A simple concept designed to grow your company’s efficiency through manufacturing-supportive designs of material handling structures.

**CREFORM as a working philosophy.** Creform empowers employees with the tools to achieve continuous improvement and lean manufacturing objectives. Creform’s system promotes creativity which in turn produces products that perpetuate creativity resulting in continuous improvement. It also promotes employee acceptance of the Five S ideology while supporting JIT.

**CREFORM as a product.** The Creform® System is a broad line of plastic-coated steel pipes, joints and accessories that lets you design and build material handling structures for virtually all areas of your manufacturing process. And because they’re adaptive, Creform structures can easily be reconfigured. Providing a simple solution to a complex problem.

**CREFORM as a company.** Creform invented this material handling concept. Today it provides you with the widest selection of products, service, application and engineering assistance of any other manufacturer. Creform is dedicated to helping you build an efficient material handling system, whether it’s a single structure or a plant-wide, corporate-wide deployment.

**CREFORM, the SMART choice.**
- **Simple** in design, the tools required, and assembly.
- **Mobile** because of its portability and light weight.
- **Adjustable** to changes whether in the product, process or volume.
- **Reusable** after changes are made to the product, process or volume.
- **Temporary** so that when the life cycle of the product or process ends, it can be modified and reused.

*CREFORM*® is a registered trademark of Yazaki Industrial Chemical Co., Ltd.
Today’s manufacturers are challenged to increase productivity while lowering manufacturing costs. Properly employed, the dynamics of continuous improvement can result in a 10% increase per year in productivity by eliminating non-value added waste.

Creform is a significant ingredient in continuous improvement programs and supports lean manufacturing principles.

**Simplicity.** Creform speaks a universal language with its easy-to-understand concept. There are no complicated mathematical and structural formulas to consider, only a few load bearing specifications which you’ll find in the technical section of this book.

**Flexibility.** No material handling system is more flexible. Creform allows you to design, build and modify to your specific needs.

**Continuous Improvement.** Creform Systems generate employee involvement, innovation and creativity from the ground level — the most efficient means to achieving continuous improvement.

**Single Parts Handling.** From sub-supplier transport to receiving dock, through assembly to shipping, Creform Systems can eliminate multiple handling and packaging, reduce waste and the potential for part damage.

**Green Manufacturing.** Environmentally responsible Creform Systems reduce the reliance on disposable containers and energy consumption of heavy material handling equipment. And Creform components can be used over and over as your requirements change.

Creform — the product, the company, the philosophy can help you achieve global manufacturing success.

©2004 Creform
Lean Manufacturing is a never-ending process employing continuous improvement principles. Whether you are a transportation manufacturer, a component assembler or in distribution, Creform Systems let you design and build material handling and work assist structures to your exact specifications and requirements helping to meet lean manufacturing goals.

You only need a few tools to assemble Creform structures taking you from inefficient, wasteful operations to maximum performance. The Creform structure, once implemented, helps put the Five S philosophy within your organization's reach:

**Straighten**: Organize the work area, discard unneeded items.

**Standardize**: Arrange needed items in predetermined, accessible places.

**Shine**: Keep personal appearance and work area neat, tidy.

**Sweep**: Clean area and tools on a regular basis.

**Sustain**: Train yourself to establish and abide by good habits...and achieve continuous improvement with the Creform System.

**In-Process Work Cart**
Flexible for virtually all sizes of parts, in-process carts can include a handle for manual locomotion or a hitch for vehicle delivery. Large casters, available in rubber, polyurethane or ESD wheels offer maneuverability over all floor surfaces and conditions. Cart structure can be reinforced as necessary to handle a wide range of weights, yet cart itself remains light.

**Flow Rack with Pick-to-Light**
This multi-lane conveyor combines ergonomic part presentation and the Creform Pick-to-Light System. This Poka Yoke type of error prevention ensures the proper parts are selected in sequence. System is capable of communicating with internal LAN systems. Pick-to-Light can be installed to both picking side and loading side of structures.

**Roller Conveyor with Tilt**
Simple to construct, the above roller conveyor provides easy part movement. Modular system allows line to be of any length and casters give mobility. Rollers are fabricated from Ø32mm pipe with bearings inserted into each end and mounted to standard Ø28mm pipe. The ergonomic off-loading structure features a tilt and lock top shelf, presenting parts for easy retrieval.

**Workstation**
Productivity begins at ergonomic workstations with convenient part presentation, correct work surface height (built to your specifications) and with direct, above the work area lighting. Workstations can be stationary or rolling, using casters with brakes, and can be fabricated using electrostatic discharge pipes and joints for protection of static sensitive products.
**Display Board**

Creform systems don’t have to involve high technology logistics for material handling. Even a simple movable display board, requiring only a few minutes to construct, contributes to plant efficiency through communication and the Five S philosophy.

---

**ESD Flow Rack**

Mobile flow racks with locking casters allow operators to make their assembly areas more ergonomically friendly and flexible while minimizing floor space. The flow rack shown here is made from ESD pipe and joints providing conductivity protection of sensitive electronic components. Part or sub-assemblies are presented ergonomically in the upper levels while empty containers are placed in the lane below.

**Dunnage Cart**

A Creform dunnage cart is easy to build to match dunnage requirements and can be made using a variety of materials and easily modified when those needs change. The prime objectives are to protect parts and sub-assemblies when sequencing to the line. The hitch on this cart can be used with a Creform AGC, tugger or fork lift. Material used on this cart is plastic coated corrugated sheet.

**Push Cart**

Moving parts and assemblies through production areas need not require extra effort because of heavy carts. Creform push carts are lightweight yet strong, offer exceptional maneuverability, and can be built to exact size requirements. Carts can be built using ESD pipe, joints and casters for transporting sensitive electronic components.

**Hinged Shelf Cart**

Optimum part holding capacity, with maximum accessibility from top to bottom. Once emptied, hinged levels of cart easily release and lift up, out of the way to provide access to lower levels minimizing obstruction when removing parts of awkward shapes and sizes. This feature controls parts sequenced to the line.

**Tilting Flow Rack**

The operator and flow rack almost become one in this ergonomic design. Tilting mechanism presents parts for easy retrieval, then, when a tote box is empty, it tilts down to release the empty box. Returning mechanism to the starting position allows the next full tote to slide into working position.

**Display Board**

Creform systems don’t have to involve high technology logistics for material handling. Even a simple movable display board, requiring only a few minutes to construct, contributes to plant efficiency through communication and the Five S philosophy.
Small Cart
A simple yet effective transport method for tote boxes. This high strength cart can be stacked with boxes for manual movement, or add a hitch for vehicle pulled trains, or with the AGC at right.

AGC Automated Guided Carts
Creform Automated Carts are simple to design, build and install. Because they follow a magnetic tape on the floor they require no floor cutting. They easily adapt to changing process requirements, present parts and assemblies in sequence to operators, all at a cost savings over AGV’s. They can be designed to hold multiple parts or sub assemblies in sequence. Or with the addition of a hitch they can become an automated tugger delivering needed parts to production areas quickly and efficiently, eliminating delays waiting for the availability of heavy forklifts. AGC’s can be programmed to slow and then stop at work areas for off-loading. Multiple courses or routes can be programmed into the optional Creform Course 10 Controller. For complete details see the AGC brochure located in Section I, Specialized Products in this catalog.

