TMF Puntellazione monofaccia
TMF Abstützbock für einhäuptige Schalung
TMF Single side support frame

PANALEX®

Cemento in forma
Alles in Schalung
All for formwork

Manuale d'uso
Gebrauchsanleitung
User manual

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Avvertenze importanti:

L'impiego delle attrezzature provvisionali è soggetto alle prescrizioni dettate dalle leggi e dalle norme vigenti nei vari Stati, atte a garantire il più elevato livello di sicurezza per l'utilizzazione delle attrezzature provvisionali.
Devono essere osservate le istruzioni specifiche per l'impiego inteso e le limitazioni d'uso. Qualora l'utilizzazione delle attrezzature provvisionali non rientri per dimensioni e/o sovraccarichi nel campo d'impiego, definito dagli schemi funzionali, ovvero si fa ricorso a configurazioni d'attrezzatura differenti dagli schemi funzionali "tipo", deve essere redatta una specifica relazione di calcolo.
Le fotografie riportate in questo opuscolo sono immagini istantanee, che documentano situazioni reali di cantiere. Per questo motivo, soprattutto i particolari relativi ai sistemi d'ancoraggio ed alla sicurezza nell'impiego delle attrezzature provvisionali non sono sempre da considerarsi conformi alle norme per la prevenzione degli infortuni sul lavoro nelle costruzioni.
Pertanto le immagini fotografiche non devono essere intese come esempi d'impiego.
La PANALEX, perseguendo una politica di continuo miglioramento tecnologico si riserva il diritto di apportare, in qualsiasi momento, senza preavviso, modifiche tecniche per osservare le normative nei vari Stati.

Wichtige Hinweise:

Zur Gewährleistung maximaler Sicherheit wird der Einsatz temporärer Konstruktionen von den geltenden einschlägigen Bestimmungen und Gesetzen des jeweiligen Einsatzlandes geregelt.
Es sind spezifische Anweisungen für die vorgesehene Verwendung sowie Nutzungseinschränkungen zu beachten. Wann immer der Einsatz der temporären Konstruktionen aufgrund ihrer Abmessungen und/oder ihrer Belastung nicht dem von den Funktionsschemata vorgegebenen Einsatzbereich entspricht oder von den Typen-Funktionsschemata abweichende Konfigurationen aufweist, muss ein eigener Bemessungsnachweis erstellt werden.
Bei den hier enthaltenen Abbildungen handelt es sich um Fotografien realer Baustellensituationen. Aus diesem Grund ist nicht immer davon auszugehen, dass Detailansichten von Verankerungs- und Sicherheitssystemen beim Einsatz der temporären Konstruktionen den geltenden Bestimmungen zur Unfallprävention am Bau entsprechen.
Die Abbildungen verstehen sich lediglich als Einsatzbeispiele.
Im Sinne der kontinuierlichen technologischen Verbesserung behält sich PANALEX vor, jederzeit und ohne Vorankündigung technische Änderungen zur Anpassung an die Bestimmungen der verschiedenen Einsatzländer vorzunehmen.

Important information:

The use of temporary equipment is subject to the various national laws and regulations in force that can ensure the highest level of safety for the use of such temporary equipment.
The specific instructions for the intended use and the limitations on use must be observed. If temporary equipment cannot be used owing to its dimensions and/or possible overload in the area of use as defined by the functional diagrams, or if equipment configurations other than the "typical" functional diagrams are used, specific calculation reports must be drawn up.
The photographs shown in this booklet are snapshots that document actual construction site situations. For this reason, the details relating to the anchoring systems and safety in the use of temporary equipment are in particular not to be considered as at all times compliant with the rules for the prevention of accidents at work on building sites.
The photographic images are therefore not intended as examples of use.
As part of its policy of continuous technological improvement, PANALEX reserves the right to make technical changes at any time, without notice, to comply with various national regulations.

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Moduli

Le puntellazioni monofaccia vengono utilizzati per le casseforme con un solo paramento come ad esempio:

- per sponde di platee di fondazione
- per diaframmi, nelle berlinesi
- per la realizzazione di pareti di contenimento
- per la realizzazione di getti contro opere in muratura o strati isolanti
- nella costruzione di gallerie e metropolitane
- nella costruzione di centrali elettriche e dighe con grandi spessori di parete

Module

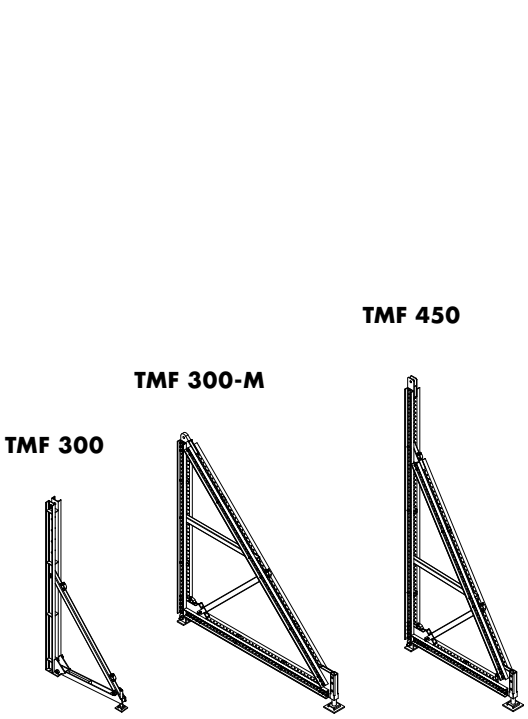
Abstützböcke für einhäuptige Wandschalung kommen z.B. für folgende Bauvorhaben zum Einsatz:

- Abschalen von Boden- und Fundamentplatten
- Errichtung von Schlitzwänden und Trägerbohlwänden
- Errichtung von Stützmauern
- Errichtung von Wänden gegen bestehendes Mauerwerk oder Dämmungen
- Tunnelbau und U-Bahnbau
- Kraftwerksbau und Staudämme mit großen Wandstärken

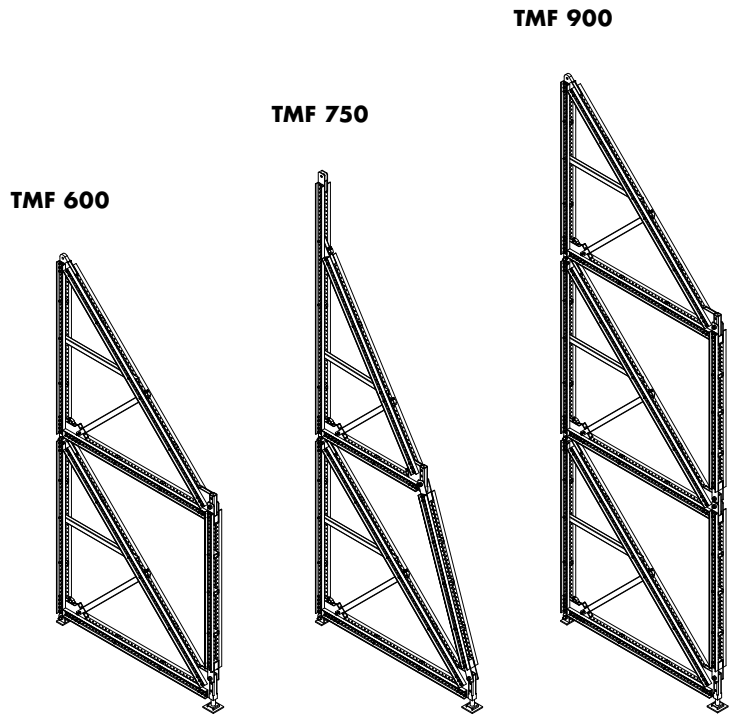
Moduls

The single side support frames are used for formwork with a single wall facing, example:

- for stop ends of foundation plates
- for the realization of diaphragm walls and pile walls
- for the realization of retaining walls
- for the realization of walls against existing masonry and insulations
- for the realization of tunnels and underground systems
- for power plant constructions and dams with large wall thickness



Moduli di base Basis Module Basic Moduls



Configurazioni Konfigurationen Configurations

Raccomandazioni
Empfehlungen
Recommendations

Generali

(a un pubblico) di persone che lavorano (professionalmente)

Chi non è in grado di leggere la presente documentazione o presenta difficoltà nel farlo, deve essere istruito in merito dal suo datore di lavoro.

Il cliente deve fare in modo che le istruzioni (per es. informazioni prodotto, istruzioni di montaggio e d'uso, disegni di progetto etc.) messe a disposizione siano disponibili per tutti gli utilizzatori e aggiornate, che vengano rese note e siano presenti sul luogo d'impiego.

Le illustrazioni rappresentate in questo documento sono da considerarsi come esempi di montaggio nelle varie fasi e come tali, possono non tenere interamente presente delle norme di sicurezza.

I dispositivi di sicurezza che non figurano nelle presenti istruzioni, devono essere comunque adoperati secondo quanto dettato dalle norme vigenti.

Nei capitoli successivi si potranno riscontrare diversi accorgimenti sul tema della sicurezza e in particolare sulle avvertenze! Chi usufruisce dei prodotti e sistemi deve rispettare le leggi, norme e disposizioni legislative caratteristiche per ogni Paese e, se necessario deve adottare ulteriori misure di sicurezza appropriate.

Durante l'impiego della cassaforma è importante garantire postazioni di lavoro sicure (per esempio: per il montaggio e lo smontaggio, per lavori di regolazione e durante la traslazione ecc.). Le postazioni di lavoro devono essere raggiungibili mediante accessi sicuri!

Gli usi che si discostano da quelli controindicati necessitano di una prova statica specifica e di un'istruzione di montaggio integrativa.

Per altre tipologie d'impiego è assolutamente necessario effettuare una relazione di calcolo.

Allgemein

Die vorliegenden Unterlagen sind für alle Benutzer des beschriebenen Produkts/ Systems gedacht und enthalten Angaben für dessen vorschriftsmäßige Ausführung, Montage und korrekten Einsatz.

Wer mit den verschiedenen hier beschriebenen Produkten arbeitet, muss den Inhalt dieser Unterlagen und insbesondere die Angaben zur Sicherheit kennen.

Wer die vorliegenden Unterlagen nicht oder nicht einwandfrei lesen kann, muss vom Arbeitgeber geschult werden.

Der Kunde muss sicherstellen, dass die Anweisungen (z. B. Produktinformationen, Montage- und Einsatzvorgaben, Pläne etc.) stets auf dem aktuellen Stand und verfügbar sind und für alle Benutzer am Arbeitsplatz bekanntgegeben und bereitgestellt werden.

Bei den im vorliegenden Dokument enthaltenen Abbildungen handelt es sich lediglich um Beispiele für die Montage in unterschiedlichen Phasen. Sie stellen nicht zwingenderweise die umfassende Einhaltung aller aktuellen Sicherheitsbestimmungen dar.

Nicht in den vorliegenden Anweisungen besprochene Sicherheitsvorrichtungen müssen vom Kunden in jedem Fall je nach den geltenden Bestimmungen verwendet werden.

Die verschiedenen Abschnitte enthalten weitere Angaben zur Sicherheit und insbesondere Warnungen!

Die Benutzer haben Gesetze, Normen und Bestimmungen des jeweiligen Landes einzuhalten und müssen, falls erforderlich, weitere angemessene oder zusätzliche Sicherheitsmaßnahmen treffen.

Beim Einsatz der Schalung ist die Sicherheit der Arbeitsbereiche zu gewährleisten (z. B. bei Montage und Abbau, Einstellung und Umsetzung etc.). Die Arbeitsbereiche müssen über sichere Zugänge erreichbar sein! Einsatzmethoden, die von den hier besprochenen abweichen, erfordern spezifische Statikprüfungen und zusätzliche Montageanweisungen.

Für jeden anderweitigen Einsatztyp ist zwingend ein entsprechender Bemessungsnachweis zu erstellen.

Generals

This documentation is intended for professional workers that use both the product and system described.

Everyone working with the various products described herein must be aware of the content of this documentation and in particular of the safety instructions.

People who are unable to read this document or have difficulty in doing so must be instructed by their employer.

The customer must ensure that the instructions provided (e.g. product information, instructions for assembly and use, project drawings, etc.) are available duly updated and published.

The illustrations shown in this document are to be considered as examples of assembly in the various phases. For this reason, they could not be entirely compatible with safety standards.

Any safety equipment not appearing in these instructions must nevertheless be used by the customer according to the regulations in force.

In the following sections contains further safety information, in particular safety warnings!

The user must comply with the laws, standards and regulations specific to each individual country and, if necessary, take additional appropriate or supplementary safety measures.

When using the formwork, ensure safe places of work (e.g. for assembly and disassembly, for adjustment work and during travel, etc.). Places of work must be safely accessible!

Any use that deviates from that indicated in these instructions must be subject to specific static testing and additional assembly instruction.

A calculation report is absolutely necessary for other types of use.

Generali

I prodotti sono mezzi tecnici di lavoro, esclusivamente per l'uso industriale, da impiegare come descritto nelle relative "Informazioni Prodotto" o in altre documentazioni tecniche.

In ogni fase di lavoro va assicurata la stabilità di tutti i singoli elementi e di tutti gli insiemi di elementi!

Attenersi alle indicazioni riguardanti il funzionamento, la sicurezza e la portata. L'inosservanza di tali indicazioni può comportare incidenti e gravi danni.

Prima dell'impiego il cliente deve verificare lo stato del materiale/sistema. Elementi danneggiati, deformati, indeboliti da usura o corrosione o deteriorati vanno scartati.

L'uso dei nostri sistemi di casseratura insieme a quelli di altri produttori può comportare dei rischi che possono provocare danni alla salute o alle cose e richiede perciò un'apposita verifica.

Il montaggio deve essere effettuato secondo le leggi, norme e disposizioni vigenti da persone esperte del cliente e devono essere rispettati gli eventuali obblighi di ispezione.

Non sono consentite modifiche ai prodotti senza la preventiva autorizzazione del costruttore, perchè potrebbero mettere a rischio la sicurezza.

I prodotti/sistemi vanno montati in modo che tutti i carichi vengano trasferiti in maniera sicura!

Allgemein

Bei den Produkten handelt es sich um technische Arbeitsmittel, die ausschließlich für den industriellen Einsatz laut „Produktinformation" oder anderen technischen Unterlagen vorgesehen sind.

Die Stabilität der einzelnen Elemente und der Gesamtheit aller Elemente ist in jeder Arbeitsphase zu gewährleisten!

Sämtliche Angaben betreffend Funktionalität, Sicherheit und Tragfähigkeit sind streng zu befolgen. Die Missachtung besagter Angaben kann zu Unfällen und schwerwiegenden Schäden führen.

Vor dem Einsatz muss der Kunde den Zustand von Material/System prüfen. Schadhafte, verformte oder durch Verschleiß und Korrosion beeinträchtigte oder abgebrauchte Teile müssen ersetzt werden.

Die Verwendung unserer Schalungssysteme zusammen mit jenen anderer Hersteller kann Risiken für Gesundheit und Sachen zur Folge haben und erfordert daher entsprechende Kontrollen im Vorfeld.

Die Montage muss von Fachpersonen nach den Bestimmungen, Normen und geltenden Gesetzen sowie unter Einhaltung etwaiger Inspektionspflichten vorgenommen werden.

Aufgrund des Sicherheitsrisikos sind Änderungen an den Produkten ohne vorherige Genehmigung des Herstellers nicht zulässig.

Die Produkte/Systeme sind so zu montieren, dass alle Lasten sicher bewegt werden!

Generals

The products are technical equipment intended exclusively for industrial use, to be used as described in the relevant "Product Information" or other technical documentation.

The stability of all individual elements and of all groups of elements must be ensured for each work phase!

Follow the instructions regarding operation, safety and capacity. Failure to follow these instructions may lead to accidents and serious damage.

Before use, the customer must check the status of the material/system. Discard all elements that are damaged, deformed, weakened due to corrosion or that have deteriorated.

The use of our formwork systems with those of other manufacturers may entail risks that could cause damage to persons or property and will therefore require specific verification.

Assembly must be carried out according to the laws, standards and regulations in force by the customer's expert personnel, and all inspection obligations must be met.

No modifications to the products are permitted without the manufacturer's prior authorisation, as these might prejudice safety.

The products/systems must be assembled such that that all loads are safely transferred!

