

TL-FRAME SYSTEM

OVERVIEW

TL-frame substructures are made of galvanized steel or stainless steel with individual system components such as primary and assembly fixings produced in hot galvanized or stainless steel (Figure 1).

TL systems consists of:

- TL - support brackets.
- T or L vertical and horizontal profiles.

HORIZONTAL SYSTEMS

The system which is used depends on the cladding type as well as the structural circumstances. Horizontal systems are very often used on beam-and-column constructions. The use of TL horizontal systems is possible with lightweight cladding elements, e.g. corrugated iron, trapezoidal sheet, etc. For heavier cladding types it is recommended to apply bracket reinforcement (Figure 3).

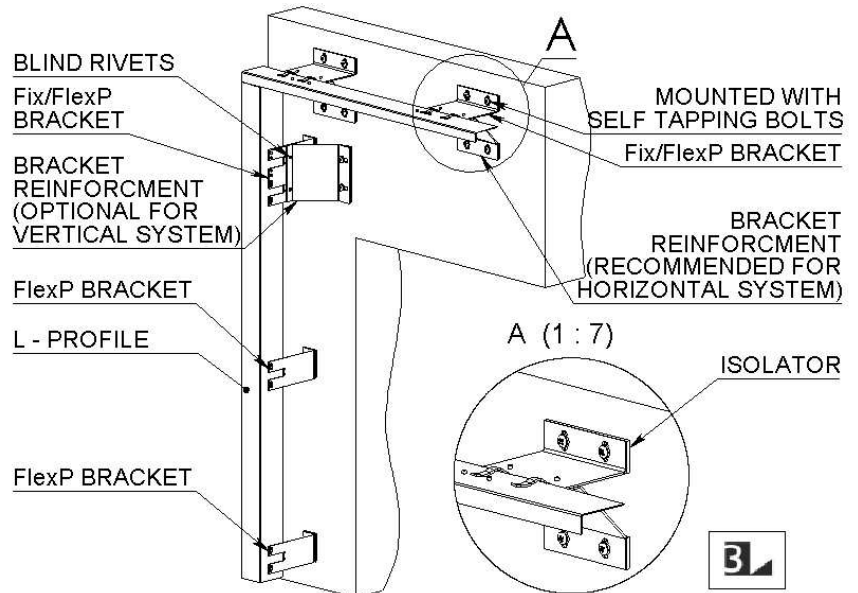


Figure 1. TL FRAME SYSTEM OVERVIEW

VERTICAL SYSTEMS

Vertical systems are often used on brickwork or concrete masonry. With vertical systems the length of the profiles normally depends on the storey height. With TL system TL profiles (Figure 4) can be delivered in custom-length according to the order but the maximum length is limited to 4100 mm.

THE CONSTRUCTION PRINCIPLE OF FIXED AND FLEXIBLE POINTS

An essential construction principle of TL systems is to allow for thermal expansion and contraction, which TL systems accommodate by the use of Fixed Point (FixP) and Flexible Point (FlexP) brackets (Figure 2).

At the fixed point, brackets and profiles are connected by the round bores in the bracket. The fixed point absorbs both vertical weight loads and horizontal wind loads.

At the flexible point profiles are connected at the elongated bores in the brackets, the primary function of the flexible point bracket at vertical systems is to absorb thermal expansion and horizontal wind loads.

Each profile is connected by means of at least one fixed point and several flexible point brackets.