Work Table
Need a work surface? Creform pipes and joints let you build one anywhere, to any height and any size. Surface tops can be wood, plastics or sheet metal and can be permanently attached or removable. Add a back shelf to tilt and orient tools or parts for easy access.

Folding, Portable Tool Crib
For maintenance and setup personnel, and even builders of Creform structures, this portable tool crib eliminates countless return trips for forgotten parts or tools. Maximum storage capacity with side units that fold out for access, fold in for maneuvering through tight aisles. Add peg board, bins, tool boxes — to straighten and standardize, shine, sweep, and sustain.

Height-Adjust Workstation
If your first shift operator is 6’5” and the second shift person is 5’2”, one workstation can accommodate both. This height adjustable station can be raised or lowered manually using a hand crank or electrically powered mechanism for optimum comfort and efficiency.
<table>
<thead>
<tr>
<th>COLOR</th>
<th>COLOR CODE</th>
<th>Pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2500 = 2.5m / 8.2ft</td>
</tr>
<tr>
<td>Black</td>
<td>-63</td>
<td>![Black Icon]</td>
</tr>
<tr>
<td>ESD Black</td>
<td>-63</td>
<td>![ESD Black Icon]</td>
</tr>
<tr>
<td>Yellow w/ Black Band</td>
<td>-14</td>
<td>![Yellow w/ Black Band Icon]</td>
</tr>
<tr>
<td>Marine Blue</td>
<td>-12</td>
<td>![Marine Blue Icon]</td>
</tr>
<tr>
<td>Dark Gray (Brownish)</td>
<td>-04</td>
<td>![Dark Gray (Brownish) Icon]</td>
</tr>
<tr>
<td>Light Gray</td>
<td>-08</td>
<td>![Light Gray Icon]</td>
</tr>
<tr>
<td>White Gray</td>
<td>-16</td>
<td>![White Gray Icon]</td>
</tr>
<tr>
<td>ESD White Gray</td>
<td>-16</td>
<td>![ESD White Gray Icon]</td>
</tr>
<tr>
<td>Dark Green</td>
<td>-55</td>
<td>![Dark Green Icon]</td>
</tr>
<tr>
<td>Kelly Green</td>
<td>-50</td>
<td>![Kelly Green Icon]</td>
</tr>
<tr>
<td>Apple Green</td>
<td>-33</td>
<td>![Apple Green Icon]</td>
</tr>
<tr>
<td>Ivory</td>
<td>-02</td>
<td>![Ivory Icon]</td>
</tr>
<tr>
<td>Ivory w/ ESD Black Stripe</td>
<td>-02</td>
<td>![Ivory w/ ESD Black Stripe Icon]</td>
</tr>
<tr>
<td>Orange</td>
<td>-21</td>
<td>![Orange Icon]</td>
</tr>
<tr>
<td>Red</td>
<td>-47</td>
<td>![Red Icon]</td>
</tr>
<tr>
<td>White</td>
<td>-01</td>
<td>![White Icon]</td>
</tr>
<tr>
<td>Yellow</td>
<td>-05</td>
<td>![Yellow Icon]</td>
</tr>
</tbody>
</table>

Example Order: H-4000-12 (H type pipe 4 meters long with marine blue color)
Other colors available upon request - minimum buys may apply.
Colors indicated are approximate - actual color samples available upon request.
**CREFORM PIPE Ø28MM**

Ø28 pipe is used for frame components of structures connected by plastic or metal joints, accessories and casters. Dimensions are in millimeters. See Technical Section H for pipe strength data. When ordering, specify color code, see page B-1. HGA and HK pipe series not compatible with Creform adhesive.

### Colors and Applications

- **H-** Standard Pipe: Colors: Refer to color chart page B-1. Used With: General Creform structures. **Standard Length:** H-4000 = 4m, H-2500 = 2.5m, H-3000 = 10ft. **Typical Applications:** Carts, racks, workstations, etc.

- **HC-** Spiral Pipe: Colors: Yellow w/black spiral. Used With: Hazardous areas. **Standard Length:** HC-4000 = 4m. **Typical Applications:** Safety fences, cart bumpers.

- **HF-** Flat Pipe: Colors: Refer to color chart page B-1. Used With: Required flat areas. **Standard Length:** HF-4000 = 4m. **Typical Applications:** Cart & rack shelf supports, flow racks, support hanging bins. Attaching drawer slides.

- **HGA-** ESD Pipe: Colors: Refer to color chart page B-1. Used With: General ESD structures. **Standard Length:** HGA-4000 = 4m. **Typical Applications:** ESD structures. **Note:** Not compatible with Creform adhesive.

- **HGD-** ESD Striped Pipe: Colors: Ivory w/black stripe. Used With: General ESD structures. **Standard Length:** HGD-4000 = 4m. **Typical Applications:** ESD structures.

- **HK-** Slide Pipe: Colors: Light Gray. Used With: Parts or boxes that slide. **Standard Length:** HK-4000 = 4m, HK-2500 = 2.5m. **Typical Applications:** Tracks of flow rack structures.

- **HKGA-** Slide Pipe: Colors: Black. Used With: ESD parts or boxes that slide. **Standard Length:** HKGA-4000 = 4m. **Typical Applications:** ESD track of flow rack structure.

- **HKL-** L Channel Slide Pipe: Colors: Light Gray. Used With: Materials that slide. **Standard Length:** HKL-4000 = 4m. **Typical Applications:** Track of flow rack structure. **Note:** L-Flange acts as a side guide.
CREFORM PIPE Ø28mm

Ø28 pipe is used for frame components of structures connected by plastic or metal joints, accessories and casters. Dimensions are in millimeters. See Technical Section H for pipe strength data. When ordering, specify color code, see page B-1. HGA and HK pipe series not compatible with Creform adhesive.

**HKLA-**
L Channel Slide Pipe

Colors: Black. Used With: ESD materials that slide.  
Standard Length: HKLA-4000 = 4m  
Typical Applications: ESD track of flow rack structure.  
Note: L-Flange acts as a side guide.

**HPB-**
Insert and glue securely with Creform adhesive to create a double pipe beam.

**HPA-**
Ribbed Pipe, Male  
Ribbed Pipe, Female

Colors: Gray, Ivory.  
Used With: HPB- & adhesive.  
Standard Length: HPA-4000 = 4m  
Typical Applications: Reinforced double base carts, racks.

Dimensions are in millimeters. See Technical Section H for pipe strength data. When ordering, specify color code, see page B-1. HGA and HK pipe series not compatible with Creform adhesive.

Double pipe available pre-glued for your convenience. Please inquire.
The ø32 pipe is used in higher strength applications, for roller conveyors or with ø28 pipe for telescoping applications by connecting with joints and limited accessories. Dimensions are in millimeters. See Technical Section H for pipe strength data. When ordering, specify color code, see page B-1. HBG and HBGA pipes not compatible with Creform adhesive.