Raccommandazioni
Empfehlungen
Recommendations

Utilizzo

La sicura trasmissione delle reazioni d'appoggio nella fondazione deve essere garantita dal cliente. Per il calcolo delle forze presenti fare riferimento alle tabelle nel capitolo "Tabella ancoraggi".

L'ancoraggio deve essere realizzato con due tiranti. Il sistema d'ancoraggio deve essere scelto considerando le forze d'ancoraggio. La trasmissione delle reazioni d'appoggio deve essere garantita dall'utilizzatore.

L'ancoraggio deve essere previsto già nella platea, nelle fondazioni o nel solaio precedente.

Nel caso di utilizzo di telai che insistono su solai (es. realizzazione di parcheggi interrati), le forze F2 e F3 devono essere scaricate sull'impalcato di solaio o su un adeguato basamento d'appoggio.

Verificare che il lato opposto alla cassaforma con un solo paramento (pareti preesistenti, rocce ed altro) sia in grado di resistere alla pressione del calcestruzzo fresco.

Attenersi alle pressioni del calcestruzzo fresco ammissibili. Velocità di getto troppo elevate possono sovraccaricare le casseforme, portare a una maggiore inflessione e quindi al rischio di una rottura.

Distribuzione della pressione del calcestruzzo fresco secondo
DIN 18218 / U50.00.206.00.

In caso di utilizzo dei pannelli a telaio, i telai controterra devono essere posizionati al posto dei tiranti passanti. In caso di spostamento dei controterra da tali punti la ditta PANALEX deve essere consultata.

È severamente vietato saldare e riscaldare i prodotti, in particolare gli ancoranti, gli elementi di sospensione e di collegamento, ecc. I materiali di questi elementi subiscono una grave modifica della struttura se vengono saldati, con una conseguente drastica diminuzione del carico di rottura mettendo a rischio la sicurezza.

Possono essere saldati solamente gli articoli espressamente specificati nella documentazione PANALEX.

Smontare la cassaforma solo quando il calcestruzzo è sufficientemente maturo e la persona responsabile ha autorizzato il disarmo!

Quando si procede al disarmo non staccare la cassaforma con la gru. Utilizzare utensili adeguati come per es. cunei di legno, utensili di montaggio o elementi di sistema di disarmo.

Durante il disarmo fare attenzione a non compromettere la stabilità di parti dell'edificio, del ponteggio e della cassaforma!

Anwendung

Die sichere Übertragung der Auflagereaktionen im Fundament muss vom Kunden sichergestellt werden. Der Abschnitt „Tabelle Verankerung" enthält Tabellen zur Kalkulation der gegebenen Kräfte.

Die Verankerung ist mit zwei Spannelementen vorzunehmen, wobei das Ankersystem unter Berücksichtigung der Verankerungskraft zu wählen ist. Die Übertragung der Auflagereaktionen muss vom Benutzer sichergestellt werden.

Die Verankerung muss bereits in der Bodenplatte, im Fundament oder der Decke vorgesehen sein.

Bei Verwendung von Rahmenschalungen, die auf Decken auflagern (z. B. beim Bau von Tiefgaragen), müssen die Kräfte F2 und F3 auf die Decke oder eine geeignete Aufstandsfläche abgetragen werden.

Es ist sicherzustellen, dass die Seite gegenüber der einhäuptigen Schalung (bestehende Wand, Fels oder anderes) dem Frischbetondruckes standhalten kann.

Die zulässigen Werte für Frischbetondruck müssen eingehalten werden. Zu hohe Betoniergeschwindigkeit kann zu einer Überbelastung der Schalung, Durchbiegung und Bruchrisiko führen.

Verteilung des Frischbetondrucks nach DIN 18218 / U50.00.206.00.

Bei Einsatz von Rahmenschalungen müssen anstelle der Durchankerungen Abstützböcke positioniert werden. Sollen die Abstützböcke aus ihrer Position fortbewegt werden, ist dies mit PANALEX abzusprechen.

Es ist strengstens verboten, Schweißarbeiten an den Produkten vorzunehmen oder diese zu erhitzen. Dies gilt insbesondere für Anker, Spann- und Verbindungselemente etc. Die Struktur des Materials dieser Elemente wird beim Schweißen stark verändert, was zu einer drastischen Reduzierung des Bruchwiderstands und einem sich daraus ergebenden Sicherheitsrisiko führt.

Schweißarbeiten sind ausschließlich an ausdrücklich in den Unterlagen von PANALEX genannten Elementen erlaubt.

Die Schalung darf erst abmontiert werden, wenn der Beton ausreichend gereift ist und die zuständige Fachperson die entsprechende Freigabe erteilt hat!

Das Ausschalen darf nicht mithilfe eines Krans erfolgen. Es sind geeignete Werkzeuge zu verwenden, z. B. Holzkeile, Montagewerkzeug oder Ausschalelemente.

Beim Ausschalen ist darauf zu achten, dass die Stabilität von Gebäudeteilen, des Gerüsts und der Schalung nicht beeinträchtigt wird!

Application

The customer must guarantee the safe transmission of support reactions to the foundation. Refer to the tables in the "schedule anchoring" for calculating the forces present.

The anchoring must be realized with two tie rods. The anchoring system must be chosen in consideration of the anchoring forces. The user must guarantee the transmission of the support reactions.

The anchoring must already be present in the base slab, foundations or in the previous floor.

Where frames are used that press on floors (e.g. when constructing underground car parks), forces F2 and F3 must be displaced onto the floor deck or onto an adequate support base.

Make sure that the side opposite the formwork with a single facing (existing walls, rocks, etc.) is able to withstand the pressure of fresh concrete.

Pay attention to the permissible fresh concrete pressures. Excessive casting rates may overload the formwork, causing greater deflection and therefore the risk of breakage.

Pressure distribution of fresh concrete is in accordance with DIN 18218 / U50.00.206.00.

If frame panels are used, the ground frames must be positioned in place of the tie rods. PANALEX must be consulted in the event that the ground frames are moved from these points.

It is strictly forbidden to weld or heat products, in particular the anchors, suspension and connection elements, etc. The structure of the materials making up these elements will be severely altered if they are welded with a consequent drastic decrease in the breaking load, thus prejudicing safety.

Only items expressly specified in the PANALEX documentation may be welded.

Only dismantle the formwork when the concrete is sufficiently set. Every responsibility must be assumed by whom gave the permission to dismantle!

Do not use the crane to detach the formwork when dismantling. Use suitable tools such as wooden wedges, assembly tools or dismantling system elements.

Take care when dismantling not to compromise the stability of any part of the building, the scaffolding or the formwork!

Pressione del calcestruzzo
Betondruck
Concrete pressure

10/2020

Fattori relativi alla pressione del calcestruzzo

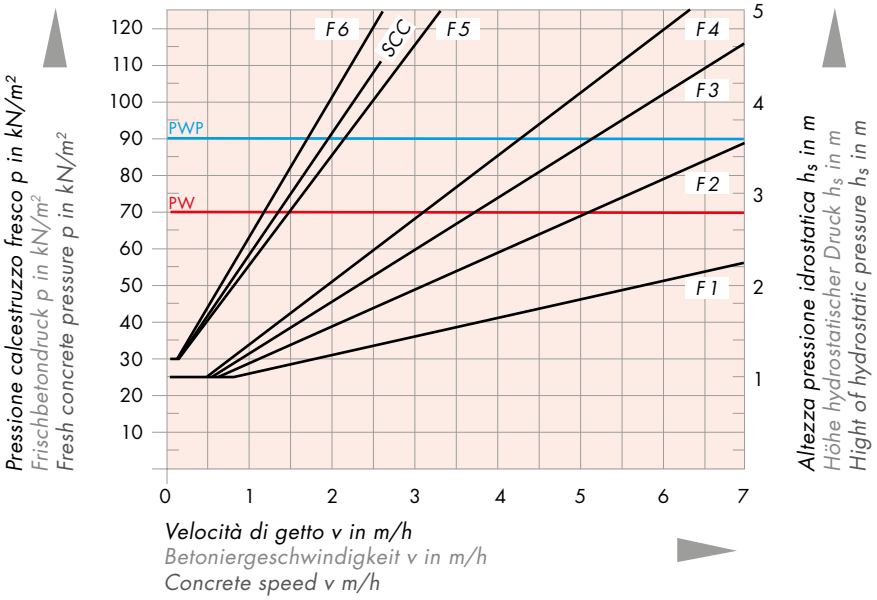
- **Altezza gettata:** la pressione, come grandezza fisica, si determina direttamente tramite l'altezza e il peso specifico del calcestruzzo.
  —> Pressione idrostatica p = μ x h [kN/m²] come pressione massima.
- **Peso del calcestruzzo:** la pressione contro la cassaforma è direttamente proporzionale all'unità di peso del calcestruzzo.
- **Velocità ascensionale:** (velocità con cui il calcestruzzo riempie la cassaforma) nei diagrammi di seguito riportati, la pressione del calcestruzzo prevista può essere dedotta dalla velocità ascensionale, conformemente alla consistenza del calcestruzzo.
- **Consistenza del calcestruzzo:** il diagramma di seguito riportato mostra il secondo fattore che influenza la pressione del calcestruzzo fresco – la consistenza —> da F1 (molto compatto) a F6 (molto liquido).
- **Temperatura:** il diagramma qui di seguito menzionato, può essere utilizzato se la temperatura del calcestruzzo è pari a 15°C; la pressione aumenta del 3% circa per ogni grado in meno.
- **Addensamento:** il diagramma può ritenersi valido per l'addensamento con vibratore a immersione e formazione lenta del calcestruzzo, a strati di 50-60 cm.

Faktoren des Betondrucks

- **Betonierhöhe:** Die Größe des Drucks wird als physikalische Größe direkt durch die Höhe und das spezifische Gewicht des Betons bestimmt.
  —> hydrostatischer Druck p = μ x h [kN/m²] als max. Druck.
- **Betongewicht:** Der Druck gegen die Schalung ist direkt proportional zu der Gewichtseinheit des Betons.
- **Steiggeschwindigkeit:** (Geschwindigkeit der Befüllung der Wandschalung mit Beton). In untenstehendem Diagramm kann der zu erwartende Betondruck entsprechend der Steiggeschwindigkeit abgelesen werden – weiterhin abhängig von der Betonkonsistenz.
- **Betonkonsistenz:** Untenstehendes Diagramm zeigt den zweiten Haupteinflussfaktor auf den Frischbetondruck – die Konsistenz des Betons
  —> F1 (sehr steif) bis F6 (sehr flüssig).
- **Temperatur:** Das untenstehende Diagramm kann verwendet werden, wenn die Temperatur des Betons 15° Celsius ist. Jedes 1° C weniger als 15° C erhöht den Betondruck um etwa 3 %.
- **Verdichtung:** Das Diagramm gilt für die Verdichtung mit Innenrüttlern und lagenweisem Einbau des Betons in 50 – 60 cm Schüttlagen.

Factors relating to concrete pressure

- **Pour height:** The value of the pressure is determined as a physical size directly through the height and the specific weight of the concrete.
  —> hydrostatic pressure p = μ x h [kN/m²] as maximum pressure.
- **Concrete weight:** The pressure against the formwork is directly proportional to the unit of weight of the concrete.
- **Filling rate:** (rate at which concrete fills the formwork) as shown in the following diagrams, the expected concrete pressure can be calculated by the rising rate, dependent on the consistency of the concrete.
- **Consistency of concrete:** The following diagram illustrates the second main factor which influences the pressure of fresh concrete – the consistency – from F1 (extremely stiff) to F6 (extremely fluid).
- **Temperature:** The diagram below can be used for a concrete temperature of 15°C; Pressure increases by around 3% for every degree below this temperature.
- **Setting:** The diagram is valid for setting with an interior vibrator and layered setting of concrete, in layers of 50-60cm.



La pressione del calcestruzzo è prevalentemente influenzata dalla conistenza del calcestruzzo e dalla velocità di riempimento in altezza.

Der Betondruck ist maßgebend abhängig von der Konsistenz des Betons und der Steiggeschwindigkeit der Betonage.

The pressure of the concrete is mainly influenced by the consistency of the concrete and the filling speed.

Considerazioni specifiche
Peso specifico del calcestruzzo: 25 kN/m3
Tempo di presa: t_E= 5h a $T_{c,ref}$= 15 °C
Cassaforma impermeabile – Vibrazione cls ad ago

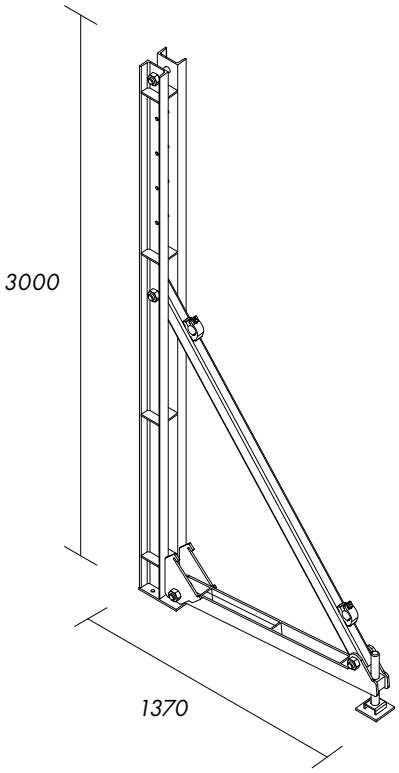
Spezifische Annahmen
Spezifisches Gewicht Frischbeton: 25 kN/m3
Aushärtungszeit: t_E= 5h a $T_{c,ref}$= 15 °C
Wasserundurchlässige Schalhaut – Nadelrüttler

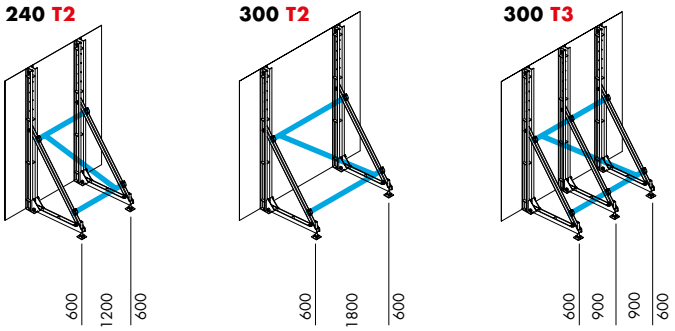
Notes
Weight of concrete: 25 kN/m3
Curing time: t_E= 5h a $T_{c,ref}$= 15 °C
Waterproof formwork – concrete vibrating with needle

Puntellazione monofaccia
Abstützbock einhäuptig
Single side support frame

Configurazione Konfiguration Configuration

TMF 300





	240 T2	300 T2	300 T3
PW	–	755 kg	925 kg
PWP	765 kg	865 kg	1.035 kg

Peso compreso di cassaforma
Gewicht inklusive Schalung
Weight includes the formwork

Tabella ancoraggi Tabelle Verankerung Schedule anchoring

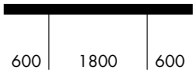
TMF 300

Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
1,00	25	240 T2 300 T2 300 T3	22 27 22	3 4 3	15 15 15	- 0,8 - 1,0 - 0,8
		240 T2 300 T2 300 T3	22 27 22	3 4 3	15 15 15	- 0,8 - 1,0 - 0,8
		240 T2 300 T2 300 T3	22 27 22	3 4 3	15 15 15	- 0,8 - 1,0 - 0,8
1,50	37,5	240 T2 300 T2 300 T3	48 60 50	12 15 13	15 15 15	- 2,4 - 3,0 - 2,6
		240 T2 300 T2 300 T3	48 60 50	12 15 13	15 15 15	- 2,4 - 3,0 - 2,6
		240 T2 300 T2 300 T3	48 60 50	12 15 13	15 15 15	- 2,4 - 3,0 - 2,6
2,00	40	240 T2 300 T2 300 T3	82 102 84	29 36 30	15 15 15	- 3,9 - 4,9 - 4,0
	50	240 T2 300 T2 300 T3	85 106 88	29 36 30	15 15 15	- 3,9 - 4,9 - 4,0
	60	240 T2 300 T2 300 T3	85 106 88	29 36 30	15 15 15	- 3,9 - 4,9 - 4,0

