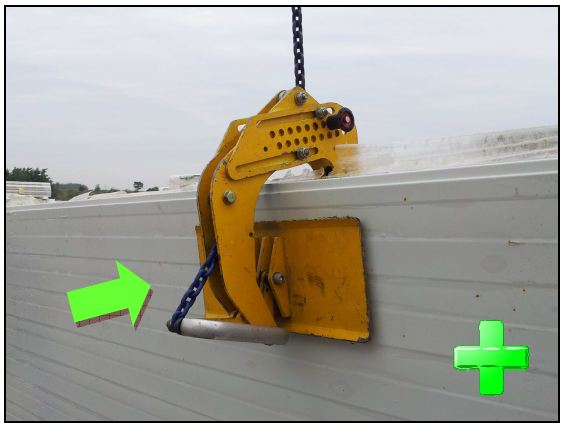


Correct position of the bolt – adjustment for panel thickness

Adjustment of the gripper clamp for the required plate thickness is performed at the 10 mm hole matrix. The matrix hole must be selected such that the clamping lever does not form contact with the clamping frame (see figure below).

Note: Make sure to not clamp your fingers.
Wearing gloves is recommended.

Position of the gripper clamp during lifting and turning:



- Check screw connections for tight seat.
- Check securing elements (e.g. positioning bolts, securing pins).
- In case of deformation or other kind of damage, the gripper clamp must not be continued to be used under any circumstances.

It is prohibited to:

- exceed the specified load-bearing capacity of the gripper clamp;
- transport persons or animals using the gripper clamp;
- for persons to stand under suspended loads;
- to use the gripper clamp for lifting/turning of sandwich elements other than those for which it is certified;
- forcefully tear loads out off the gripper clamp;
- lift loads that may get caught or seize during lifting;
- lift loads in ambient conditions outside a temperature range of –20° C to 60° C.

4.2 Permissible load-bearing capacities per panel type and length

The list provided in the annex displays the max. possible panel lengths that can be lifted by means of one gripper clamp, depending on the panel type and thickness. For any sizes beyond the values stated in the table, a cross-bar or a two-stranded system must be used.

4.3 Safety-conscious working

The gripper clamp has been built according to the applicable rules of engineering. Notwithstanding, hazards may occur due to incorrect or improper use.

Attention: The following items must always be complied with:

- Make sure that every user carefully reads the present operating manual prior to operation and that they strictly follow the safety information. These measures are required to ensure safety of persons.
- The operating manual must be kept in a place to provide easy access for all users.
- The gripper clamp must be checked for proper working condition prior to every use.
- In case of damage, the gripper clamp must not be used under any circumstances. Use must be prevented until remedy of any faults or malfunctions.
- Damaged load hooks must not be used. The load hook must be equipped with a safety lock.
- Only original spare parts must be used.
- Warning and information signs must not be removed. Illegible or damaged signs or plates must be replaced.

We do not assume liability for damage that is caused due to incorrect use of the gripper clamp. The user shall forfeit all claims if they modify or change the gripper clamp or if they do not use original spare parts.

4.4 Organisational safety measures

Attention: The following items must be complied with:

- Only trained or instructed persons shall be assigned to operate the device.
- Inspections for safe and correct working shall be performed in regular intervals.
- The specified intervals for tests and checks shall be complied with, test logs must be kept.
- Personal protective equipment shall be checked in regular intervals: protective clothing, protective gloves, safety shoes.

4.5 Obligations of the user of the load-suspension equipment

Warning: The following items must be complied with:

- The sling gear and load-suspension equipment must be in safe operating condition.
- The maximum load-bearing capacity of the gripper clamp must not be exceeded!
- The operator must make sure that the load is safely attached and that no persons are present in the hazard area of the load.
- The operator must be able to clearly see the whole working area; otherwise, a guiding person must be person.
- Inclined pulling and swinging of the loads is prohibited.
- Jerky movement of the load must be prevented, since this entails tearing risks.
- Sudden change of direction or change of crane movement must be avoided, since the load may slide out due to swinging.

4.6 Visual and function inspection

- Prior to every application, the sling gear and gripper clamp must be checked for correct function.
- In case of safety-relevant defects, the gripper clamp must only be used for operation after remedy.

5. Maintenance

- Regular inspection of the gripper clamps for perfect condition by visual and function inspection.
- Inspection of the clamping jaws for grease contamination and wear.
- Inspection of the tension spring for retention force.
- In case of intensive use, please check the following:
  Bolts for wear, drill holes for wear, chain bolt for deformation, and hexagon nuts for firm seat.

- All parts at which any changes are identified must be replaced.
- Only original spare parts must be used, otherwise the warranty will cease to be valid.

6. Checks

- Upon delivery of the gripper clamp: Check for completeness at the company
- Prior to initial use: Experts check
- Prior to every use: Visual and function inspection
- Upon requirement, but at least 1x year: Experts check
- After modifications, repair: Experts check
- The owner shall keep protocols as proof of testing. The supplied test book shall be used.
- We recommend, having the inspections and any repair performed by the manufacturer.

7. Warranty

The warranty shall cease to be valid if installation, operation, inspection, and maintenance are not performed in accordance with the present operating manual.