### HB- Standard Pipe
- **Colors:** Refer to color chart page B-1.
- **Used With:** JB-, SJ-, J E-101SET joints.
- **Standard Length:** HB-4000 = 4m
- **Typical Applications:** Telescoping pipe applications.

### HBG- Roller Pipe
- **Colors:** Black (inside & outside).
- **Used With:** J B-160 at both ends.
- **Standard Length:** HBG-4000 = 4m
- **Typical Applications:** Cut to length rollers of roller conveyor.

### HBGA- ESD Roller Pipe
- **Colors:** Black (ESD) outside, Brown inside.
- **Used With:** JB-160 ESD at both ends.
- **Standard Length:** HBGA-4000 = 4m
- **Typical Applications:** ESD rollers of roller conveyor.

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>ø32</th>
<th>Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**ESD anti static**
Individual H- components are combined with M6-25 bolts and M6-B nuts (see page G-3) to form HJ- joint assemblies for ø28 pipe. Dimensions are in millimeters. See Technical Section H for metal joint data.
Individual H- components are combined with M6-25 bolts and M6-B nuts (see page G-3) to form HJ- joint assemblies for ø28 pipe. Some assemblies require J-140ASA & J-140PEM. Dimensions are in millimeters. See Technical Section H for metal joint data.
Individual H-NI components are combined with M6-25 bolts and M6-B nuts (see page G-3) to form HJ-NI joint assemblies for ø28 pipe. Most commonly used to assemble anti-static Creform structures. Dimensions are in millimeters. See Technical Section H for metal joint data.

**H-1NI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 1NI.
- **Note:** M6-25 bolt and M6-B nut required. See page G-3. ø4.2 hole available.

**H-1BNI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 1BNI.
- **Note:** M6-25 bolt and M6-B nut required. See page G-3. ø4.2 hole available.

**H-2NI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 2NI, HJ - 3NI, HJ - 5NI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3.

**H-2BNI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 2BNI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3. ø4.2 hole available.

**H-3NI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 2NI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3.

**H-3BNI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 3NI, HJ - 4NI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3.

**H-4NI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 3NI, HJ - 4NI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3.

**H-4BNI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 7NI.
- **Note:** M6-25 bolt and M6-B nut required. See page G-3.

**H-5NI**

- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ - 7NI or HJ - 12NI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3.
Individual H-NI components are combined with M6-25 bolts and M6-B nuts (see page G-3) to form HJ-NI joint assemblies for Ø28 pipe. Most commonly used to assemble anti-static Creform structures. Dimensions are in millimeters. See Technical Section H for metal joint data.

**H-7ANI**
- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ-6ANI.
- **Note:** M6-25 bolt and M6-B nut required. See page G-3.

**H-9NI**
- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ-8NI.
- **Note:** M6-25 bolt and M6-B nut required. See page G-3.

**H-10NI**
- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ-9NI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3.

**H-12NI**
- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ-11NI.
- **Note:** M6-25 bolt and M6-B nut required. See page G-3.

**H-13NI**
- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ-13NI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3.

**H-14NI**
- **Surface Treatment:** Conductive Plating.
- **Used to form:** HJ-12NI.
- **Note:** M6-25 bolts and M6-B nuts required. See page G-3.
Complete joint assemblies for connecting ø28 pipe (H-, HC-, HK-, HF-, etc.).
Attachment with M6-25 bolts and M6-B nuts unless otherwise noted. Dimensions are in millimeters.
See Technical Section H for metal joint data.

HJ-1


HJ-1B


HJ-2


HJ-3


HJ-4


HJ-5


HJ-6


HJ-6A

Complete joint assemblies for connecting ø28 pipe (H-, HC-, HK-, HF-, etc.). Attachment with M6-25 bolts and M6-B nuts unless otherwise noted. Dimensions are in millimeters. See Technical Section H for metal joint data.
**CREFORM**

**METAL JOINT SETS Ø28MM**

Complete joint assemblies for connecting Ø28 (H- and HF-) pipe. Uses M6-25 bolts and M6-B nuts unless otherwise noted. Dimensions are in millimeters. See Technical Section H for metal joint data.

**MF1-1**

- **Surface Treatment:** Black Coating.
- **Components:** F1-1(1), H-1(1), M6-25 & M6-B(1 ea).
- **Used With:** One Ø28 pipe & one HF- pipe for corner or T-intersection.
- **Typical Applications:** Shelf of cart, display area of workstation.

**MF1-2**

- **Surface Treatment:** Black Coating.
- **Components:** F1-2(1), H-4(1), M6-25 & M6-B(2 ea).
- **Used With:** One Ø28 pipe & two HF- pipes for corner or and intersection.
- **Typical Applications:** Intermediate junctions of two flat pipes.

**CREFORM**

**METAL JOINT SETS Ø32MM**

Complete joint assemblies for connecting Ø32 pipe (HB-). Attachment with M6-30 bolts and M6-B nuts unless otherwise noted. Dimensions are in millimeters. See Technical Section H for metal joint data.

**SJ-1**

- **Surface Treatment:** Black Coating.
- **Components:** S-1(2), M6-30 & M6-B(1 ea).
- **Used With:** Two Ø32 pipes for corner or T-intersection.
- **Typical Applications:** Workstations, shelves, etc.

**SJ-2**

- **Surface Treatment:** Black Coating.
- **Components:** S-2(1), S-3(1), M6-30 & M6-B(2 ea).
- **Used With:** Three Ø32 pipes for corner and intersection.
- **Typical Applications:** Workstations, shelves, etc.
Complete joint assemblies for connecting ø32 pipe (HB-). Attachment with M6-30 bolts and M6-B nuts unless otherwise noted. Dimensions are in millimeters. See Technical Section H for metal joint data.

**SJ-3**
- **Surface Treatment:** Black Coating.
- **Components:** S-2(2), S-4(1), M6-30 & M6-B(3 ea).
- **Used With:** Four ø32 pipes to form intersection.
- **Typical Applications:** Workstations, shelves, etc.

**SJ-4**
- **Surface Treatment:** Black Coating.
- **Components:** S-4(2), M6-30 & M6-B(2 ea).
- **Used With:** Three ø32 pipes for corner and intersection.
- **Typical Applications:** Intermediate structural unions.

**SJ-5**
- **Surface Treatment:** Black Coating.
- **Components:** S-2(4), M6-30 & M6-B(4 ea).
- **Used With:** ø32 pipe to form 5-pipe intersection.
- **Typical Applications:** Workstations, shelves, etc.

**SJ-6**
- **Surface Treatment:** Black Coating.
- **Components:** S-7(2), M6-30 & M6-B(1 ea).
- **Used With:** ø32 pipe to form 2-pipe cross-intersection.
- **Typical Applications:** Workstations, shelves, etc.

**SJ-7**
- **Surface Treatment:** Black Coating.
- **Components:** S-5(2), S-6(2), M6-30 & M6-B(2 ea).
- **Used With:** ø32 pipe to form optional angle intersection.
- **Typical Applications:** Structure reinforcement.