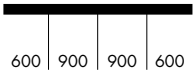
Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
2,50	40	240 T2 300 T2 300 T3	115 144 119	55 69 57	15 15 15	- 3,1 - 3,9 - 3,6
	50	240 T2 300 T2 300 T3	127 159 131	55 69 57	15 15 15	- 3,6 - 4,5 - 4,1
	60	240 T2 300 T2 300 T3	132 159 131	60 74 62	15 15 15	- 3,7 - 4,6 - 4,3
2,75	40	240 T2 300 T2 300 T3	133 166 137	72 90 75	15 15 15	3,0 3,8 3,2
	50	240 T2 300 T2 300 T3	149 186 154	76 95 78	15 15 15	3,5 4,4 3,7
	60	240 T2 300 T2 300 T3	158 197 163	77 96 79	15 20 15	3,7 4,6 3,8
3,00	40	240 T2 300 T2 300 T3	149 186 154	91 114 94	15 15 15	3,7 4,6 4,3
	50	240 T2 300 T2 300 T3	170 212 175	96 122 99	15 20 15	3,1 4,2 3,2
	60	240 T2 300 T2 300 T3	183 229 189	100 125 104	15 20 20	3,5 4,6 3,8

240 T2

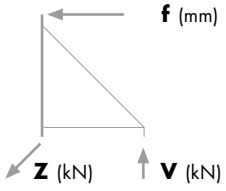
300 T2



300 T3



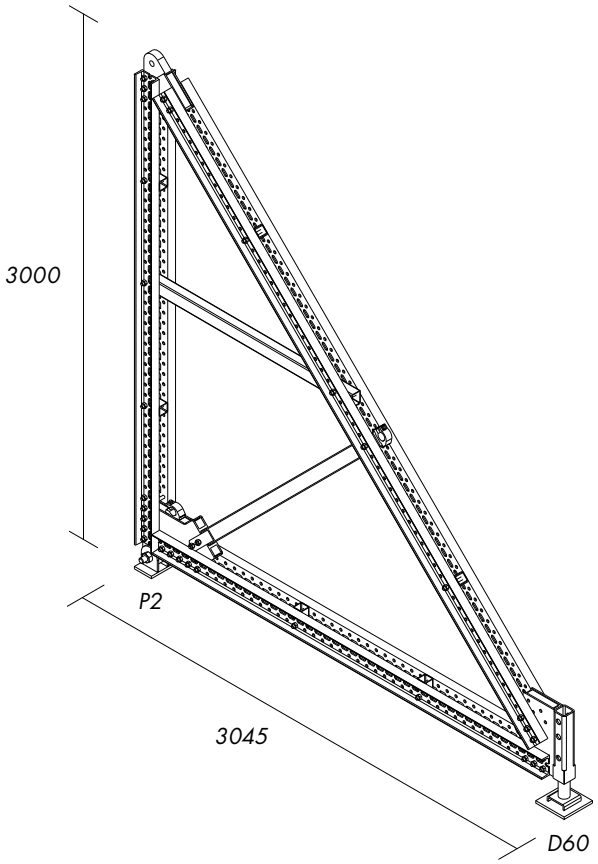
Deformazione misurata in sommità della cassaforma
Verformung gemessen am Schalungsende
Measured deflection on top of the formwork

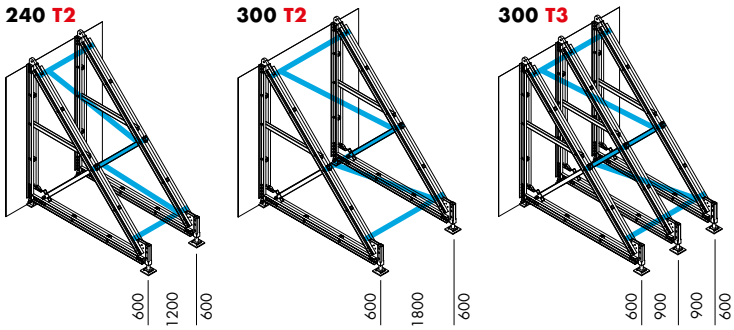


Puntellazione monofaccia
Abstützbock einhäuptig
Single side support frame

Configurazione **Konfiguration** **Configuration**

TMF 300-M





	240 T2	300 T2	300 T3
PW	–	1.215 kg	1.600 kg
PWP	1.225 kg	1.325 kg	1.715 kg

Peso compreso di cassaforma
Gewicht inklusive Schalung
Weight includes the formwork

In caso di sovrapposizione: togliere Piastra P2 e vitone D60
Bei Aufstockung: Platte P2 und Spindel D60 entfernen
In case of overlay: remove plate P2 and spindel D60

Tabella ancoraggi Tabelle Verankerung Schedule anchoring

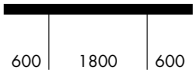
TMF 300-M

Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
1,00	25	240 T2 300 T2 300 T3	22 27 22	1 1 1	15 15 15	0,3 0,3 0,3
		240 T2 300 T2 300 T3	22 27 22	1 1 1	15 15 15	0,3 0,3 0,3
		240 T2 300 T2 300 T3	22 27 22	1 1 1	15 15 15	0,3 0,3 0,3
1,50	37,5	240 T2 300 T2 300 T3	48 60 50	3 4 3	15 15 15	0,7 0,9 0,8
		240 T2 300 T2 300 T3	48 60 50	3 4 3	15 15 15	0,7 0,9 0,8
		240 T2 300 T2 300 T3	48 60 50	3 4 3	15 15 15	0,7 0,9 0,8
2,00	40	240 T2 300 T2 300 T3	82 102 84	10 12 10	15 15 15	1,4 1,7 1,4
	50	240 T2 300 T2 300 T3	85 106 88	10 12 10	15 15 15	1,4 1,7 1,4
	60	240 T2 300 T2 300 T3	85 106 88	10 12 10	15 15 15	1,4 1,7 1,4

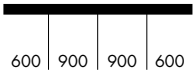
Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
2,50	40	240 T2 300 T2 300 T3	115 144 119	20 25 21	15 15 15	1,8 2,3 1,9
	50	240 T2 300 T2 300 T3	127 159 131	20 25 21	15 15 15	2,0 2,5 2,1
	60	240 T2 300 T2 300 T3	132 159 131	20 25 21	15 15 15	2,0 2,5 2,1
2,75	40	240 T2 300 T2 300 T3	133 166 137	26 33 27	15 15 15	2,0 2,5 2,1
	50	240 T2 300 T2 300 T3	149 186 154	27 34 28	15 15 15	2,5 3,1 2,6
	60	240 T2 300 T2 300 T3	158 197 163	28 35 29	15 20 15	2,3 2,9 2,4
3,00	40	240 T2 300 T2 300 T3	149 186 154	34 43 36	15 15 15	2,1 2,6 2,2
	50	240 T2 300 T2 300 T3	170 212 175	36 45 37	15 20 15	2,5 3,1 2,6
	60	240 T2 300 T2 300 T3	183 229 189	37 46 38	15 20 20	2,6 3,3 2,7

240 T2

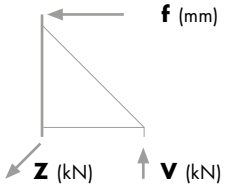
300 T2



300 T3



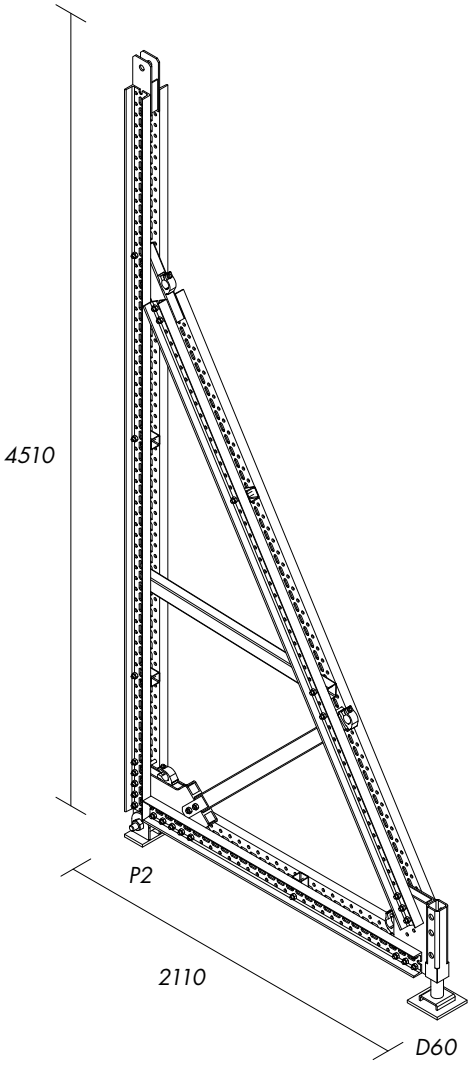
Deformazione misurata in sommità della cassaforma
Verformung gemessen am Schalungsende
Measured deflection on top of the formwork

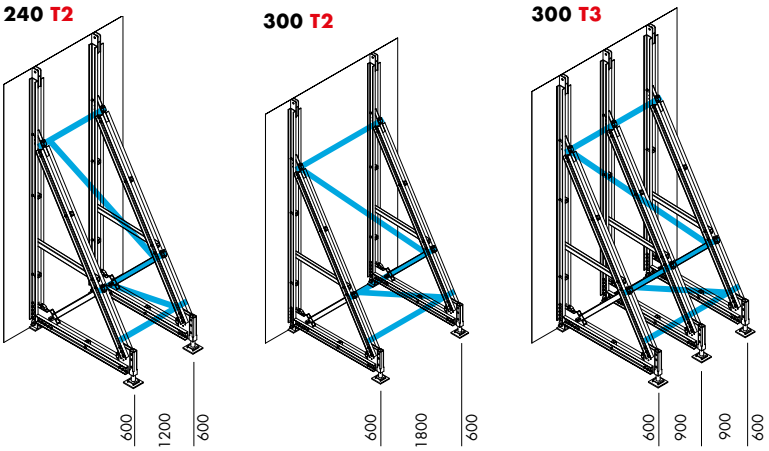


Puntellazione monofaccia
Abstützbock einhäuptig
Single side support frame

Configurazione **Konfiguration** **Configuration**

TMF 450





	240 T2	300 T2	300 T3
PW	–	1.310 kg	1.685 kg
PWP	1.195 kg	1.460 kg	1.835 kg

Peso compreso di cassaforma
Gewicht inklusive Schalung
Weight includes the formwork

In caso di sovrapposizione: togliere Piastra P2 e vitone D60
Bei Aufstockung: Platte P2 und Spindel D60 entfernen
In case of overlay: remove plate P2 and spindel D60

Tabella ancoraggi Tabelle Verankerung Schedule anchoring

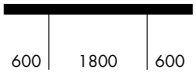
TMF 450

Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
2,00	40	240 T2 300 T2 300 T3	81 102 84	14 18 15	15 15 15	0,3 0,4 0,3
	50	240 T2 300 T2 300 T3	85 106 88	14 18 15	15 15 15	0,3 0,4 0,3
	60	240 T2 300 T2 300 T3	– – –	– – –	– – –	– – –
2,50	40	240 T2 300 T2 300 T3	115 144 119	29 36 30	15 15 15	0,1 0,2 0,1
	50	240 T2 300 T2 300 T3	127 159 132	30 38 31	15 15 15	0,2 0,3 0,2
	60	240 T2 300 T2 300 T3	132 165 136	30 38 31	15 15 15	0,2 0,3 0,2
3,00	40	240 T2 300 T2 300 T3	149 187 154	51 64 53	15 15 15	- 0,5 - 0,6 - 0,5
	50	240 T2 300 T2 300 T3	170 212 176	54 68 56	15 20 15	- 0,4 - 0,5 - 0,4
	60	240 T2 300 T2 300 T3	183 229 189	55 69 57	15 20 15	- 0,3 - 0,4 - 0,3

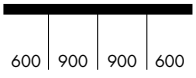
Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
3,50	40	240 T2 300 T2 300 T3	184 230 189	79 99 82	20 20 20	- 1,1 - 1,4 - 1,2
	50	240 T2 300 T2 300 T3	212 266 219	85 107 89	20 20 20	- 1,0 - 1,3 - 1,1
	60	240 T2 300 T2 300 T3	234 293 242	89 111 92	20 20 20	1,0 - 1,2 - 1,2
4,00	40	240 T2 300 T2 300 T3	217 272 225	113 141 116	20 20 20	- 0,6 - 0,8 - 0,6
	50	240 T2 300 T2 300 T3	254 310 263	125 156 130	20 20 20	- 0,6 - 0,8 - 0,7
	60	240 T2 300 T2 300 T3	286 – 295	132 – 137	20 – 20	- 0,6 – - 0,6
4,50	40	240 T2 300 T2 300 T3	252 310 260	152 191 158	20 20 20	3,7 5,3 3,9
	50	240 T2 300 T2 300 T3	296 – 310	172 – 178	20 – 20	3,4 – 4,0
	60	240 T2 300 T2 300 T3	310 – –	185 – –	20 – –	3,8 – –

240 T2

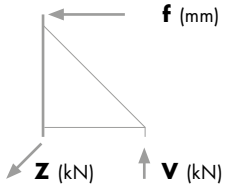
300 T2



300 T3



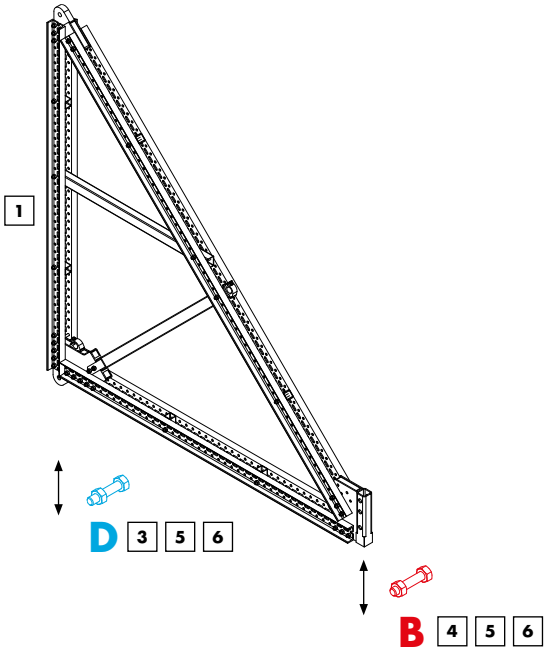
Deformazione misurata in sommità della cassaforma
Verformung gemessen am Schalungsende
Measured deflection on top of the formwork

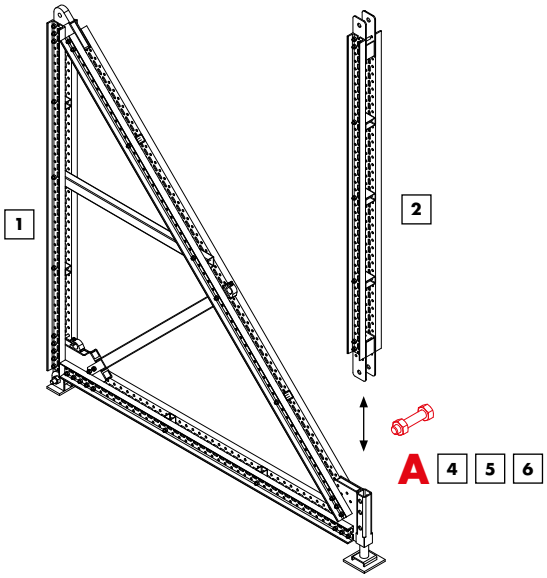


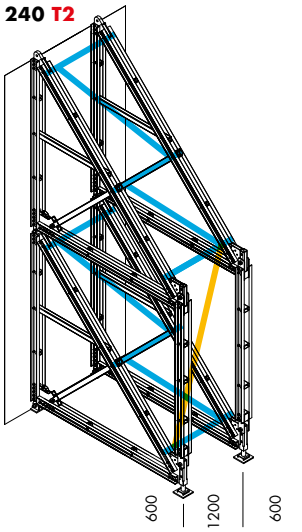
Puntellazione monofaccia
Abstützbock einhäuptig
Single side support frame

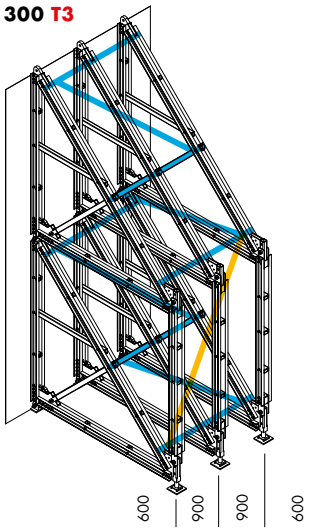
Configurazione Konfiguration Configuration