ANNEX - Suitable panel types and weights

Maximum panel length for 1 clamp

PU roof panel	kg/m²	DW 1 kg/m	DW 1.1 kg/m	Max. panel length DW1	Max. panel length DW1.1
DP72	11.40	11.40		21.93	
DP82	11.80	11.80		21.19	
DP92	12.20	12.20		20.49	
DP102	12.60	12.60		19.84	
DP122	13.40	13.40		18.66	
DP142	14.50	14.50		17.24	
DP162	15.20	15.20		16.45	
DP182	16.00	16.00		15.63	
DP202	16.80	16.80		14.88	

DW... Design width

PU wall panel	kg/m²	DW 1 kg/m	DW 1.1 kg/m	Max. panel length DW1	Max. panel length DW1.1
WP40	12.00	12.00	13.20	20.83	18.94
WP50	12.40	12.40	13.64	20.16	18.33
WP60	12.80	12.80	14.08	19.53	17.76
WP80	13.60	13.60	14.96	18.38	16.71
WP100	14.40	14.40	15.84	17.36	15.78
WP120	15.20	15.20	16.72	16.45	14.95
WP140	16.00	16.00	17.60	15.63	14.20
WP160	16.80	16.80	18.48	14.88	13.53
WP170	17.20	17.20	18.92	14.53	13.21
WP180	17.60	17.60	19.36	14.20	12.91
WP200	18.40	18.40	20.24	13.59	12.35
WP220	19.20	19.20	21.12	13.02	11.84

DW... Design width

... Not permissible due to insufficient panel thickness

Maximum panel length for 1 clamp

PU façade panel	kg/m²	DW 1 kg/m	DW 1.1 kg/m	Max. panel length DW1	Max. panel length DW1.1
FP60	13.20	13.20	14.52	18.94	17.22
FP80	14.00	14.00	15.40	17.86	16.23
FP100	14.80	14.80	16.28	16.89	15.36
FP120	15.60	15.60	17.16	16.03	14.57
FP140	16.40	16.40	18.04	15.24	13.86
FP150	16.80	16.80	18.48	14.88	13.53
FP160	17.20	17.20	18.92	14.53	13.21

DW... Design width

FIRE CONTROL PANELS

MIWO roof panel	kg/m²	DW 1 kg/m	DW 1.1 kg/m	Max. panel length DW1	Max. panel length DW1.1
DP-F102	16.70	16.70		14.97	
DP-F122	18.70	18.70		13.37	
DP-F142	20.70	20.70		12.08	
DP-F162	22.70	22.70		11.01	
DP-F192	25.70	25.70		9.73	
DP-F242	30.70	30.70		8.14	

DW... Design width

MIWO wall panel	kg/m²	DW 1 kg/m	DW 1.1 kg/m	Max. panel length DW1	Max. panel length DW1.1
WP-F60	17.36	17.36	19.10	14.40	13.09
WP-F80	19.76	19.76	21.74	12.65	11.50
WP-F100	22.16	22.16	24.38	11.28	10.26
WP-F120	24.56	24.56	27.02	10.18	9.25
WP-F150	28.16	28.16	30.98	8.88	8.07
WP-F200	34.16	34.16	37.58	7.32	6.65

DW... Design width

Maximum panel length for 1 clamp

MIWO façade panel	kg/m²	DW 1 kg/m	DW 1.1 kg/m	Max. panel length DW1	Max. panel length DW1.1
FP-F60	17.75	17.75	19.53	14.08	12.80
FP-F80	20.15	20.15	22.17	12.41	11.28
FP-F100	22.55	22.55	24.81	11.09	10.08
FP-F120	24.95	24.95	27.45	10.02	9.11
FP-F150	28.55	28.55	31.41	8.76	7.96
FP-F200	34.55	34.55	38.01	7.24	6.58

DW... Design width

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PRÜFGUTACHTEN

Eigentümer: BRUCHA GesmbH .....

Anschrift: A-3451 Michelhausen, Ruster Strasse 33 .....

Verwendungsort:

Art der Anlage: Zusätzliche Absturzsicherung von Sandwichpaneelen durch Würgegurt in Verbindung mit Greifzange für den Kraneinsatz GB-222.....

Bauart/Type: Endlosgurtschlinge / WLL 2000kg .....

Hersteller: Würth ..... Baujahr: 2012.....

Sicherung: Karabiner 3kN.....

Beschreibung: Zusätzlich zu der Greifzange für den Kraneinsatz (siehe Prüfbuch) wird zur Sicherheit vor Lastabsturz eine Endloshebeschlinge unabhängig von der zuvor benannten Greifzange in den Kranhaken mit eingehängt und mittels des benannten Karabiners das zu hebende Paneel in Form einer Würgeschleife zusätzlich gesichert. Käme es nun zum Ausgleiten des Paneels aus der Greifzange, so würde durch die Schwerkraft die Würgeschlinge sich um das Paneel zusammenziehen und es so vor dem Lastabsturz abhalten.

Aufgebaut auf: Alle Fahrzeug-, Lade- u. Mobilkrane mit denen die Greifzange zum Montieren von Sandwichpaneelen verwendet wird. .....

Am heutigen Tage wurde die oben beschriebene Anlage der vorgeschriebenen Abnahmeprüfung*) unterzogen. Bei der Prüfung wurden keine / ~~folgende~~ Mängel festgestellt./:

*) gemäß §7 AM-VO BGBL II Nr. 164/2000 .....

Prüflast: 1 Sandwichpaneel mit Mineralwolledämmkern mit einer Eigenlast von ca. 230 kg ....

Der Verwendung dieser Kombination stehen – ~~nach Behebung der Mängel~~ – seitens des unterzeichneten Sachverständigen keine Bedenken entgegen.

Ing. Reinhard Wiesinger Ingenieurbüro für Maschinenbau Statzendorf

Michelhausen, am 05.10.2012
Ort, Datum

.....
Der Sachverständige


26.09.2012 11:


26.09.2012 09:23