**SJ-8**
- **Surface Treatment:** Black coating.
- **Components:** S-8(1), S-9(1), M6-30 & M6-B(1 ea).
- **Used With:** Two ø32 pipes to form 45° angle.
- **Typical Applications:** Structure reinforcement.

**SJ-9**
- **Surface Treatment:** Black coating.
- **Components:** S-10(1), S-11(1), M6-30 & M6-B(1 ea).
- **Used With:** Two ø32 pipes to form 60° angle.
- **Typical Applications:** Structure reinforcement.

**SJ-10**
- **Surface Treatment:** Black coating.
- **Components:** S-12(1), S-13(1), M6-30 & M6-B(1 ea).
- **Used With:** Two ø32 pipes to form 30° angle.
- **Typical Applications:** Structure reinforcement.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**Creform Adhesive**

See Technical Section page H-8 prior to use. See page G-2 for adhesive dispensing bottle.

**Colors:** Clear Liquid.
**Used With:** Plastic joints except as noted.
**Note:** Packaged in one pint container. MSDS sheet available.

**J-4**

**Colors:** Gray, Ivory.
**Used With:** Three ø28 pipes.
**Typical Applications:** Corner junctions of structures.

**J-5**

**Colors:** Gray, Ivory.
**Used With:** Two ø28 pipes.
**Typical Applications:** Upper structure corners, cart handles.

**J-6A, B**

**Colors:** Gray, Ivory.
**Used With:** Four ø28 pipes.
**Typical Applications:** Intermediate junctions of structures.
**Note:** One 100mm axis is a through fit on J-6B.

**J-7A, B**

**Colors:** Gray, Ivory.
**Used With:** Three ø28 pipes.
**Typical Applications:** Intermediate junctions of structures.
**Note:** J-7B provides 100mm axis as through fit.

**J-7C**

**Colors:** Gray, Ivory.
**Used With:** Two ø28 pipes.
**Typical Applications:** Intermediate junctions of structures.
**Note:** 60mm axis is a through fit.

**J-7E**

**Colors:** Gray.
**Used With:** ø28 pipe, J-23E, and EF-4025 for temporary set of angel rotation. **Typical Applications:** Handle of height adjusting table, small shelf of carts.

**J-7W**

**Colors:** Black. **Used With:** HPA-, HPB- pipe, TM6-25 Bolt(4) and M6-P Nut(4). **Typical Applications:** Intermediate area of double base carts. **Note:** Works with J-105W. Tighten bolt & nut to 100kg•cm (7-1/4 ft-lb) torque. No adhesive required.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**J-12A**
- **Colors:** Gray, Ivory.
- **Used With:** Four ø28 pipes.
- **Typical Applications:** Outer intersection of structures.

**J-12B**
- **Colors:** Gray, Ivory.
- **Used With:** Three ø28 pipes.
- **Typical Applications:** Intermediate intersection of structures.
- **Note:** 100mm axis is through fit.

**J-12C**
- **Colors:** Gray, Ivory.
- **Used With:** Three ø28 pipes.
- **Typical Applications:** Intermediate intersection of structures.
- **Note:** 34mm axis is through fit.

**J-12D**
- **Colors:** Gray, Ivory.
- **Used With:** Three ø28 pipes.
- **Typical Applications:** Intermediate intersection of structures.
- **Note:** 67mm axis is through fit.

**J-13A**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes to form cross intersection.
- **Typical Applications:** Reinforcement of cart base.

**J-13B**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes to form cross intersection.
- **Typical Applications:** Reinforcement of cart base.

**J-13C**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes to form cross intersection.
- **Typical Applications:** Reinforcement of cart base.

**J-14**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes to form 23º intersection, J-19 (67º).
- **Typical Applications:** Structural bracing and reinforcement.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**J-15A, B**
Colors: Gray, Ivory.
Used With: Five ø28 pipes.
Typical Applications: Intermediate intersection of structures.
Note: J-15B provides one 100mm axis as through fit.

**J-16**
Colors: Gray, Ivory.
Used With: Two parallel ø28 pipes.
Typical Applications: Door lock (44mm pitch).
Note: Slip fit or adhesive bonding possible.

**J-18**
Colors: Gray.
Used With: Two parallel ø28 pipes.
Typical Applications: Door lock (34mm pitch).
Note: Slip fit or adhesive bonding possible.

**J-19**
Colors: Gray, Ivory.
Used With: Two ø28 pipes to form 67º intersection, J-14 (23º).
Typical Applications: Structure bracing and reinforcement.

**J-21**
Colors: Gray, Ivory.
Typical Applications: 73º inclined top structure.

**J-22A, B**
Colors: Gray, Ivory (J-22B only).
Typical Applications: 73º inclined top of structure.
Note: J-22B is three pipe intersection with through fit.

**J-23A, B**
Colors: Gray.
Used With: Two ø28 pipes.
Typical Applications: Splice two ends of pipes.
Note: J-23B is 80mm long and through fit.

**J-23E**
Colors: Gray.
Used With: ø28 pipe, J-7E, EF-4025 for temporary set of angle or rotation. Typical Applications: Handle of height adjusting work table, small shelf of carts.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**J-26**

Colors: Gray, Ivory. 
Typical Applications: 45° bracing reinforcement of structures.

**J-33**

Colors: Gray, Ivory. 
Typical Applications: 107° incline top of structures, corner.

**J-38A**

Colors: Gray, Ivory. 
Used With: ø28 pipe. 
Typical Applications: Temporary locating slip clip for shelves. 
Note: Adhesive can be used for permanent attachment.

**J-42**

Colors: Gray, Ivory. 
Typical Applications: 73° incline top of structures, support. 
Note: For light applications only.

**J-43**

Colors: Gray. 
Used With: Two ø28 pipes. 
Typical Applications: Special angle support intersection. 
Note: For light applications only.

**J-46**

Colors: Gray, Ivory, Marine Blue. 
Used With: ø28 pipe, shelf or table top materials. 
Typical Applications: Attach tops (plywood) with screws. 
Note: Top is removable if no adhesive is used.

**J-47**

Colors: Gray, Ivory. 
Typical Applications: Structural bracing and reinforcement.

**J-49**

Colors: Gray, Ivory, Marine Blue. 
Used With: ø28 pipe. 
Typical Applications: Cap for pipe ends, foot of structure.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**Color Codes:**
- Gray
- Ivory

**J-49D**
- **Colors:** Gray, Ivory.
- **Used With:** ø28 pipe and TX-0015 rubber cap.
- **Typical Applications:** Foot of structure.

**J-53A**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes at 110mm distance.
- **Typical Applications:** Connect two parallel pipes for stability.

**J-57A**
- **Colors:** Gray.
- **Used With:** Three ø28 pipes.
- **Typical Applications:** Intersection of three pipes, one crossing.

**J-57B**
- **Colors:** Gray.
- **Used With:** Two ø28 pipes.
- **Typical Applications:** Intersection of two crossing pipes.
- **Note:** Higher strength than J-13A, B, or C.

**J-59A**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes for T-intersection, one crossing.
- **Typical Applications:** Additions or modifications to existing structures.