TMF 600



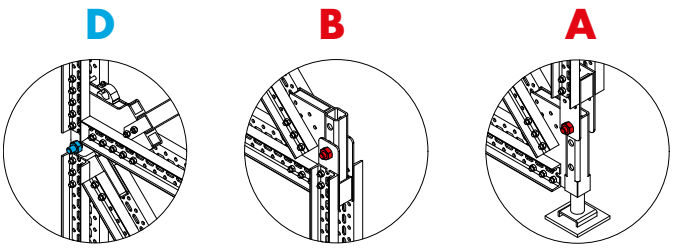






	240 T2	300 T3
PW	–	3.450 kg
PWP	2.625 kg	3.675 kg

Peso compreso di cassaforma
Gewicht inklusive Schalung
Weight includes the formwork



1	(2 x)	Telaio monofaccia TMF 300-Modulo Abstützbock TMF 300-Modul Support frame TMF 300-Modul	3	(1 x)	Bullone TE M30 x 120 Schraube TE M30 x 120 Bolt TE M30 x 120
2	(1 x)	Telaio monofaccia TMF 300-Puntone Abstützbock TMF 300-Riegel Support frame TMF 300-Prop	4	(2 x)	Bullone TE M30 x 140 Schraube TE M30 x 140 Bolt TE M30 x 140

5	(3 x)	Dado M30 eab Sechskantmutter M30 eab Nut M30 eab
6	(3 x)	Rondella M30 Beilagscheibe M30 Washer M30

Tabella ancoraggi Tabelle Verankerung Schedule anchoring

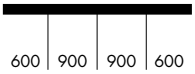
TMF 600

Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
3,50	30	240 T2 300 T3	148 153	46 47	15 15	1,2 1,3
	40	240 T2 300 T3	184 190	53 55	15 20	1,4 1,5
	50	240 T2 300 T3	212 219	57 59	20 20	1,5 1,6
4,00	30	240 T2 300 T3	173 179	64 66	15 15	1,9 2,0
	40	240 T2 300 T3	217 225	76 78	20 20	2,1 2,2
	50	240 T2 300 T3	255 263	84 87	20 20	2,3 2,4
4,50	30	240 T2 300 T3	198 205	86 88	20 20	2,0 2,5
	40	240 T2 300 T3	251 259	103 106	20 20	2,9 3,0
	50	240 T2 300 T3	297 307	116 120	20 20	3,3 3,4

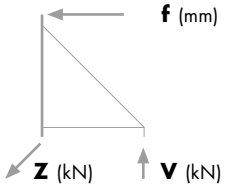
Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
5,00	30	240 T2 300 T3	224 231	110 114	20 20	3,2 3,3
	40	240 T2 300 T3	285 295	133 139	20 20	4,0 4,1
	50	240 T2 300 T3	339 351	153 158	26 26	4,5 4,6
5,50	30	240 T2 300 T3	250 258	137 142	20 20	4,1 4,3
	40	240 T2 300 T3	319 324	170 175	26 26	5,0 5,2
	50	240 T2 300 T3	382 394	194 200	26 26	5,7 5,9
6,00	30	240 T2 300 T3	275 284	169 174	20 20	5,1 5,2
	40	240 T2 300 T3	353 365	208 216	26 26	6,2 6,4
	50	240 T2 300 T3	– –	– –	– –	– –

240 T2

300 T3



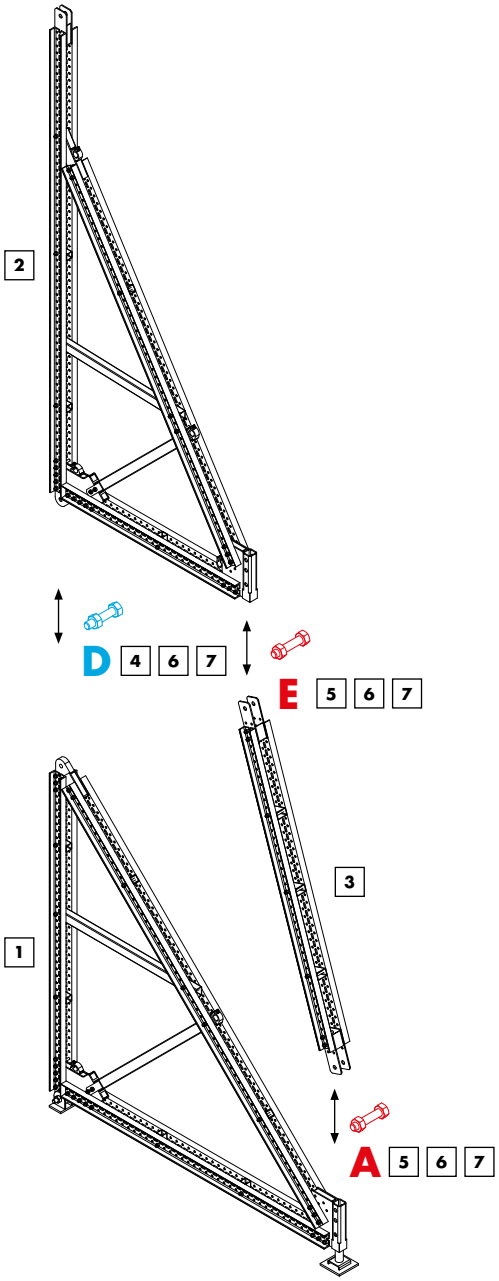
Deformazione misurata in sommità della cassaforma
Verformung gemessen am Schalungsende
Measured deflection on top of the formwork

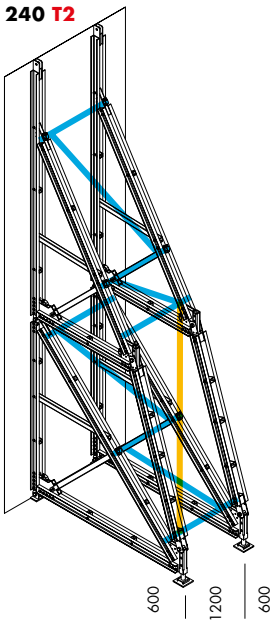


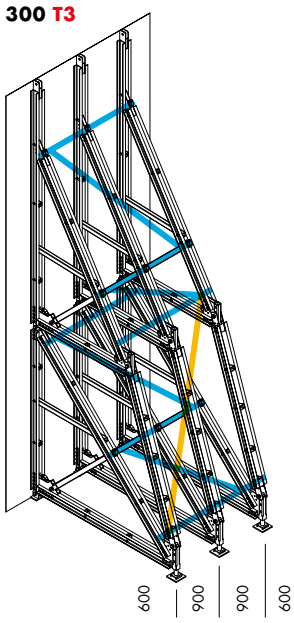
Puntellazione monofaccia
Abstützbock einhäuptig
Single side support frame

Configurazione Konfiguration Configuration

TMF 750

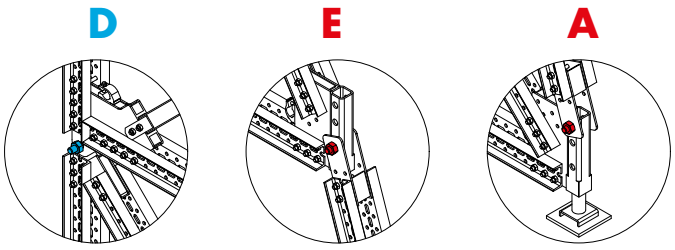






	240 T2	300 T3
PW	–	3.535 kg
PWP	2.590 kg	3.800 kg

Peso compreso di cassaforma
Gewicht inklusive Schalung
Weight includes the formwork



1	(2 x)	Telaio monofaccia TMF 300-Modulo Abstützbock TMF 300-Modul Support frame TMF 300-Modul	4	(1 x)	Bullone TE M30 x 120 Schraube TE M30 x 120 Bolt TE M30 x 120	6	(3 x)	Dado M30 eab Sechskantmutter M30 eab Nut M30 eab
2	(1 x)	Telaio monofaccia TMF 450 Abstützbock TMF 450 Support frame TMF 450	5	(2 x)	Bullone TE M30 x 140 Schraube TE M30 x 140 Bolt TE M30 x 140	7	(3 x)	Rondella M30 Beilagscheibe M30 Washer M30
3	(1 x)	Telaio monofaccia TMF 300-Puntone Abstützbock TMF 300-Riegel Support frame TMF 300-Prop						

Tabella ancoraggi Tabelle Verankerung Schedule anchoring

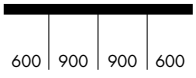
TMF 750

Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
5,0	25	240 T2 300 T3	182 188	97 100	20 20	2,5 2,6
	30	240 T2 300 T3	213 220	111 115	20 20	2,8 2,9
	40	240 T2 300 T3	272 281	135 140	20 20	3,4 3,5
5,50	25	240 T2 300 T3	202 209	120 124	20 20	2,8 2,9
	30	240 T2 300 T3	238 246	138 143	20 20	3,3 3,4
	40	240 T2 300 T3	304 314	170 176	26 26	4,1 4,2
6,00	25	240 T2 300 T3	222 229	122 126	20 20	2,9 3,0
	30	240 T2 300 T3	262 271	141 146	20 20	3,4 3,5
	40	240 T2 300 T3	336 347	175 181	26 26	4,5 4,6

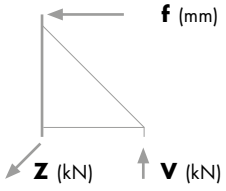
Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
6,50	25	240 T2 300 T3	243 251	175 181	20 20	3,2 3,3
	30	240 T2 300 T3	286 295	203 210	20 20	3,8 3,9
	40	240 T2 300 T3	328 339	229 237	26 26	4,4 4,5
7,00	25	240 T2 300 T3	305 315	205 212	26 26	7,1 7,2
	30	240 T2 300 T3	355 367	238 246	26 26	7,9 8,0
	40	240 T2 300 T3	402 416	270 279	26 26	8,8 8,9
7,50	25	240 T2 300 T3	354 366	237 245	26 26	13,2 13,4
	30	240 T2 300 T3	408 422	276 286	26 26	14,3 15,2
	40	240 T2 300 T3	468 483	313 323	26 26	15,3 15,5

240 T2

300 T3



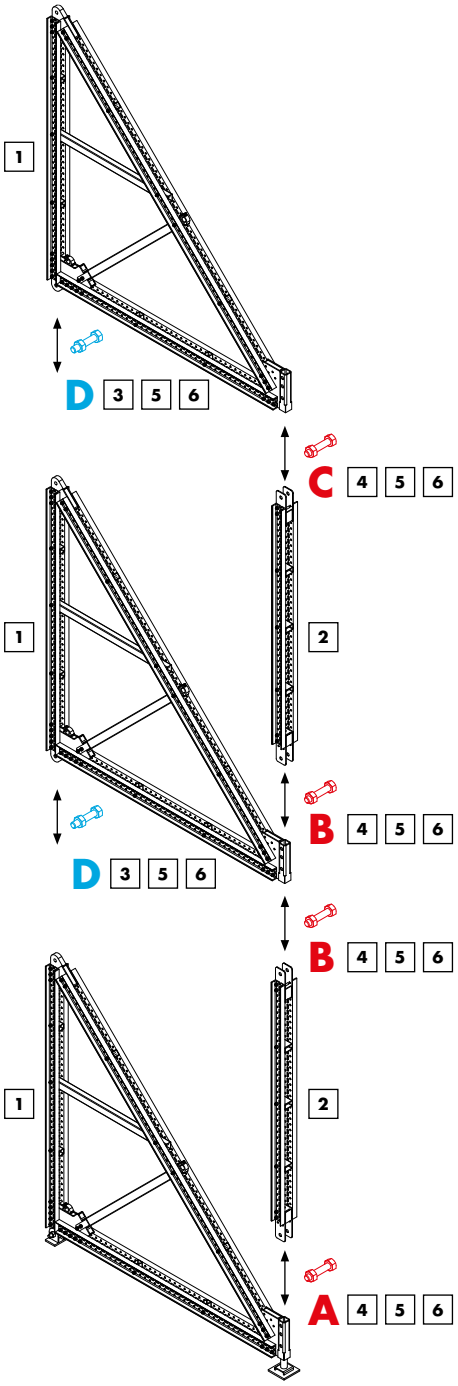
Deformazione misurata in sommità della cassaforma
Verformung gemessen am Schalungsende
Measured deflection on top of the formwork

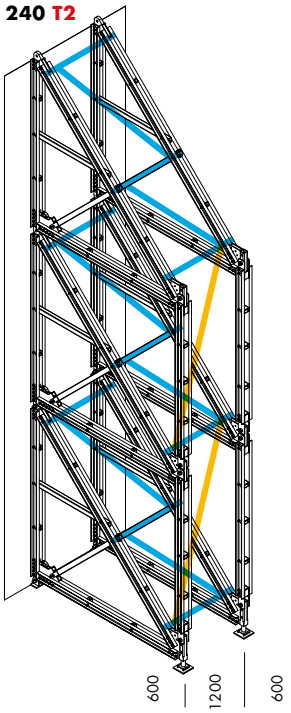


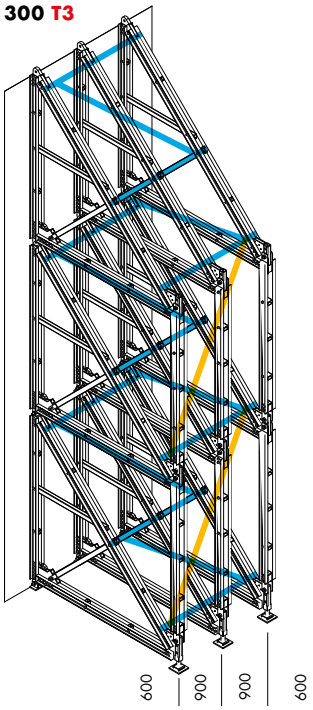
Puntellazione monofaccia
Abstützbock einhäuptig
Single side support frame

Configurazione Konfiguration Configuration

TMF 900

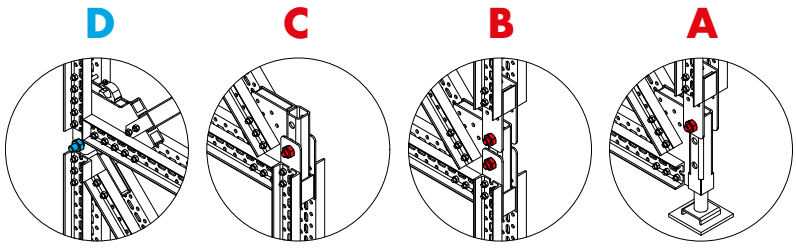






	240 T2	300 T3
PW	–	5.225 kg
PWP	3.980 kg	5.560 kg

Peso compreso di cassaforma
Gewicht inklusive Schalung
Weight includes the formwork



1	(3x)	Telaio monofaccia TMF 300-Modulo Abstützbock TMF 300-Modul Support frame TMF 300-Modul	3	(2x)	Bullone TE M30 x 120 Schraube TE M30 x 120 Bolt TE M30 x 120
2	(2x)	Telaio monofaccia TMF 300-Puntone Abstützbock TMF 300-Riegel Support frame TMF 300-Prop	4	(4x)	Bullone TE M30 x 140 Schraube TE M30 x 140 Bolt TE M30 x 140

5	(6x)	Dado M30 eab Sechskantmutter M30 eab Nut M30 eab	6	(6x)	Rondella M30 Beilagscheibe M30 Washer M30

Tabella ancoraggi Tabelle Verankerung Schedule anchoring

TMF 900

Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
6,5	25	240 T2 300 T3	250 258	177 183	20 20	9,6 9,8
	30	240 T2 300 T3	290 300	205 212	20 20	10,9 11,2
	35	240 T2 300 T3	327 338	232 240	26 26	12,2 12,6
7,00	25	240 T2 300 T3	294 304	208 215	20 26	11,7 12,1
	30	240 T2 300 T3	342 353	242 250	26 26	13,5 14,0
	35	240 T2 300 T3	387 400	274 283	26 26	15,2 15,7
7,50	25	240 T2 300 T3	342 353	242 250	26 26	14,3 14,8
	30	240 T2 300 T3	398 412	281 291	26 26	16,6 17,2
	35	240 T2 300 T3	451 466	319 330	26 26	18,6 19,2