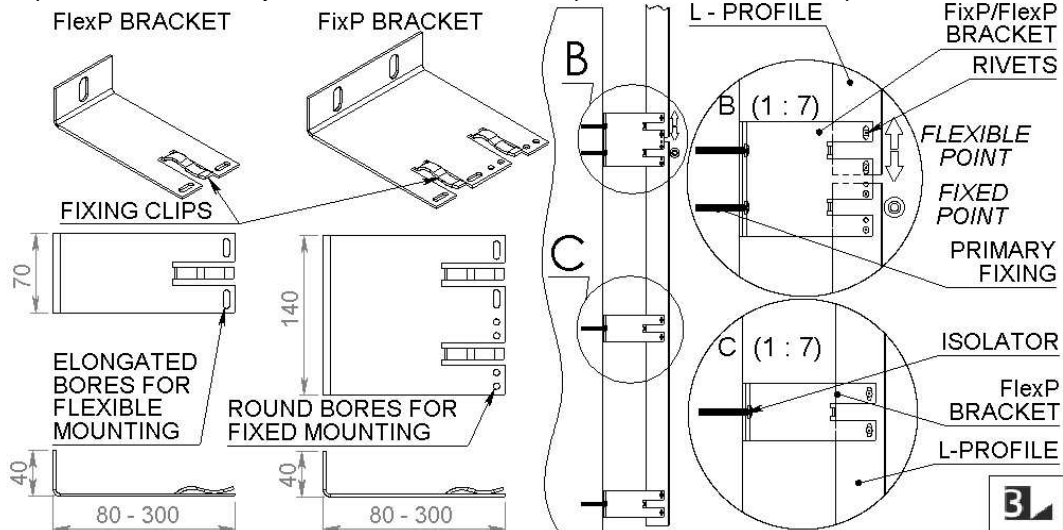


Figure 2. FlexP AND FixP BRACKETS

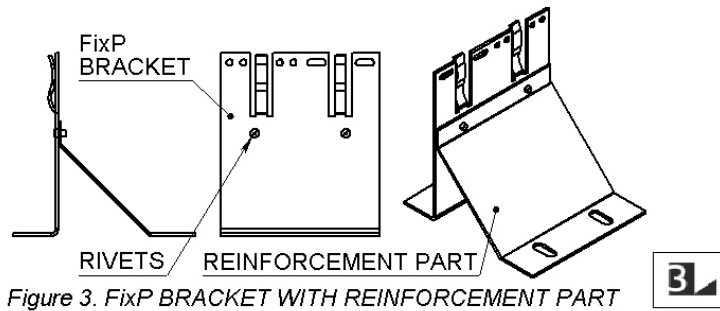


Figure 3. FixP BRACKET WITH REINFORCEMENT PART

USE OF ISOLATORS

In order to avoid thermal bridges, a thermal isolator is integrated between the bracket and the exterior wall. This isolator ensures a thermal separation between the facade structure and the exterior wall.

TECHNICAL PROPERTIES

TL brackets are made of galvanized steel DX 51 Z275, or stainless steel AISI 304. Depending on static calculations 1.5 – 3.0 mm thick metal sheet can be used for fabrication the brackets. TL brackets have standard dimensions of 60 – 300 mm in 20 mm increments. TL brackets are available in 2 widths, 140 mm and 70 mm.

When assembled, TL 140 mm large brackets can be used both in fixed point and flexible point positions, thus reducing the risk of installation errors. TL 70 mm brackets are usually used for flexible point positions.

TL FUNCTIONS REDUCE INSTALLATION TIME

Prefabricated elongated bores used to fix the TL bracket to the exterior wall simplify adjusting procedure.

Also round and elongated bores used to fix TL profiles to the brackets are prefabricated.

Particularly helpful for the installation of the profiles is the integrated, continuous fixing clip of every TL bracket, this allows variable profile alignment adjustment on each TL bracket.

These product characteristics ensure that the installation time for the substructure is significantly reduced. Thus the costs of the entire facade are reduced.

TL STANDARD PROFILES

T and L profiles are fabricated of galvanized steel DX 51 Z275 or stainless steel AISI 304. Depending on static calculations 0.8 – 1.5 mm metal sheet can be used for fabrication. The frontal surface or entire profile can be delivered powder-coated in any color from RAL color palette. Orders for customized profile design are accepted.

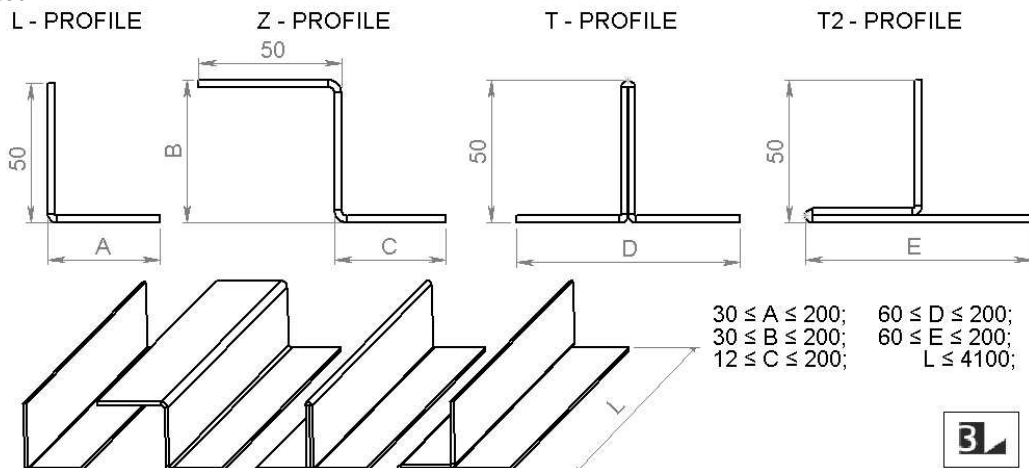


Figure 4. OVERVIEW OF TL STANDARD PROFILES

WE ALSO OFFER:

Static calculations and optimization of the TL-frame system can be carried out for the particular project in conformance with the technical specifications and local regulations.

Upon request our Engineering Department can supply recommendations for application of the TL-frame system and its components..

ISO and national standards are applied in project development.

TL-FRAME SYSTEM PROJECTS:



Figure 5.
Trading center and Supermarket Riga, Latvia;
6000 sqm TL vertical frame system;
Cladding – Creaton Tonality® clay tiles