**J-59C**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes for T-intersection, one crossing.
- **Typical Applications:** Additions or modifications to existing structures.

**J-59D**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes for T-intersection, one crossing.
- **Typical Applications:** Additions or modifications to existing structures.

**J-59F**
- **Colors:** Gray, Ivory.
- **Used With:** Double ø28 pipe (HPA-, HPB-) H-, T-intersections.
- **Typical Applications:** Stand for gravity roller conveyor.
Plastic joints for connecting \( \varnothing 28 \) mm pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**J-66A**

**Colors:** Gray, Ivory.

**Used With:** Three \( \varnothing 28 \) pipes for outer intersection.

**Typical Applications:** Additions or modifications of existing structures.

**J-66B**

**Colors:** Gray, Ivory.

**Used With:** Three \( \varnothing 28 \) pipes for outer intersection.

**Typical Applications:** Additions or modifications of existing structures.

**J-68**

**Colors:** Gray, Ivory.

**Used With:** Two \( \varnothing 28 \) pipes at 60° intersection, one crossing.

**Typical Applications:** Reinforcement bracing of structure.

**Note:** Use with J-69.

**J-69**

**Colors:** Gray, Ivory.

**Used With:** Two \( \varnothing 28 \) pipes at 30° intersection, one crossing.

**Typical Applications:** Reinforcement bracing of structure.

**Note:** Use with J-68.

**J-71**

**Colors:** Gray, Ivory.

**Used With:** Two \( \varnothing 28 \) pipe for end of crossing intersection.

**Typical Applications:** Reinforcement for cart base.

**J-82B**

**Colors:** Gray, Ivory.

**Used With:** \( \varnothing 28 \) pipe, EF-1253 Series Channel.

**Typical Applications:** Attach shelf rail on two sides of pipe.

**J-82C**

**Colors:** Gray, Ivory.

**Used With:** \( \varnothing 28 \) pipe. EF-1253 Series Channel.

**Typical Applications:** Attach shelf rail on one side of pipe.

**J-96**

**Colors:** Gray.

**Used With:** Three \( \varnothing 28 \) pipes for outer intersection.

**Typical Applications:** Additions or modifications of existing structures.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**J-97**
Colors: Gray.
Used With: Three ø28 pipes.
Typical Applications: Corner base for stacking Creform structures.

**J-98**
Colors: Light Blue (polyethylene).
Used With: Intersection of ø28 pipe, J-49.
Typical Applications: Stacking light weight Creform structures.

**J-99A**
Colors: Gray, Ivory.
Used With: ø28 pipe.
Typical Applications: Simple separation of components such as shelves.

**J-99B**
Colors: Gray, Ivory.
Used With: ø28 pipe.
Typical Applications: Simple separation of components such as shelves.

**J-99C**
Colors: Gray, Ivory.
Used With: ø28 pipe.
Typical Applications: Simple separation of components such as shelves.

**J-100R, L**
Colors: Gray, Ivory.
Used With: Two ø28 pipes and mirror part.
Typical Applications: Both left and right form push cart handle.

**J-103**
Colors: Gray, Ivory, Marine Blue.
Used With: ø28 pipe. adhesive, and screws.
Typical Applications: Attach shelf or table top to pipe.

**J-104**
Colors: Gray, Ivory.
Used With: Three ø28 pipes for outer intersection.
Typical Applications: Additions or modifications of existing structures.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

### J-105R, L

### J-105W
Colors: Black. Used With: Seven ø28 pipes, TM6-25 (6), M6-P(6). Typical Applications: Caster attachment, double base cart. Note: Tighten bolts and nuts to 100kg-cm (7-1/4 ft-lb) torque. Works with J-7W. No adhesive required.

### J-106

### J-108

### J-110

### J-110A

### J-112A
Colors: Gray, Ivory. Used With: Two ø28 pipes and plastic joint, shelf materials. Typical Applications: Bracket for attaching panel or board to structure interior. Note: For an intersection of two pipes.

### J-112B
Plastic joints for connecting Ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**J-120B**

Colors: Gray, Ivory.
Used With: Three ø28 pipes.
Typical Applications: Intermediate intersection of structure.
Note: 34mm axis is through fit.

**J-121A**

Colors: Gray, Ivory.
Used With: Five ø28 pipes.
Typical Applications: Outer intersection of structure.

**J-121B**

Colors: Gray, Ivory.
Used With: Five ø28 pipes.
Typical Applications: Intermediate intersection of structure.
Note: 34mm axis is through fit.

**J-122**

Colors: Gray.
Used With: Three ø28 pipes.
Typical Applications: Connect one crossing pipe to two parallel pipes for stability.

**J-123**

Colors: Gray, Ivory.
Used With: Two ø28 pipes.
Typical Applications: T-intersection with 15.5mm offset for cart shelves.

**J-124A**

Colors: Gray, Ivory.
Used With: Three ø28 pipes forming 45º corner angle.
Typical Applications: Angular corner.

**J-124B**

Colors: Gray, Ivory.
Used With: Three ø28 pipes forming 45º interior angle.
Typical Applications: Angular intersection.

**J-125A**

Colors: Gray, Ivory.
Used With: Four ø28 pipes.
Typical Applications: Intermediate T-intersection of structure.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**J-125B**
- **Colors:** Gray, Ivory.
- **Used With:** Four ø28 pipes.
- **Typical Applications:** Intermediate intersection of structure.
- **Note:** 34mm axis is through fit.

**J-131S**
- **Colors:** Gray, Ivory.
- **Used With:** ø28 pipe, screw.
- **Typical Applications:** Location for rotating area such as safety shelf door.
- **Note:** Use with HJ-8, HJ-10, for example.

**J-138**
- **Colors:** Gray, Ivory.
- **Used With:** Three ø28 pipes, J-21, J-22A(B), J-33, J-42, J-47.
- **Typical Applications:** 107° intermediate intersection of structure.
- **Note:** Horizontal axis is through fit.

**J-140**
- **Colors:** Gray (ASA), White (PEM).
- **Used With:** ø28 pipes, HJ-8, HJ-10.
- **Typical Applications:** Rotation and fixed side of hinge.
- **Note:** Gray secured with adhesive, white PEM loose.

**J-143**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes and plastic joint, J-5, J-118 for example.
- **Typical Applications:** 90° corner brace for structures.

**J-145**
- **Colors:** Gray, Ivory.
- **Used With:** J-series of joints.
- **Typical Applications:** Plug unused openings of plastic joint.

**J-147**
- **Colors:** Gray, Ivory.
- **Used With:** Two parallel ø28 pipes.
- **Typical Applications:** Bond or slip fit for rotation as a hinge for folding table.

**J-150**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes.
- **Typical Applications:** End crossing intersection such as a cart base.
- **Note:** Added strength over J-71.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**J-159**
- **Colors:** Black.
- **Used With:** Intersection into ø28 pipe.
- **Typical Applications:** Handle base of flat cart.
- **Note:** For pipe end reinforcement. No adhesive required.

**J-166**
- **Colors:** Black, Ivory.
- **Used With:** ø28 pipe, wiring or electrical cords.
- **Typical Applications:** Routing & securing wiring to pipe for lights on workstations.
- **Note:** No adhesive required.