Altezza getto Betonierhöhe Concrete hight	Pressione calcestruzzo fresco Frischbetondruck Fresh concrete pressure	TMF-configurazione TMF-Zusammensetzung TMF-configuration	Forza di trazione Zugkraft Traction force	Forza d'appoggio Auflagerkraft Reaction force	Barra ancorante Ankerstab Anchor bar	Flessione Durchbiegung Deflection
m	kN/m²		**Z** /kN)	**V** /kN)	2 x Dw	**f** (mm)
8,00	25	240 T2 300 T3	393 406	278 287	26 26	17,1 17,7
	30	240 T2 300 T3	458 –	324 –	26 –	19,8 –
	35	240 T2 300 T3	– –	– –	– –	– –
8,50	25	240 T2 300 T3	447 462	316 327	26 26	20,0 20,7
	30	240 T2 300 T3	– –	– –	– –	– –
	35	240 T2 300 T3	– –	– –	– –	– –
9,00	25	240 T2 300 T3	500 –	357 –	26 –	23,2 –
	30	240 T2 300 T3	– –	– –	– –	– –
	35	240 T2 300 T3	– –	– –	– –	– –

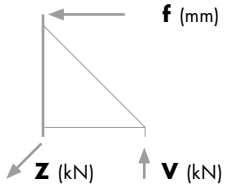
240 T2

600 | 1200 | 600

300 T3

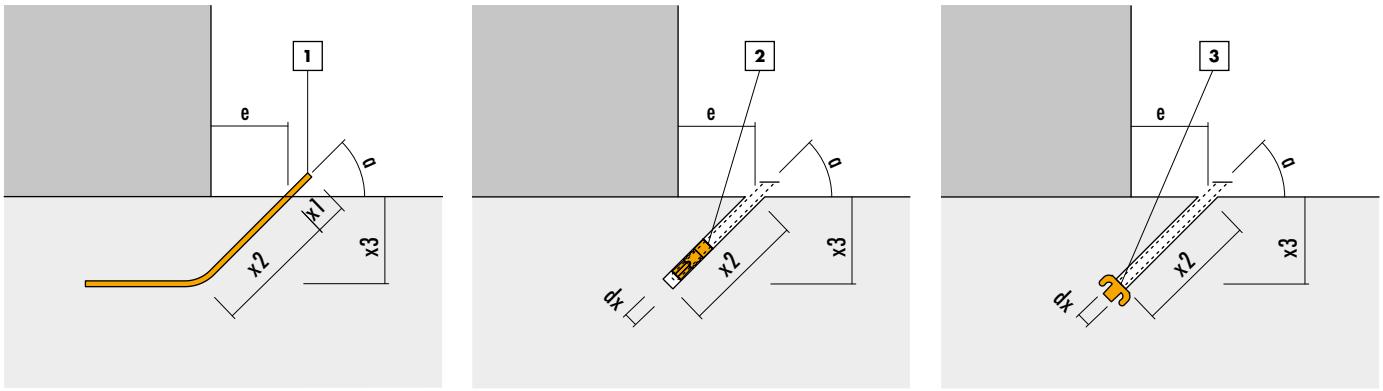
600 | 900 | 900 | 600

Deformazione misurata in sommità della cassaforma
Verformung gemessen am Schalungsende
Measured deflection on top of the formwork



Ancoraggi
Verankerung
Anchoring

Tipi di ancoraggi Verankerungstypen Type of anchoring



1 (1 x)	Ancoraggio a cappio Dw15 Schlaufenanker Dw15 Loop anchor Dw15	
1 (1 x)	Ancoraggio a cappio Dw20 Schlaufenanker Dw20 Loop anchor Dw20	
1 (1 x)	Ancoraggio a cappio Dw26 Schlaufenanker Dw26 Loop anchor Dw26	
2 (2 x)	Tassello a espansione Dw15 Spreizdübel Dw15 Expansion anchor Dw15	
2 (2 x)	Tassello a espansione Dw20 Spreizdübel Dw20 Expansion anchor Dw20	
3 (2 x)	Dado flangiato Dw15 B100 Flanschmutter Dw15 B100 Wingnut Dw15 B100	
3 (2 x)	Dado flangiato Dw20 B100 Flanschmutter Dw20 B100 Wingnut Dw20 B100	

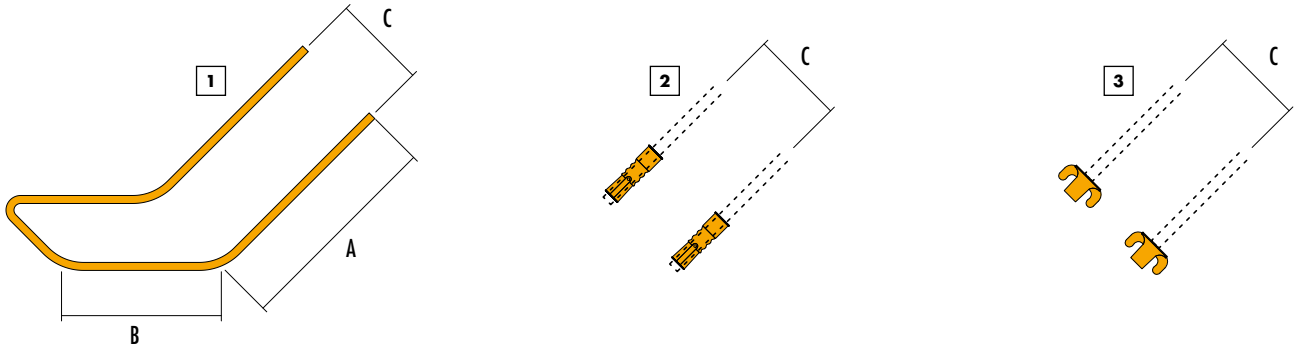
	Z (kN)	**A** (mm)	**B** (mm)	**C** (mm)
DW 15	85	360	230	230
DW 20	150	400	300	280
DW 26	245	450	450	300

x1 (mm)	**x2** (mm)	**x3** (mm)	**dx** (mm)
70	290	205	32 – 37
90	310	220	43 – 52
100	350	250	–

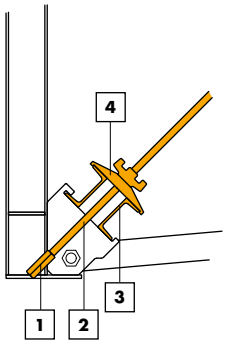
	a°	**e** (mm)
PW	45	160
PWP	45	200

Installazione secondo istruzioni PANALEX
Einbau laut Einbauanweisung PANALEX
Installation according instructions PANALEX

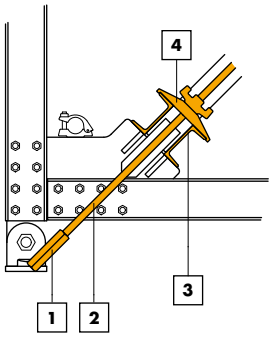
Z (kN) Forza di trazione ammissibile
Zulässige Zugkraft
Permissible tencile force



Traversa ancoraggio Ankerriegel Anchor beam

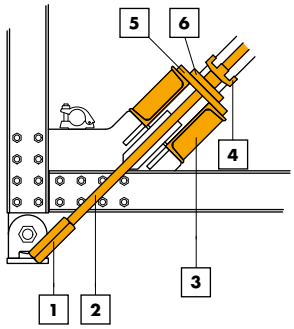


1	(2x)	Manicotto Dw15/S30x90 Verbindungsmuffe Dw15/S30x90 Connection sleeve Dw15/S30x90
2	(2x)	Tirante Dw15 – L=85 cm Spannanker Dw15 – L=85 cm Tie rod DW15 – L=85 cm
3	(1x)	Traversa ancoraggio TMF50 Ankerriegel TMF50 Anchor beam TMF50
4	(2x)	Piastra snodata Dw15 Gelenkplatte Dw15 Anchor plate Dw15



1	(2x)	Manicotto Dw20/S36x140 Verbindungsmuffe Dw20/S36x140 Connection sleeve Dw20/S36x140
2	(2x)	*Tirante Dw20 – L=100 cm Spannanker Dw20 – L=100 cm Tie rod DW20 – L=100 cm
3	(1x)	Traversa ancoraggio TMF50 Ankerriegel TMF50 Anchor beam TMF50
4	(2x)	Piastra snodata Dw20 Gelenkplatte Dw20 Anchor plate Dw20

* Uso di tasselli di espansione Dw20 L= 120 cm
Verwendung von Spreizdübel Dw20 L= 120 cm
Used of expansion anchor Dw20 L= 120 cm



1	(2x)	Manicotto Dw26/S46x150 Verbindungsmuffe Dw26/S46x150 Connection sleeve Dw26/S46x150
2	(2x)	Tirante Dw26 – L=100 cm Spannanker Dw26 – L=100 cm Tie rod DW26 – L=100 cm
3	(1x)	Traversa ancoraggio TMF60 Ankerriegel TMF60 Anchor beam TMF60
4	(2x)	Dado a due alette DW26 Flügelmutter Dw26 Wingnut Dw26
5	(1x)	Controplacca TMF 180x120x20 Gegenplatte TMF 180x120x20 Anchorplate TMF 180x120x20
6	(1x)	Piastra 120x120x20 Stahlplatte 120x120x20 Steel plate 120x120x20

Ancoraggio

- Le elevate forze di ancoraggio e di appoggio generate quando si impiegano puntellazioni richiedono diverse misure di sicurezza supplementari.
- Per l'ancoraggio a trazione, a seconda della forza di trazione generata, scegliere il sistema di ancoraggio DW 15, 20 o 26 indicato.
- Armare sufficientemente gli elementi di fondazione sollecitati. (Solo se sono presenti solette in calcestruzzo occorre prevedere delle idonee sottopuntellazioni in maniera che le forze possono essere scaricate in condizioni di sicurezza alla base della costruzione.
- Verificare la stabilità dei singoli elementi, eventualmente anche dell'intera struttura.
- Eventualmente effettuare un calcolo sui punzonamenti.
- Controllare la portata del "lato opposto" (pareti, roccia) e, se necessario, realizzare una puntellazione propria.
- Tipi di esecuzione non conformi a quanto specificato nella presente documentazione devono essere corredati da calcoli statici separati.

Verankerung

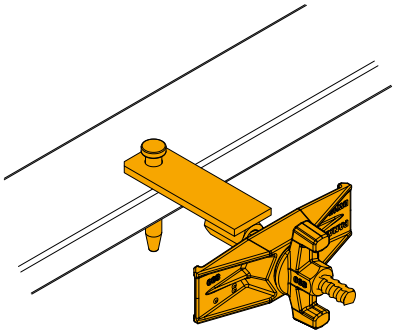
- Die erheblichen Verankerungs- und Auflagerungskräfte beim Einsatz von Stützsystemen erfordern verschiedene zusätzliche Sicherheitsmaßnahmen.
- Für Zuganker ist je nach der generierten Zugkraft das vorgegebene Ankersystem DW 15, 20 oder 26 zu wählen.
- Belastete Fundamentteile sind ausreichend zu bewehren. Bei Betondecken sind geeignete Stützsysteme vorzusehen, damit die Kräfte sicher auf die Basis des Bauwerks abgeleitet werden können.
- Die Stabilität der einzelnen Elemente und gegebenenfalls der gesamten Struktur ist zu prüfen.
- Gegebenenfalls ist eine Berechnung für die Stützsysteme vorzunehmen.
- Die Tragfähigkeit der „Gegenseite" (Wand, Fels) prüfen und, falls erforderlich, ein eigenes Stützsystem anbringen.
- Ausführungsmethoden, die von den hier besprochenen abweichen, erfordern eigene Statikberechnungen.

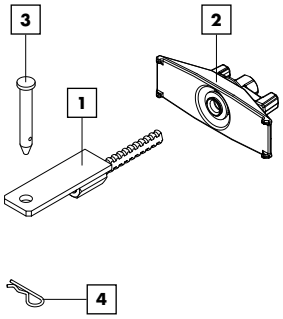
Anchoring

- The high anchoring and supporting forces generated when using shoring require several additional safety measures.
- Depending on the traction force generated, for traction anchorage choose the DW 15, 20 or 26 anchoring system as indicated.
- Ensure adequate reinforcement for stressed foundation elements. Suitable sub-shoring is only necessary if concrete floor slabs are present in order to permit the forces to be safely dispersed at the base of the construction.
- Check the stability of the individual elements and of the entire structure if necessary.
- Perform a calculation on the punching as necessary.
- Check the capacity of the „opposite side" (walls, rock) and, if necessary, realise separate shoring.
- Forms of execution that do not comply with the specifications contained in this documentation must be subject to separate static calculations.

Collegamento
Verbindung
Connection

Traversa panello Elementsprosse Element profil





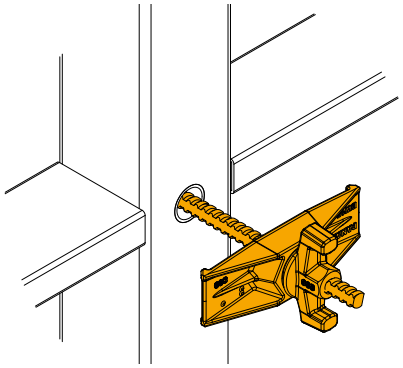
1 (1 x) Connettore TM
Spannverbinder TM
Connector TM

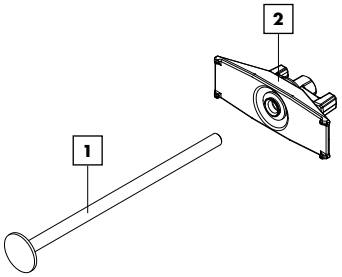
2 (1 x) Piastra snodata tirante Dw15
Gelenkplatte Dw15
Wingnut plate Dw15

3 (1 x) Perno 16 x 110
Bolzen 16 x 110
Pin 16 x 110

4 (1 x) Copiglia R3
Federstecker R3
Safety pin R3

Foro pannello Spannloch Element Anchor hole panel



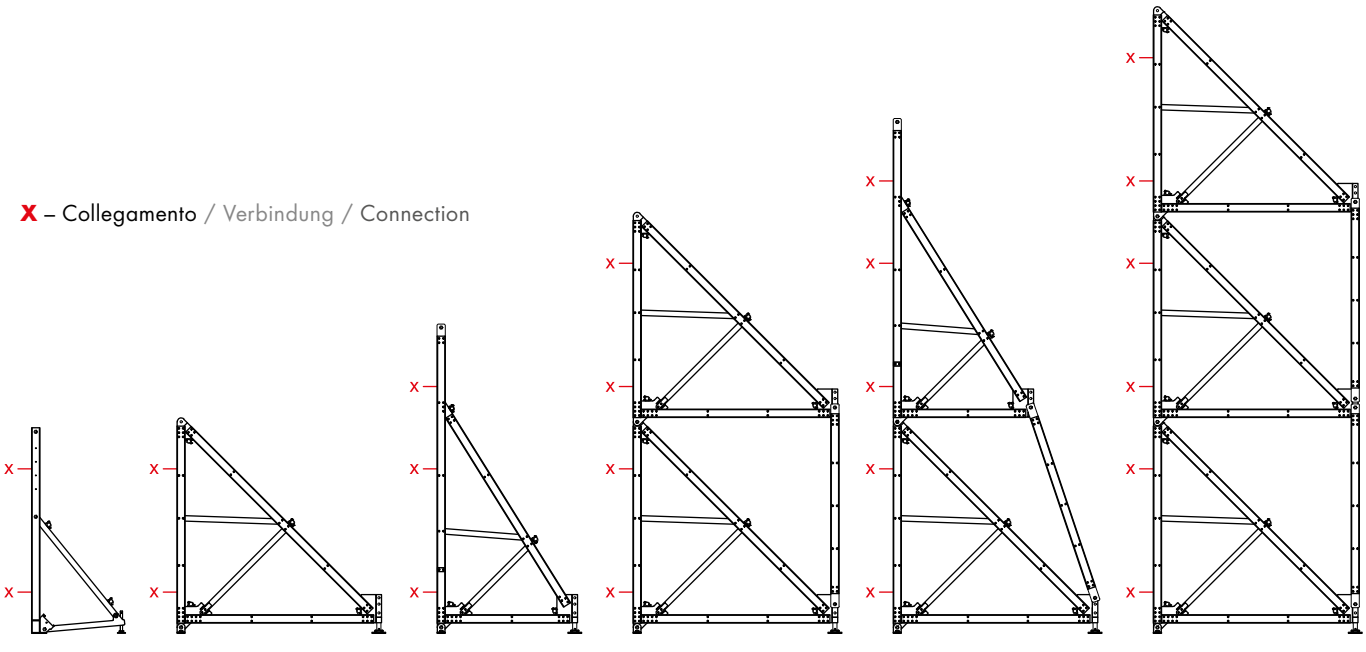


1 (1 x) Connettore TMF
Spannverbinder TMF
Connector TMF

2 (1 x) Piastra snodata tirante Dw15
Gelenkplatte Dw15
Wingnut plate Dw15

Posizione Position Position

X – Collegamento / Verbindung / Connection



Controventamento

Controventatura orizzontale e diagonale dei singoli telai TMF mediante tubi carpenteria d = 48 e giunti orientabili nei punti di bloccaggio specificati

