

# Features of Pipe Frame System

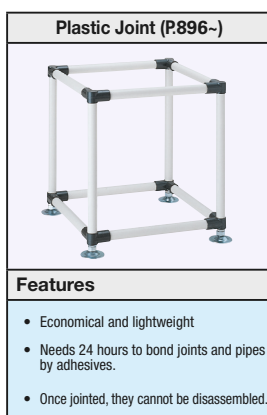
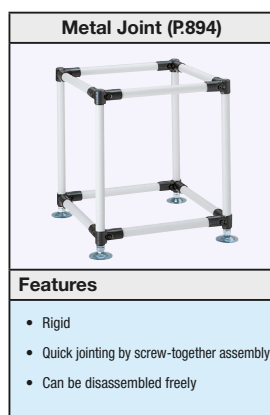
## ■ Features of Pipe Frame System

MISUMI Pipe Frame System is designed to combine various shapes and sizes of pipes and joints freely and economically. We provide the system for industrial equipment that serves for streamlining of logistics and space-saving.

## ■ Joint Mechanism

There are two jointing methods, metal joints and plastic joints for the Pipe Frame System.

(Extruded Aluminum Pipe Frames and Stainless Steel Pipe Frames are applicable to metal joints only. For Stainless Steel Pipe Frames, please use the special metal joints.)



## ■ Material Specifications

### • Pipe

- (1) Aluminum Extruded Pipe Frame (EN AC-51400-T5 Equiv., A6061SS-T6, Thickness 1.7mm)
- (2) Hot Zinc Plating Steel Pipe Frame (Cold Rolled Steel Plate EN 1.0330 Equiv. Thickness 0.7mm)

Plastic Coating Thickness 1mm (**P891**)

\* Hereafter described as "Plastic Coated Pipe Frame"

- (3) Stainless Steel Pipe Frame (EN 1.4016 Equiv. Thickness 1.0mm)

### • Metal Joint

- (1) Stainless Steel (EN 1.4301 Equiv.) Thickness 2.3mm
- (2) EN 1.0330 Equiv. Thickness 2.6mm Cathodic Electrodeposition Coating (**P894**)

### • Plastic Joint

AAS Resin (**P896~P898**)

## ■ Chemical Resistance(Pipe Frames, Plastic Films, Plastic Joints)

Strong resistance to inorganic acid, alkali, salt and non-polar oils.

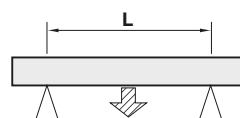
The plastic coating may dissolve or swell when it contacts organic solvents such as ketone, ester, aromatics, and chlorinated hydrocarbon.

### Appearance after 7 Days of Immersion at Room Temperature

Chemical	Appearance
Distilled Water	No Change
10% Acetic Acid	No Change
10% Hydrochloric Acid	No Change
3% Sulfuric Acid	No Change
10% Sodium Hydroxide	No Change
Ethanol	No Change
n-Heptanes	No Change
Regular Gasoline	Expansion and Whitening
Machine Oil	No Change
Toluene	Dissolution
Methylethylketone	Dissolution

## ■ Allowable Load on Pipe Frame

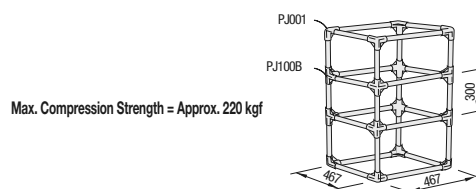
Test with the product supported at both ends and as a center concentrated load. Use with lighter load than these test values.



	Plastic Coated		Stainless Steel	
L Dimension (mm)	Allowable Load N (kgf)		Allowable Load N (kgf)	
450	1372	140	1509	154
900	686	70	755	77
1000	568	58	625	64
1100	519	53	571	58
1300	431	44	474	48
1500	382	39	420	43
1800	313	32	345	35

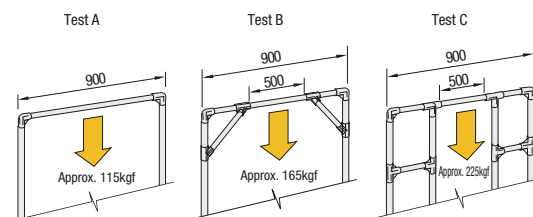
## ■ Compression Strength of Pipe Frame

The structure below is assembled with plastic coated pipe frames and plastic joints. When tested with uniformly-distributed load applied on upper and lower parallel plates supported by 4 posts.



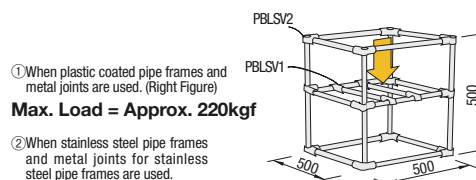
## ■ Comparison of Structure Strength

Strength Comparison with Concentrated Load on the Center



## ■ Joint Strength of Metal Joints

Load value that may cause joint misalignment when the load is applied on the center shelf of the structure.



① When plastic coated pipe frames and metal joints are used. (Right Figure)

**Max. Load = Approx. 220kgf**

② When stainless steel pipe frames and metal joints for stainless steel pipe frames are used.

**Max. Load = Approx. 160kgf**

⚠ Please note the maximum load is the value of the static load, and impact load may be lower than this value.

## ■ Adhesive Strength on Plastic Joints

PJ201B is adhesive attached on pipes and left for a 24 hour period, then the tensile strength is tested.

(Adhesives cannot be used on extruded aluminum and stainless steel pipes)

**Adhesive Strength = Approx. 650 kgf**