**J-170**
- **Colors:** Black.
- **Used With:** ø28 pipe and metal or plastic joints.
- **Typical Applications:** Used with joints to taper edge.
- **Note:** Adhesive can be used for permanent attachment.

**JF1-118B**
- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes (standard and flat).
- **Typical Applications:** T-intersection to support shelf, display labels on flow rack.
- **Note:** Alternative to MF1-1.

**J G-011A**
- **Colors:** Gray, Ivory.
- **Used With:** Three ø28 pipes.
- **Typical Applications:** Corner guard for carts, bin stand, workstations.
- **Note:** Bottom pipe inserts 28mm.

**J G-013-EBL**
- **Colors:** Black (ESD).
- **Used With:** ø28 pipe and J G-15B.
- **Typical Applications:** Support base for roller conveyors.

**J G-013W-EBL**
- **Colors:** Black (ESD).
- **Used With:** ø28 pipe and J G-15B.
- **Typical Applications:** Dual support base for parallel line roller conveyors.

**J G-015B-EBL**
- **Colors:** Black (ESD).
- **Used With:** J B-160 and J G-13 or J G-13W.
- **Typical Applications:** Shaft for gravity roller conveyors.
- **Note:** Fits into J G-13 or J G-13W and is removable.
Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**Colors:** Gray, Ivory.
**Used With:** One ø28 pipe, one ø32 joint.
**Typical Applications:** Splice ends of two different size pipes.

**Colors:** Gray, Ivory, Marine Blue.
**Used With:** One ø32 pipe (glued), one ø28 pipe (slip fit).
**Typical Applications:** Length adjustment area such as height adjustable table or adjustable width flow racks.

**Telescoping Width Flow Rack.**
**Adjustable without tools.**

The beam pipes of telescoping flow racks feature both 28 and 32mm pipe. Creform offers conveyor mounts to interface with both diameters. See the available EF-mounts for 28mm pipes on page E-6. Please ask your sales representative for information about EB-mounts for 32mm pipe. Those currently available include:

- EB-2044C
- EB-2044D
- EB-2044F
- EB-2044J
CREFORM
PLASTIC JOINTS Ø32MM

Plastic joints for connecting Ø32 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**JB-4**
- **Colors:** Gray.
- **Used With:** Three Ø32 pipes.
- **Typical Applications:** Corner intersection of work station.

**JB-5**
- **Colors:** Gray.
- **Used With:** Two Ø32 pipes.
- **Typical Applications:** Handle area of carts, work stations.

**JB-6B**
- **Colors:** Gray.
- **Used With:** Three Ø32 pipes.
- **Typical Applications:** Intermediate areas of work stations.
- **Note:** One axis is through fit.

**JB-7B**
- **Colors:** Gray.
- **Used With:** Two Ø32 pipes.
- **Typical Applications:** Intermediate areas of work stations.
- **Note:** 120mm axis is through fit.

**JB-12B**
- **Colors:** Gray.
- **Used With:** Three Ø32 pipes.
- **Typical Applications:** Exterior areas of work stations.
- **Note:** 120mm axis is through fit.

**JB-13B**
- **Colors:** Gray.
- **Used With:** Two Ø32 crossing pipes.
- **Typical Applications:** Reinforcement intersection of work stations.

**JB-15B**
- **Colors:** Gray.
- **Used With:** Four Ø32 pipes.
- **Typical Applications:** Intermediate area of work stations.
- **Note:** One 120mm axis is through fit.

**JB-23B**
- **Colors:** Gray.
- **Used With:** Two Ø32 pipes.
- **Typical Applications:** Intermediate junction of two pipes to adjust height, level surfaces.
Plastic joints for connecting ø32 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.

**JB-26**
- **Colors:** Gray.
- **Used With:** Two ø32 pipes at 45º angle.
- **Typical Applications:** Brace reinforcement for shelves, work station.

**JB-49**
- **Colors:** Gray.
- **Used With:** ø32 pipe.
- **Typical Applications:** End cap for legs of work station, shelf.

**JB-71**
- **Colors:** Gray.
- **Used With:** Two ø32 pipes form crossing T-intersection.
- **Typical Applications:** Exterior reinforcement for shelves, work stations.

**JB-110**
- **Colors:** Black.
- **Used With:** ø32 pipe.
- **Typical Applications:** Insert to plug exposed ends of pipe.
- **Note:** No adhesive required.

**JB-118B**
- **Colors:** Gray.
- **Used With:** Two ø32 pipes.
- **Typical Applications:** Intermediate T-intersection for work stations, shelves.

**JB-38A**
- **Colors:** Gray.
- **Used With:** ø32 pipe.
- **Typical Applications:** Temporary or permanent location mark for leveling or adjusting shelves.

**JB-59C**
- **Colors:** Gray.
- **Used With:** Two ø32 pipes form crossing T-intersection.
- **Typical Applications:** Adding or modifying existing structure, additional reinforcement.