Ausfachung

Horizontale- und diagonale Ausfachung der einzelnen Abstützböcke TMF mit Baurohre d = 48 und Drehkupplungen in den vorgegebenen Verbindungspunkten

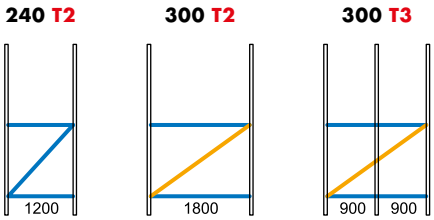
Bracing

Horizontal and diagonal bracing of the single support frames TMF by bracing tubes d = 48 and articulated couplers in the specified locking points

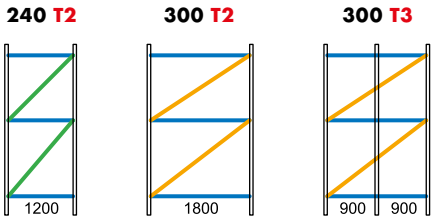
Tubo carpenteria d = 48
Stahlrohr d = 48
Bracing tube d = 48

L=2100 mm – 2400 mm – 2700 mm – 3000 mm

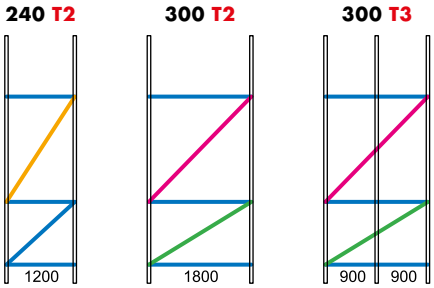
Giunto orientabile d = 48
Drehkupplung d = 48
Articulated coupler d = 48



TMF 300



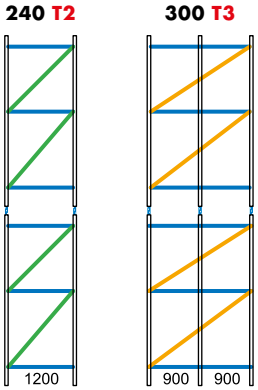
TMF 300-M



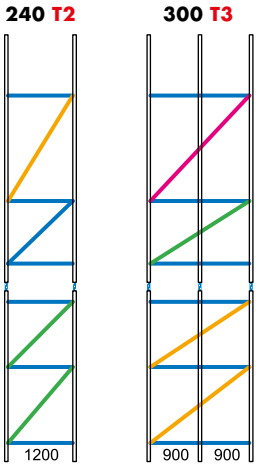
TMF 450

Controvento / Ausfachung / Bracing

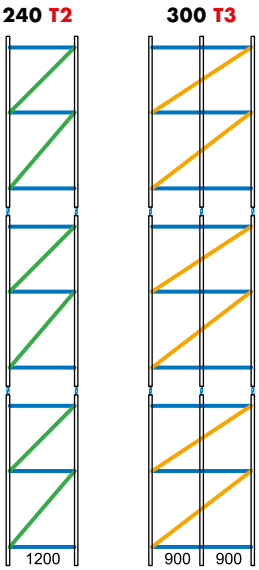
- Tubo / Rohr / Tube – L = 2100 mm
- Tubo / Rohr / Tube – L = 2400 mm
- Tubo / Rohr / Tube – L = 2700 mm
- Tubo / Rohr / Tube – L = 3000 mm



TMF 600



TMF 750



TMF 900

Sollevamento
Heben
Lifting

Sollevamento

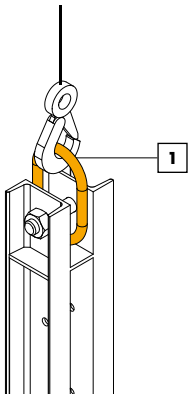
Il modulo della cassaforma viene appeso con le corrispondenti funi di sospensione in distanza dei telai monofaccia TMF al bilancio di sollevamento TMF. Le funi della gru vengono agganciate nei perni di aggancio in un angolo di cira 60 gradi. La capacità di carico massima deve essere rigorosamente rispettata. Movimenti a scatti sono da evitare.

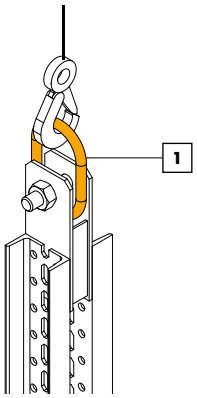
Heben

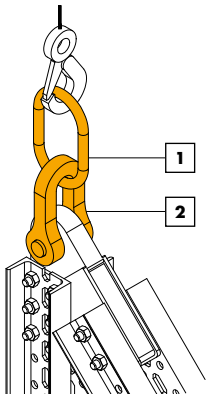
Das Schalungsmodul wird mit den entsprechenden Hängeseilen je nach Gurtungsabstand der Abstützböcke TMF am Hebelbalken TMF eingehängt. Die Kranseile wiederum werden in den vorhergesehenen Einhängebolzen in einem Winkel von ca. 60 Grad angeschlagen. Die maximale Tragkraft muss unbedingt eingehalten werden. Ruckartige Hebebewegungen sind zu vermeiden.

Lifting

The formwork module is hung on the lifting beam TMF with the corresponding suspension cables in distance of the single side support frames TMF. The crane ropes are hooked into the coupling pins at an angle of about 60 degrees. maximum load capacity must be strictly adhered to. Jerky lifts should be avoided.







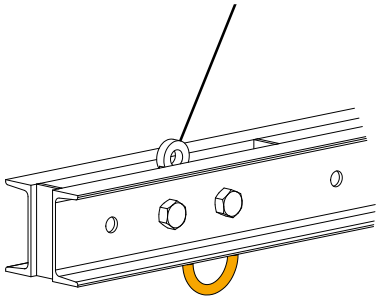
Sollevamento solamente attraverso fissaggio gancio al **TMF**
Heben nur mit Kranhakenanschlag am **TMF**
Lifting only with fixing of the cranehook on **TMF**

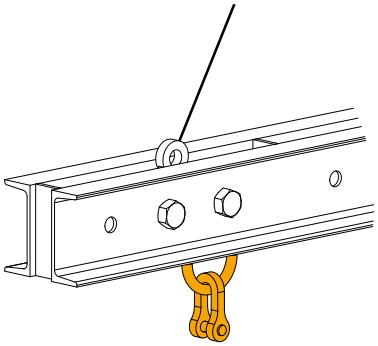
1	(1 x)	Campanella W1310 Aufhängering W1310 Master Link W1310
2	(1 x)	Grillo DIN82101-C WLL31kN Schäkel DIN82101-C WLL31kN Shackles DIN82101-C WLL31kN

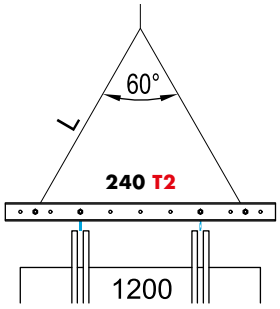
Sollevamento con utilizzo del bilancino.
Heben mit Verwendung des Hebebalkens.
Lifting with use of lifting beams

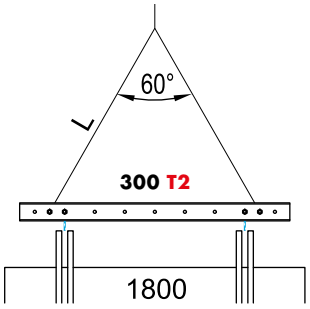
TMF 600 - TMF 750 - TMF 900

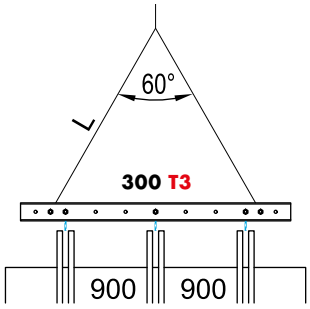
max. 6.000 kg







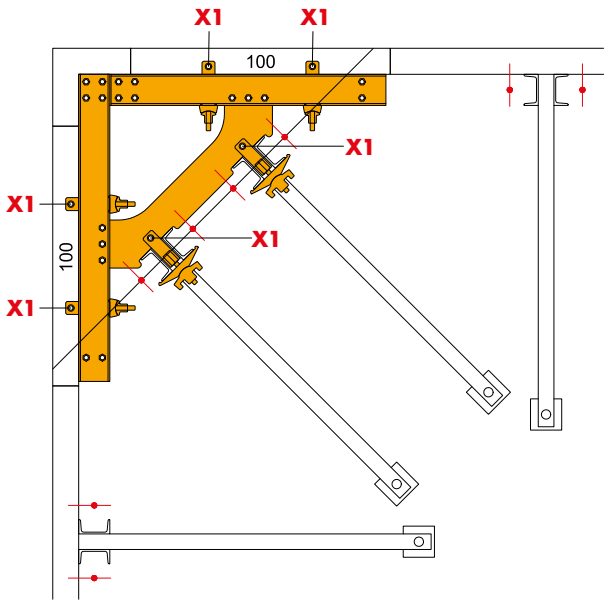


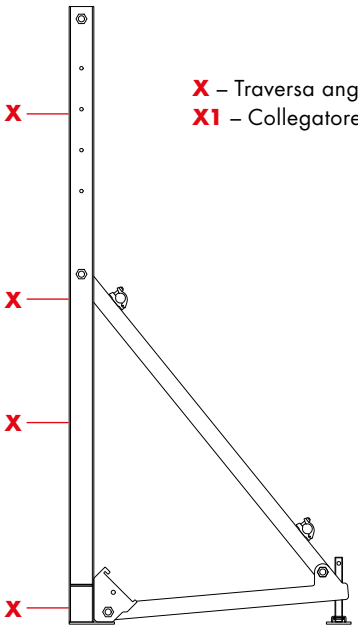


Soluzione angolo
Eckausbildung
Solution corner

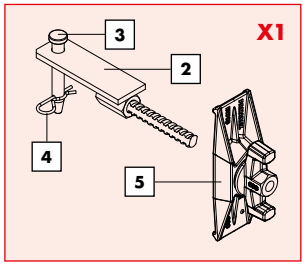
10/2020

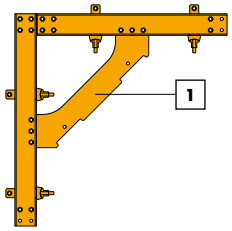
Traversa angolo TMF 300 Eckriegel TMF 300 Corner waler TMF 300





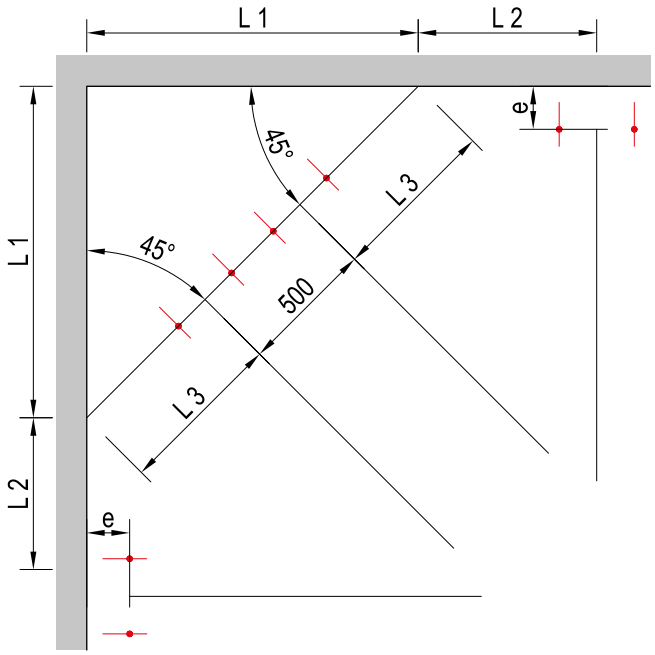
X – Traversa angolo / Eckriegel / Corner waler
X1 – Collegatore / Verbinder / Connector





TMF 300

Angolo interno 300x30 + Pannello 300x100
Inneneck 300x30 + Wandelement 300x100
Inner corner 300x30 + Panel 300x100

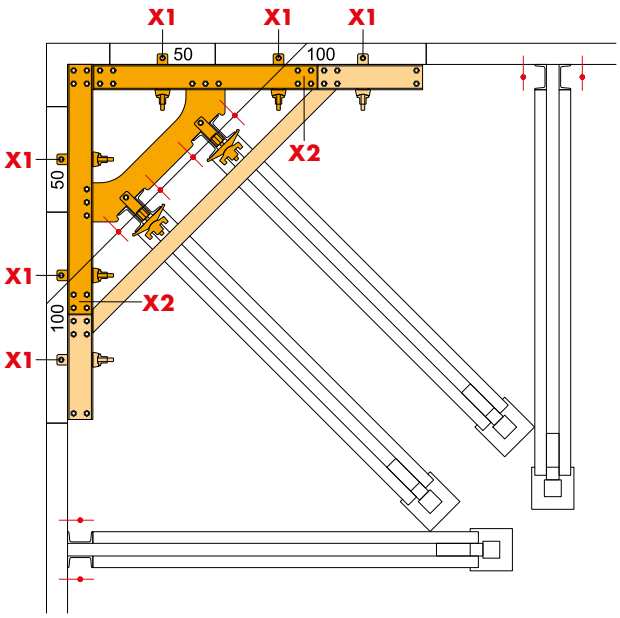


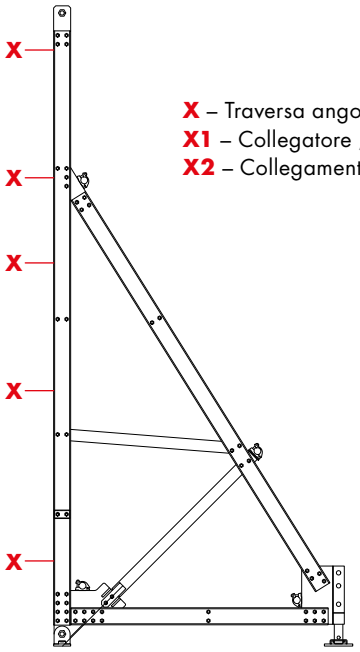
1 (1 x)	Traversa angolo TMF Eckriegel TMF Corner Waler TMF	4 (1 x)	Copiglia R3 Federstecker R3 Safety pin R3
2 (1 x)	Connettore TM Spannverbinder TM Connector TM	5 (1 x)	Piastra snodata tirante Dw15 Gelenkplatte Dw15 Wingnut plate Dw15
3 (1 x)	Perno 16x110 Bolzen 16x110 Pin 16x110		

	L1	L2	L3	e
PW	1.235 mm	665 mm	623 mm	160 mm
PWP	1.315 mm	585 mm	680 mm	200 mm

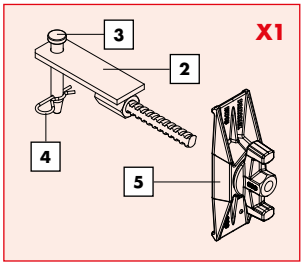
Soluzione angolo
Eckausbildung
Solution corner

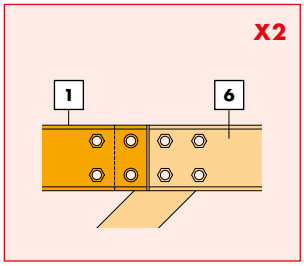
Traversa angolo TMF 450 Eckriegel TMF 450 Corner waler TMF 450