**JB-160-EBL**
- **Colors:** Black (ESD).
- **Used With:** ø32 HBG- or HBGA- pipe and JG-15B EBL.
- **Typical Applications:** Bearing areas of gravity conveyors.
- **Note:** Insert by tapping in with a hammer or mallet. No adhesive required.
<table>
<thead>
<tr>
<th>Part Number Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIRE DUCT</td>
<td>E-4</td>
</tr>
<tr>
<td>WIRE DUCT</td>
<td>E-4</td>
</tr>
<tr>
<td>PIPE REDUCER, 80 MM</td>
<td>E-17</td>
</tr>
<tr>
<td>PIPE REDUCER, 114 MM</td>
<td>E-17</td>
</tr>
<tr>
<td>FLAT HINGE SET W/BUSHING</td>
<td>E-12</td>
</tr>
<tr>
<td>CASTER STRAP, UPPER, 70 MM</td>
<td>E-2</td>
</tr>
<tr>
<td>CASTER STRAP, UPPER, 82 MM</td>
<td>E-2</td>
</tr>
<tr>
<td>CASTER STRAP, LOWER, 70 MM</td>
<td>E-2</td>
</tr>
<tr>
<td>CASTER SUPPORT PLATE, 70 MM</td>
<td>E-2</td>
</tr>
<tr>
<td>CASTER SUPPORT PLATE, LOWER, 82 MM</td>
<td>E-2</td>
</tr>
<tr>
<td>CASTER SUPPORT PLATE, 82 MM</td>
<td>E-2</td>
</tr>
<tr>
<td>METAL PIPE CONNECTOR, 65 MM</td>
<td>E-17</td>
</tr>
<tr>
<td>CONNECTOR, 90 MM</td>
<td>E-17</td>
</tr>
<tr>
<td>TEMPORARY PIPE UNION</td>
<td>E-17</td>
</tr>
<tr>
<td>PIPE CLAMP, SINGLE MOUNT</td>
<td>E-14</td>
</tr>
<tr>
<td>PIPE REST, LOWER GATE</td>
<td>E-17</td>
</tr>
<tr>
<td>PIPE REST, UPPER GATE</td>
<td>E-17</td>
</tr>
<tr>
<td>PIPE REST, 20 MM</td>
<td>E-17</td>
</tr>
<tr>
<td>PIPE REST, 40 MM</td>
<td>E-17</td>
</tr>
<tr>
<td>PIPE REST, 60 MM</td>
<td>E-19</td>
</tr>
<tr>
<td>HANGER, PARALLEL HOOK</td>
<td>E-18</td>
</tr>
<tr>
<td>HANGER, PERPENDICULAR HOOK</td>
<td>E-18</td>
</tr>
<tr>
<td>SLEEVE HANGER, C-TYPE</td>
<td>E-18</td>
</tr>
<tr>
<td>SLEEVE HANGER, U-TYPE</td>
<td>E-18</td>
</tr>
<tr>
<td>HANGER END CAP</td>
<td>E-18</td>
</tr>
<tr>
<td>METAL GUARD SLEEVE, U-TYPE</td>
<td>E-18</td>
</tr>
<tr>
<td>FOCKET</td>
<td>E-18</td>
</tr>
<tr>
<td>DOUBLE BASE CORNER SLEEVE</td>
<td>E-19</td>
</tr>
<tr>
<td>END CAP WITH RING</td>
<td>E-19</td>
</tr>
<tr>
<td>CORNER SUPPORT PLATE, LEFT</td>
<td>E-2</td>
</tr>
<tr>
<td>CORNER SUPPORT PLATE, RIGHT</td>
<td>E-2</td>
</tr>
<tr>
<td>CORNER SUPPORT PLATE, LEFT</td>
<td>E-2</td>
</tr>
<tr>
<td>CORNER SUPPORT PLATE, RIGHT</td>
<td>E-2</td>
</tr>
<tr>
<td>EXTENDED ADJUSTER FOOT</td>
<td>E-10</td>
</tr>
<tr>
<td>ADJUSTER FOOT</td>
<td>E-10</td>
</tr>
<tr>
<td>RUBBER END PLUG</td>
<td>E-10</td>
</tr>
<tr>
<td>PLASTIC PIPE CAP, METAL CLAD</td>
<td>E-11</td>
</tr>
<tr>
<td>PLASTIC PIPE CAP, RUBBER CLAD</td>
<td>E-11</td>
</tr>
<tr>
<td>METAL END PLUG, ESD</td>
<td>E-19</td>
</tr>
<tr>
<td>STACKING BRACKET, ROUND</td>
<td>E-11</td>
</tr>
<tr>
<td>STACKING BRACKET, SQUARE</td>
<td>E-11</td>
</tr>
<tr>
<td>STANCHION MOUNT, SINGLE PIPE</td>
<td>E-11</td>
</tr>
<tr>
<td>STANCHION MOUNT, TWO PIPES</td>
<td>E-11</td>
</tr>
<tr>
<td>HEIGHT ADJUSTER FOOT, FULL BASE</td>
<td>E-12</td>
</tr>
<tr>
<td>HEIGHT ADJUSTER FOOT, FLUSH</td>
<td>E-12</td>
</tr>
<tr>
<td>THREADED METAL INSERT</td>
<td>E-12</td>
</tr>
<tr>
<td>GROUNDING CAP</td>
<td>E-19</td>
</tr>
<tr>
<td>SNAP REST</td>
<td>E-19</td>
</tr>
<tr>
<td>SNAP RETAINER CLIP</td>
<td>E-19</td>
</tr>
<tr>
<td>PIPE DOUBLER</td>
<td>E-3</td>
</tr>
<tr>
<td>PIPE COVER</td>
<td>E-3</td>
</tr>
<tr>
<td>PIPE FACING, SMALL</td>
<td>E-3</td>
</tr>
<tr>
<td>PIPE FACING, LARGE</td>
<td>E-3</td>
</tr>
<tr>
<td>L-CHANNEL, 20 MM</td>
<td>E-3</td>
</tr>
<tr>
<td>L-CHANNEL, 40 MM</td>
<td>E-3</td>
</tr>
<tr>
<td>L-CHANNEL, 47 MM</td>
<td>E-3</td>
</tr>
<tr>
<td>L-CHANNEL, 50 MM</td>
<td>E-4</td>
</tr>
<tr>
<td>L-CHANNEL, 90 MM</td>
<td>E-4</td>
</tr>
<tr>
<td>T-CHANNEL, 20 MM</td>
<td>E-4</td>
</tr>
<tr>
<td>T-CHANNEL, 30 MM</td>
<td>E-4</td>
</tr>
<tr>
<td>U-CHANNEL, 20 MM</td>
<td>E-4</td>
</tr>
<tr>
<td>C-CHANNEL, 10 MM</td>
<td>E-4</td>
</tr>
<tr>
<td>SLEEVE HINGE</td>
<td>E-12</td>
</tr>
<tr>
<td>CORNER BOLT</td>
<td>E-19</td>
</tr>
<tr>
<td>QUICK RELEASE HITCH SET</td>
<td>E-13</td>
</tr>
<tr>
<td>SEPARATOR CLAMP</td>
<td>E-19</td>
</tr>
<tr>
<td>QUICK RELEASE GATE STRAP</td>
<td>E-19</td>
</tr>
<tr>
<td>METAL SLEEVE GUARD, 204 MM</td>
<td>E-20</td>
</tr>
<tr>
<td>MAGNETIC CATCH</td>
<td>E-20</td>
</tr>
<tr>
<td>MAGNETIC CATCH</td>
<td>E-20</td>
</tr>
<tr>
<td>PARALLEL PIPE STRAP</td>
<td>E-20</td>
</tr>
<tr>
<td>SHELF LOCK MOUNT SET, LEFT</td>
<td>E-20</td>
</tr>
<tr>
<td>SHELF LOCK MOUNT SET, RIGHT</td>
<td>E-20</td>
</tr>
<tr>
<td>RACK LABEL HANGER, 260 MM</td>
<td>E-14</td>
</tr>
<tr>
<td>RACK LABEL HANGER, 150 MM</td>
<td>E-14</td>
</tr>
<tr>
<td>RACK LABEL HANGER, 260 MM</td>
<td>E-14</td>
</tr>
<tr>
<td>PIPE CLAMP, WITHOUT BLADE</td>
<td>E-15</td>
</tr>
<tr>
<td>HITCH SET, 530 MM TONGUE</td>
<td>E-13</td>
</tr>
<tr>
<td>HITCH SET, 630 MM TONGUE</td>
<td>E-13</td>
</tr>
<tr>
<td>HITCH SET, 830 MM TONGUE</td>
<td>E-13</td>
</tr>
<tr>
<td>TIE BAR, 1220 MM BASE LENGTH</td>
<td>E-13</td>
</tr>
<tr>
<td>CONVEYOR, 34 MM PLASTIC WHEEL</td>
<td>E-5</td>
</tr>
<tr>
<td>CONVEYOR MOUNT</td>
<td>E-6</td>
</tr>
<tr>
<td>CONVEYOR MOUNT, STOP</td>
<td>E-6</td>
</tr>
<tr>
<td>CONVEYOR MOUNT, LARGE STOP</td>
<td>E-6</td>
</tr>
<tr>
<td>CONVEYOR UNION</td>
<td>E-6</td>
</tr>
<tr>
<td>CONVEYOR SUPPORT</td>
<td>E-6</td>
</tr>
<tr>
<td>CONVEYOR SLIDE PIPE UNION</td>
<td>E-6</td>
</tr>
<tr>
<td>CONVEYOR MOUNT, UNION FLEX</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR TRACK CONNECTOR</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR TRACK STABILIZER</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR, 44 MM PLASTIC WHEEL</td>
<td>E-5</td>
</tr>
<tr>
<td>CONVEYOR MOUNT W/STOP</td>
<td>E-6</td>
</tr>
<tr>
<td>CONVEYOR MOUNT W/EXTENDED STOP</td>
<td>E-6</td>
</tr>
<tr>
<td>CONVEYOR, ALUMINUM RAIL</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR WHEEL, 34 MM</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR WHEEL, 44 MM</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR, FLANGED WHEEL</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR, NARROW WHEEL</td>
<td>E-5</td>
</tr>
<tr>
<td>CONVEYOR WHEEL, NARROW</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR SLIDE CARRIER, 42 MM</td>
<td>E-8</td>
</tr>
<tr>
<td>CONVEYOR SLIDE CARRIER,50 MM</td>
<td>E-8</td>
</tr>
<tr>
<td>CONVEYOR END CLIP, BLACK</td>
<td>E-7</td>
</tr>
<tr>
<td>CONVEYOR AXLE</td>
<td>E-8</td>
</tr>
<tr>
<td>SLIDE PIPE UNION</td>
<td>E-15</td>
</tr>
<tr>
<td>SLIDE PIPE CROSSOVER MOUNT</td>
<td>E-15</td>
</tr>
<tr>
<td>SLIDE PIPE MOUNT</td>
<td>E-16</td>
</tr>
<tr>
<td>SLIDE PIPE MOUNT W/STOP</td>
<td>E-16</td>
</tr>
<tr>
<td>SLIDE PIPE MOUNT, LARGE STOP</td>
<td>E-16</td>
</tr>
<tr>
<td>SLIDE PIPE MOUNT</td>
<td>E-16</td>
</tr>
<tr>
<td>SLIDE PIPE MOUNT W/STOP</td>
<td>E-16</td>
</tr>
<tr>
<td>SLIDE PIPE MOUNT, FLUSH MT W/STOP</td>
<td>E-16</td>
</tr>
<tr>
<td>SLIDE PIPE MOUNT, W/LARGE STOP</td>
<td>E-16</td>
</tr>
<tr>
<td>PARALLEL PIPE CLAMP</td>
<td>E-20</td>
</tr>
<tr>
<td>CLEAR LABEL HOLDER, 180 MM</td>
<td>E-14</td>
</tr>
<tr>
<td>ROTATING CROSS JOINT</td>
<td>E-20</td>
</tr>
</tbody>
</table>
CREFORM ACCESSORIES INDEX