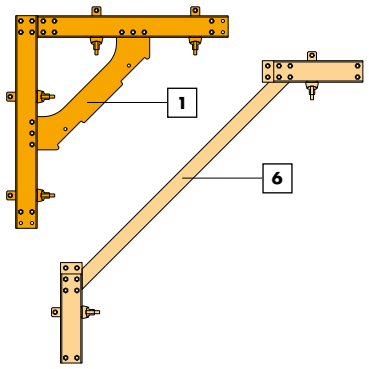




X – Traversa angolo / Eckriegel / Corner waler
X1 – Collegatore / Verbinder / Connector
X2 – Collegamento / Stossverbindung / Connection

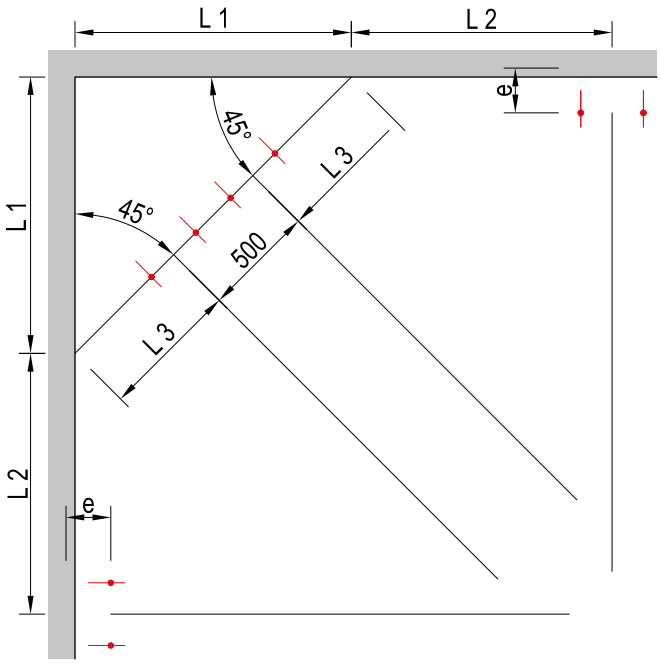






TMF 450

Angolo interno 300x30 + Pannello 300x50 + 300x100
Inneneck 300x30 + Wandelement 300x50 + 300x100
Inner corner 300x30 + Panel 300x50 + 300x100



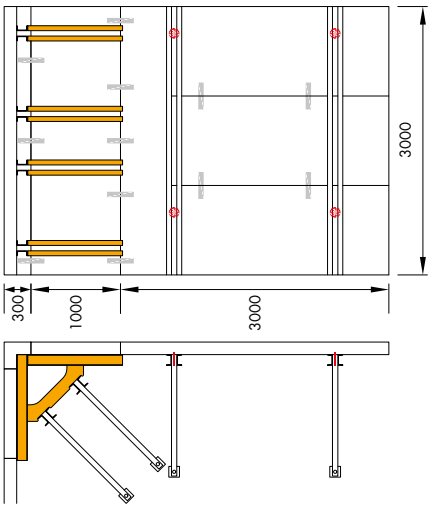
1	(1 x)	Traversa angolo TMF Eckriegel TMF Corner Waler TMF	4	(1 x)	Copiglia R3 Federstecker R3 Safety pin R3
2	(1 x)	Connettore TM Spannverbinder TM Connector TM	5	(1 x)	Piastra snodata tirante Dw15 Gelenkplatte Dw15 Wingnut plate Dw15
3	(1 x)	Perno 16 x 110 Bolzen 16 x 110 Pin 16 x 110	6	(1 x)	Prolunga Traversa angolo TMF Kupplung Eckriegel TMF Extention Corner Waler TMF

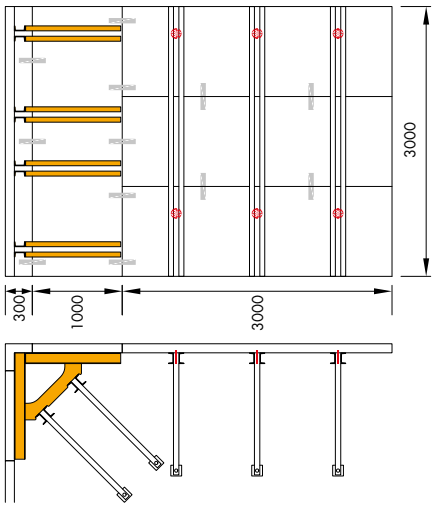
	L1	L2	L3	e
PW	1.235 mm	1.165 mm	623 mm	160 mm
PWP	1.315 mm	1.085 mm	680 mm	200 mm

Soluzione angolo
Eckausbildung
Solution corner

10/2020

Esempio soluzione angolo Beispiel Ecklösung Example corner solution



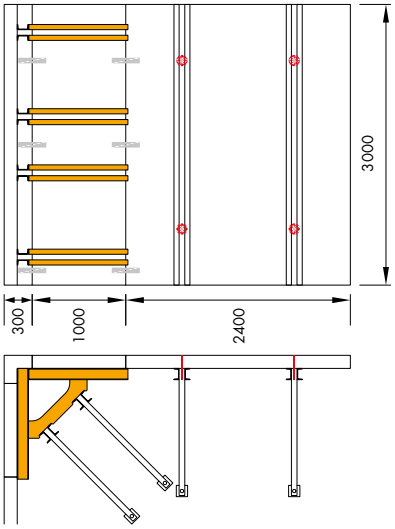


TMF 300

Soluzione angolo e proseguimento
con moduli TMF 300
pannelli sdraiati 300 x 100

Ecklösung und im Anschluß
TMF 300 Module mit
liegenden Elementen 300 x 100

Corner solution with modules
in subsequent TMF 300
with lying panels 300 x 100

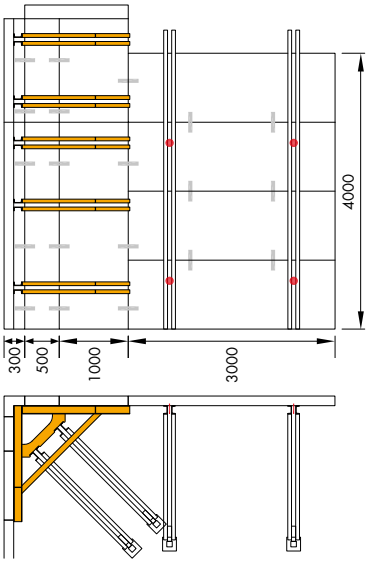


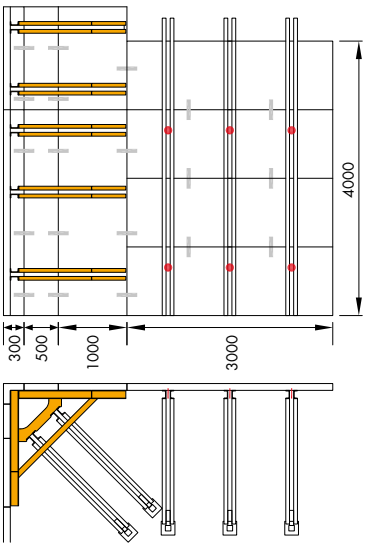
TMF 300

Soluzione angolo e proseguimento
con moduli TMF 300
pannelli verticali PWP 300 x 240

Ecklösung und im Anschluß
TMF 300 Module mit
vertikalen PWP Element 300 x 240

Corner solution with modules
in subsequent TMF 300
with vertical panel PWP 300 x 240





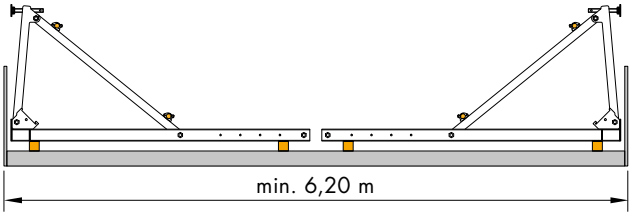
TMF 450

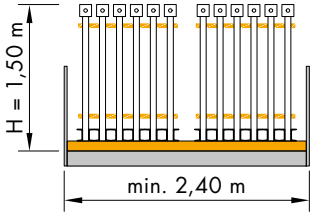
Soluzione angolo e proseguimento
con moduli TMF 450
pannelli sdraiati 300 x 100

Ecklösung und im Anschluß
TMF 450 Module mit
liegenden Elementen 300 x 100

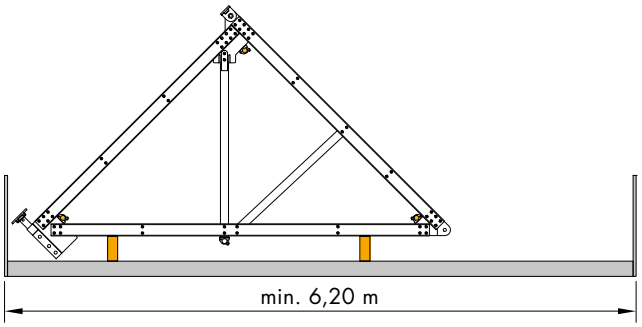
Corner solution with modules
in subsequent TMF 450
with lying panels 300 x 100

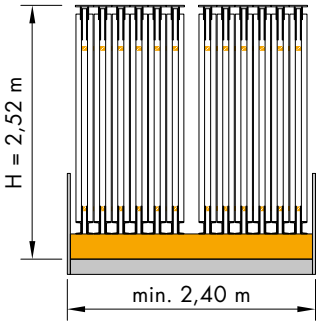
Transporto
Transport
Transport



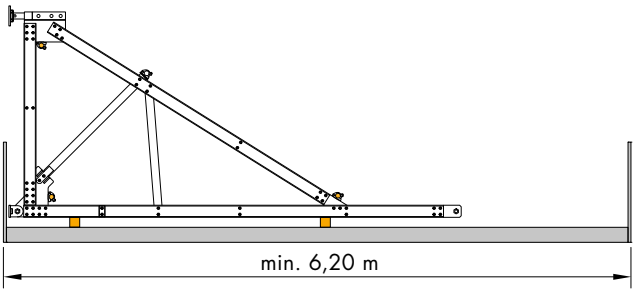


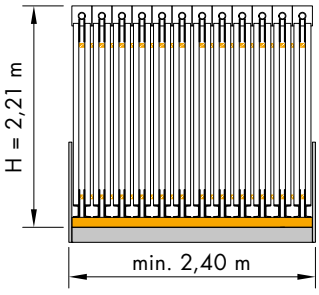
Peso di un (1) pacco con 6 telai Gewicht eines (1) Paketes mit 6 Rahmen Weight of one (1) package of 6 frames	**kg 900**	Pacchi Pakete Package	**4**	Pezzi Stück Pieces	**24**	Peso Gewicht Weight	**ton 3,6**



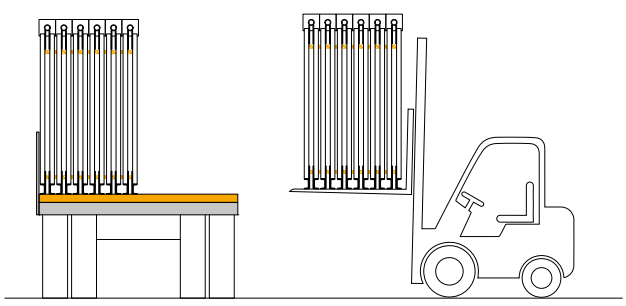


Peso di un (1) pacco con 6 telai Gewicht eines (1) Paketes mit 6 Rahmen Weight of one (1) package of 6 frames	**kg 2.100**	Pacchi Pakete Package	**2**	Pezzi Stück Pieces	**12**	Peso Gewicht Weight	**ton 4,2**





Peso di un (1) pacco con 6 telai Gewicht eines (1) Paketes mit 6 Rahmen Weight of one (1) package of 6 frames	**kg 2.000**	Pacchi Pakete Package	**2**	Pezzi Stück Pieces	**12**	Peso Gewicht Weight	**ton 4,0**



Carico e scarico die pacchi con mezzi di sollevamento idonei.
Verificare la portata massima.

Auf- und Abladen der Pakete mittels geeigneten Hebemittel.
Die Traglast überprüfen.

Loading and unloading of packages with suitable lifting equipment.
Check the maximum capacity.

Annotazioni calcolo statico
Anmerkung Statik
Static calculation notes

10/2020

Calcoli statici

Per il dimensionamento dei prodotti PANALEX si usano Eurocodici, che rappresentano le norme più avanzate a livello internazionale nel campo dell'edilizia ed hanno via via sostituito le norme DIN. La norma UNI EN 12812: 2008 - Strutture di sostegno per opere permanenti – Requisiti prestazionali e progettazione generale – è la norma di riferimento per i telai monofaccia.

In generale nella nostra documentazione vengono indicati i valori ammissibili.

Statikberechnungen

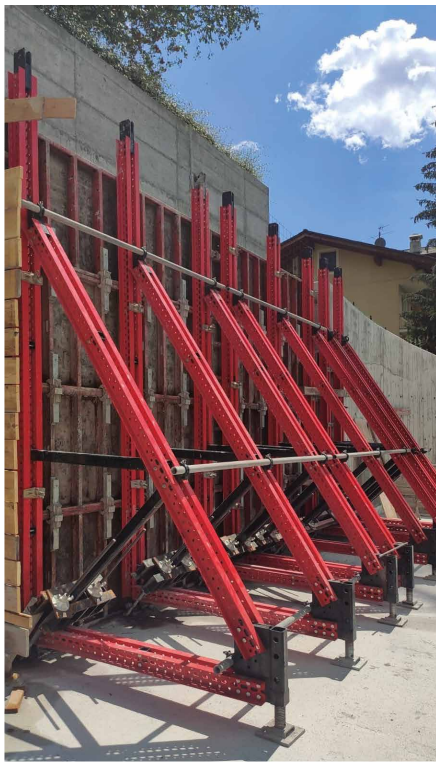
Zur Bemessung von PANALEX-Produkten werden Eurocodes verwendet:
Es handelt sich dabei um aktuelle internationale Normen im Baugewerbe, die nach und nach die DIN-Normen ersetzt haben. Als Bezug für Abstützeinheiten gilt die Norm DIN EN 12812: 2008 – Traggerüste – Anforderungen, Bemessung und Entwurf.

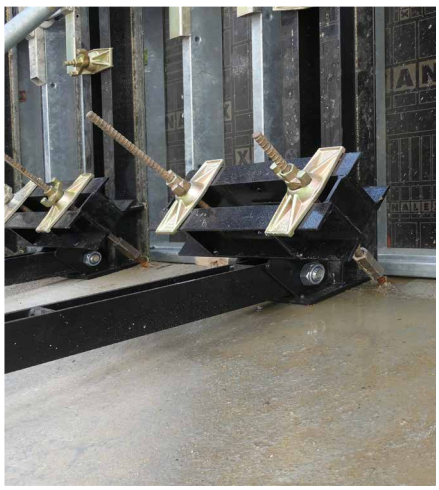
In unseren Unterlagen werden allgemein die zulässigen Werte angegeben.

Static calculation

Eurocodes are used for the sizing of PANALEX products: these represent the most advanced international standards in the construction industry and have gradually replaced DIN standards. Standard UNI EN 12812:2008 – Support structures (falsework) for permanent structures – Performance requirements and general design – is the reference standard for single-sided frames.

The permissible values are generally indicated in our documentation.





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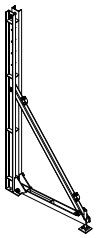
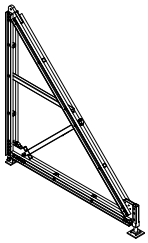


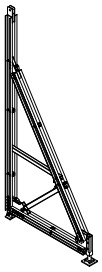
Telaio monofaccia TMF 300
Abstützbock TMF 300
Support frame TMF 300

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMF300	141,00



Telaio monofaccia TMF 300-Modulo
Abstützbock TMF 300-Modul
Support frame TMF 300-Modul

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMF300M	361,00

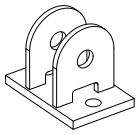


Telaio monofaccia TMF 450
Abstützbock TMF 450
Support frame TMF 450

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMF450	351,00

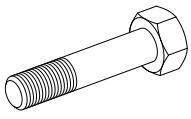
Telaio monofaccia TMF 300-Puntone
Abstützbock TMF 300-Riegel
Support frame TMF 300-Prop

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMF300P	85,00



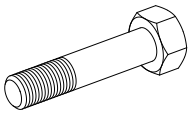
Piastra P2 TMF
Platte P2 TMF
Plate P2 TMF

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMFP2P00	4,30



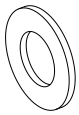
Bullone TE M30x120 Cl.8 UNI 5737
Schraube TE M30x120 Cl.8 UNI 5737
Bolt TE M30x120 Cl.8 UNI 5737

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF60BTEM30X120	0,90



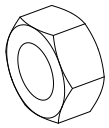
Bullone TE M30x140 Cl.8 UNI 5737
Schraube TE M30x140 Cl.8 UNI 5737
Bolt TE M30x140 Cl.8 UNI 5737

Cod. Art. / Art. – Nr. / Code No.	kg/pz / kg/Stk. / kg/Pcs
PF60BTEM30X140	1,00



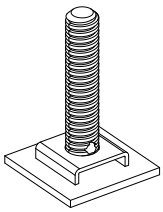
Rondella piana M30 UNI 6592
Beilagscheibe M30 UNI 6592
Washer M30 UNI 6592

Cod. Art. / Art. – Nr. / Code No.	kg/pz / kg/Stk. / kg/Pcs
PF60RPM30CL8	0,06



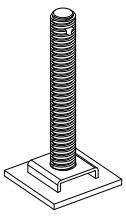
Dado M30 EAB Cl.8 UNI 7474
Sechskantmutter M30 EAB Cl.8 UNI7 474
Nut M30 EAB Cl.8 UNI 7474

Cod. Art. / Art. – Nr. / Code No.	kg/pz / kg/Stk. / kg/Pcs
PF60DEABM30CL8	0,23



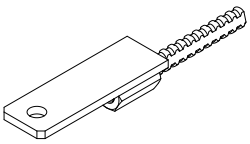
Vitone D60
Spindel D60
Spindle D60

Cod. Art. / Art. – Nr. / Code No.	kg/pz / kg/Stk. / kg/Pcs
PF12TMFVD60	12,70



Vitone D36
Spindel D36
Spindle D36

Cod. Art. / Art. – Nr. / Code No.	kg/pz / kg/Stk. / kg/Pcs
PF12TMFVD36	4,20



Connettore TM
Spannverbinder TM
Connector TM

Cod. Art. / Art. – Nr. / Code No.	kg/pz / kg/Stk. / kg/Pcs
PF12CTM1	0,90

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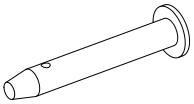
Connettore TMF
Spannverbinder TMF
Connector TMF

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12CTMF	0,6

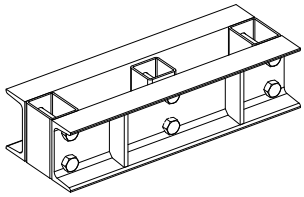


Perno 16/110
Bolzen 16/110
Pin 16/110

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF00P16X110Z00	0,175

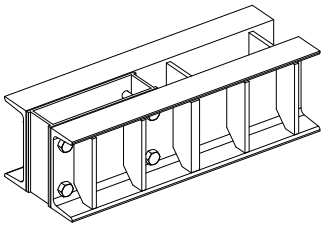
Copiglia R3.5
Federstecker R3.5
Safety pin R3.5

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF00CP00000Z00	0,01



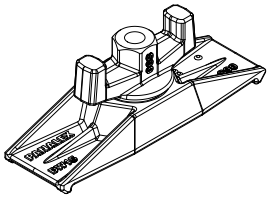
Traversa ancoraggio TMF 50
Ankerriegel TMF 50
Anchor Beam TMF 50

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMFTA50	17,00



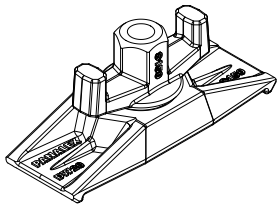
Traversa ancoraggio TMF 60
Ankerriegel TMF 60
Anchor Beam TMF 60

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMFTA60	42,50



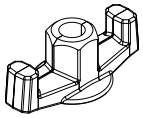
Piastra snodata tirante DW15
Gelenkplatte DW15
Wingnut plate DW15

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF00DW15PSTZ00	2,00



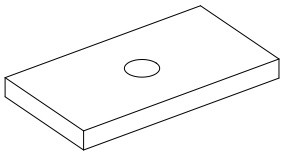
Piastra snodata tirante DW20
Gelenkplatte DW20
Wingnut plate DW20

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF00DW20PSTZ00	2,60



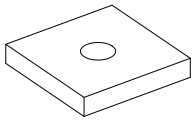
Dado ad alette DW26
Flügelmutter DW26
Wingnut DW26

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA624Z	0,90



Controplacca TMF 220 x 120 x 20
Gegenplatte TMF 220 x 120 x 20
Anchor plate TMF 220 x 120 x 20

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMFCP	4,70



Piastra 120 x 120 x 20
Stahlplatte 120 x 120 x 20
Steel plate 120 x 120 x 20

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA369N	2,10

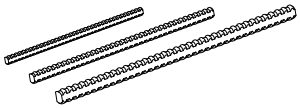
Tirante DW15 L = 85 cm
Spannstab DW15 L = 85 cm
Tie rod DW15 L = 85 cm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEB1L085N	1,20

Tirante DW20 L = 100 cm
Spannstab DW20 L = 100 cm
Tie rod DW20 L = 100 cm

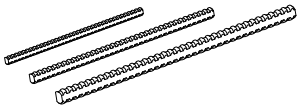
Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEB2L100N	2,56

Rassegna articoli
Artikelliste
Item list



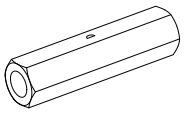
Tirante DW20 L= 120 cm
Spannstab DW20 L= 120 cm
Tie rod DW20 L= 120 cm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEB2L120N	3,07



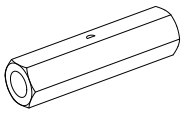
Tirante DW26 L= 100 cm
Spannstab DW26 L= 100 cm
Tie rod DW26 L= 100 cm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEB6L100N	4,48



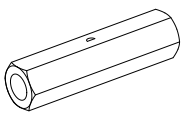
Manicotto DW15 L=90 mm
Verbindungsmuffe DW15 L=90 mm
Coupling sleeve DW15 L=90 mm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA159Z	0,40



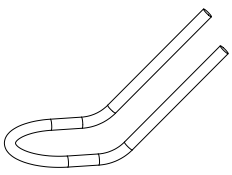
Manicotto DW20 L=140 mm
Verbindungsmuffe DW20 L=140 mm
Coupling sleeve DW20 L=140 mm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA256Z	0,80



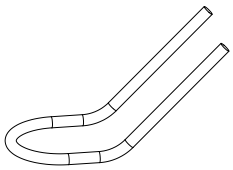
Manicotto DW26 L=150 mm
Verbindungsmuffe DW26 L=150 mm
Coupling sleeve DW26 L=150 mm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA265Z	1,40



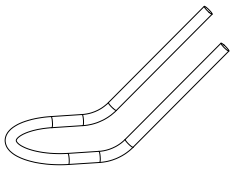
Ancoraggio a cappio DW15
Schlaufenanker DW15
Loop anchor DW15

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEABL15550N	1,96



Ancoraggio a cappio DW20
Schlaufenanker DW20
Loop anchor DW20

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEABL20600N	3,94



Ancoraggio a cappio DW26
Schlaufenanker DW26
Loop anchor DW26

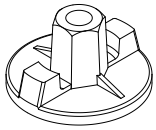
Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEABL26800N	8,69

Tassello a espansione DW15
Spreizdübel DW15
Expansion anchor DW15

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA1535T	0,37

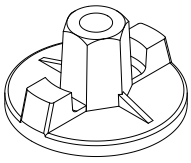
Tassello a espansione DW20
Spreizdübel DW20
Expansion anchor DW20

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA2350T	0,48



Dado flangiato DW15 B100
Flanschmutter DW15 B100
Wingnut DW15 B100

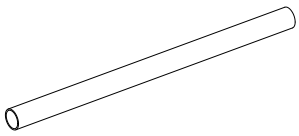
Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA121Z	0,710



Dado flangiato DW20 B100
Flanschmutter DW20 B100
Wingnut DW20 B100

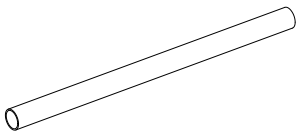
Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEA425Z	1,53

Rassegna articoli
Artikelliste
Item list



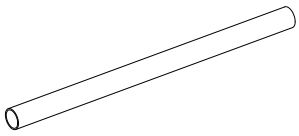
Tubo D48 L= 2100 mm
Stahlrohr D48 L= 2100 mm
Tube D48 L= 2100 mm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TD48210	7,81



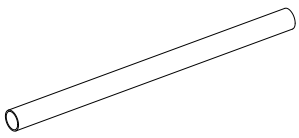
Tubo D48 L= 2400 mm
Stahlrohr D48 L= 2400 mm
Tube D48 L =2400 mm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TD482400	8,90



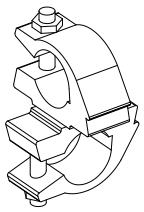
Tubo D48 L= 2700 mm
Stahlrohr D48 L= 2700 mm
Tube D48 L= 2700 mm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TD482700	10,00



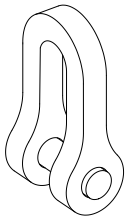
Tubo D48 L= 3000 mm
Stahlrohr D48 L= 3000 mm
Tube D48 L= 3000 mm

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TD483000	11,00



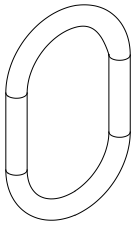
Giunto orintabile D48
Drehkupplung D48
Articulated coupler D48

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEG610G	1,40



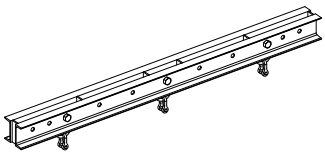
Grillo DIN82101-C WLL31KN
Schäkel DIN82101-C WLL31KN
Shackles DIN82101-C WLL31KN

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF60033V00	2,00



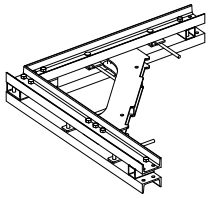
Campanella W1310
Aufhängering W1310
Master link W1310

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF60028V00	1,50



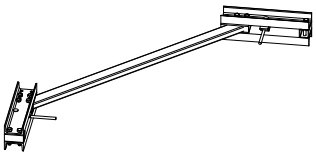
Bilancino sollevamento TMF
Hebebalken TMF
Lifting beam TMF

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMFBS	140,00



Traversa angolo TMF
Eckriegel TMF
Corner waler TMF

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMFTAA	89,00



Prolunga traversa angolo TMF
Kupplung Eckriegel TMF
Extention corner waler TMF

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
PF12TMFTAAP	49,00

Rassegna articoli
Artikelliste
Item list

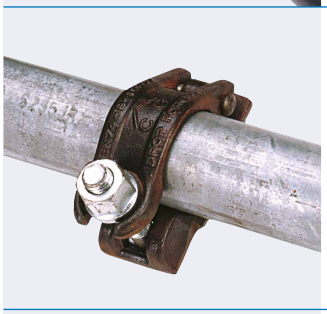
Giunti Kupplungen Coupling

Giunto ortogonale Ø 48
Reduziernormalkupplung Ø 48
Basic coupler Ø 48

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEG600G	1,29

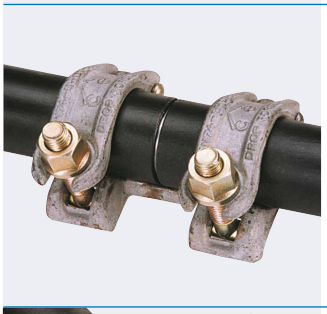
Giunto ortogonale Ø 48
Drehkupplung Ø 48
Rotating coupler Ø 48

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEG610G	1,50



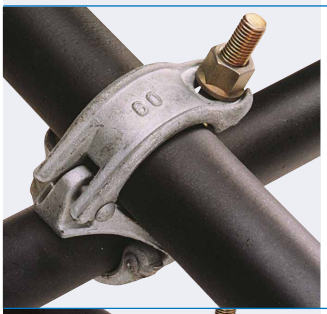
Giunto semplice nero Ø 48
Einfache Kupplung Ø 48
Basic coupler, black Ø 48

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEG640N	0,68



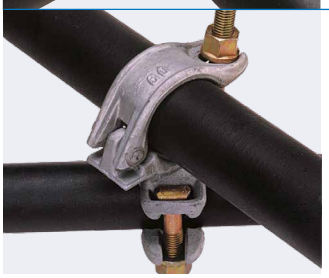
Giunto a trazione Ø 48
Zugkupplung Ø 48
Traction coupler Ø 48

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEG650Z	1,50



Giunto ortogonale Ø 48/60
Reduziernormalkupplung Ø 48/60
Basic coupler Ø 48/60

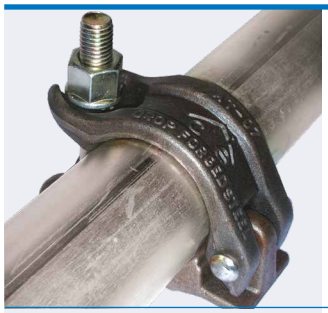
Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEG605Z	1,70



Giunto orientabile Ø 48/60
Drehkupplung Ø 48/60
Rotating coupler Ø 48/60

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEG615Z	1,63

Giunti Kupplungen Coupling



Giunto semplice nero Ø 60
Einfache Kupplung Ø 60
Basic coupler, black Ø 60

Cod. Art. Art. – Nr. Code No.	kg/pz kg/Stk. kg/Pcs
FECEG660N	1,05

Chiave da ponteggio 21/22
Ratsche 21/22 für Gerüstkupplungen
Ratchet for scaffolding joints 21/22

Cod. Art. Art. – Nr. Code No.	Peso/Sacco Gewicht/Sack Weight/Bag
FECEG695PV	0,565

Famiglia prodotti
Produktübersicht
Product overview

10/2020

Sistema Casseforme Systemschalung Concrete formwork system

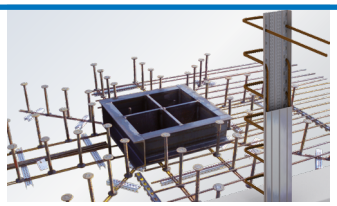
Cassero a telaio
Rahmenschalung
Framed formwork

PANADECK Cassaforma per solaio
PANADECK Deckenschalung
PANADECK slab formwork

Sistema cassero in legno
Holzschalungssystem
Wooden formwork system

Accessori per casseforme Schalungszubehör Formwork accessories

Distanziatori & Accessori
Abstandhalter & Zusatzteile
Spacers & fittings



Sistemi d'armatura
Bewehrungssysteme
Reinforcement systems

Impermeabilizzazioni
Bauwerksabdichtungen
Structural waterproofing

Sistemi di casseratura
Schalungstechnik
Formwork accessories

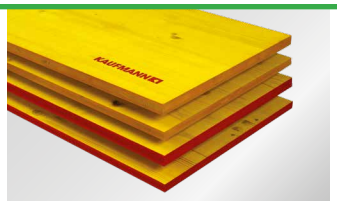
Morsetti
Schalungsklemmen
Formwork clamps

Barre e accessori
Schalungsanker & Zubehör
Formwork anchor & accessories

Giunti
Kupplung
Coupling

Prodotti in legno Holzprodukte Timber products

Multistrato filmato
Sperrholz befilmt
Filmfaced plywood



Pannelli per casseforme
Holzschalungsplatten
Shuttering panels

Travi per casseforme
Holzschalungsträger
Concrete formwork beams

Servizio Service Service

Noleggio casseforme & progettazione
Schalungsmiete & Planung
Formwork rental & planning

Logistica
Logistik
Logistics

Ripristino casseforme
Schalungsrenovierung
Formwork renewal

Lavorazione pannelli
Plattenzuschnitt
Machined panels

Sede centrale | Hauptsitz | Headquarter
PANALEX GmbH
Industriezone 16
I-39030 Olang/BZ/Italy
T +39 0474 49 50 00
info@panalex.it, www.panalex.it

Logistica | Logistik | Logistics
Produzione | Produktion | Production
I-39030 Olang/BZ
I-37010 Albaré di
Costermano/VR
CZ-27201 Kladno

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Sistema Casseforme
Systemschalung
Concrete formwork system

Accessori per casseforme
Schalungszubehör
Formwork accessories

Prodotti in legno
Holzprodukte
Timber products

Servizio
Service
Service