Caster Hardware .................. E-2

Channel and Extrusions ........... E-3 thru 5

Conveyors ................. E-5 thru 8

Mini Conveyors ....... E-8 thru 10

Feet......................... E-10 thru 12

Hinges ......................... E-12 & 13

Hitches ......................... E-13

Label Holders ................. E-14

Pipe Clamps .......... E-14 & 15

Slide Pipe Mounts ..... E-15 & 16

Miscellaneous ...... E-16 thru 23
See bolt-on casters listed in Section F. Dimensions are in millimeters. See Technical Section H for caster installation instructions.

**EF-1000**
Upper Strap, for Plastic

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipes, M8 Hex Bolt, Caster, Hitch.
- **Typical Applications:** Attach casters to tables, racks, & carts assembled with plastic joints.

**EF-1000B**
Lower Strap, for Plastic

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipes, M8 Hex Bolt, EF-1000, Caster, Hitch.
- **Typical Applications:** Attach casters to tables, racks, & carts assembled with plastic joints.

**EF-1000A**
Upper Strap, for Metal

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipes, M8 Hex Bolt, Caster, Hitch.
- **Typical Applications:** Attach casters to tables, racks, & carts assembled with metal joints.

**EF-1000F**
Lower Strap, for Metal

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipes, M8 Hex Bolt, EF-1000A, Caster, Hitch.
- **Typical Applications:** Attach casters to tables, racks, & carts assembled with metal joints.

**EF-1002C**
Support Plate, for Plastic

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipes, M8 Hex Bolts (2), EF-1000 (2), Caster,
- **Typical Applications:** Attach casters to tables, racks, & carts assembled with plastic joints.

**EF-1002G**
Support Plate, for Metal

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipes, M8 Hex Bolts (2), EF-1000A (2), Caster,
- **Typical Applications:** Attach casters to tables, racks, & carts assembled with metal joints.

**EF-1028SR/L**
Corner Plate, Small Right

- **Surface Treatment:** Plated. **Used With:** ø28 pipes, J-105R/L, M8-40 Hex Bolts (2), EF-1000 (2). **Typical Applications:** Provides added strength for casters attached to carts assembled with plastic joints. **Note:** M6-15 Hex Bolt included.

**EF-1028LR/L**
Corner Plate, Large Right

- **Surface Treatment:** Plated. **Used With:** ø28 pipes, J-105R/L, M8-40 Hex Bolts (2), EF-1000 (2). **Typical Applications:** For attaching 200 Series casters to carts assembled with plastic joints. **Note:** M6-15 Hex Bolt included.
Dimensions are in millimeters.
When ordering, specify color code, see page B-1.

**EF-1251**
Pipe Doubler

- **Colors:** Gray, Ivory.
- **Used With:** Two ø28 pipes, Creform adhesive.
- **Typical Applications:** Join two pipes for increased strength for flow racks, shelves.

**EF-1252A**
Pipe Cover

- **Colors:** Ivory.
- **Used With:** ø28 pipe, Creform adhesive.
- **Typical Applications:** Increases pipe O.D. to equal joint dia. for smooth flow rack surface.

**EF-1252B**
Pipe Facing, Small

- **Colors:** Ivory.
- **Used With:** ø28 pipe, Creform adhesive.
- **Typical Applications:** Provide flat shelf surface without a step at joint.

**EF-1252C**
Pipe Facing, Large

- **Colors:** Light Gray.
- **Used With:** ø28 pipe, Creform adhesive.
- **Typical Applications:** Flat surface of shelf, rack to attach identification labels.

**EF-1253**
L-Channel Rail, 20mm

- **Colors:** Light Gray.
- **Used With:** J-82B or J-82C.
- **Typical Applications:** Rail for drawer or product shelf.

**EF-1253A**
L-Channel Rail, 30mm

- **Colors:** Light Gray.
- **Used With:** J-82B or J-82C.
- **Typical Applications:** Rail for drawer or product shelf.

**EF-1253B**
L-Channel Rail, 40mm

- **Colors:** Light Gray.
- **Used With:** J-82B or J-82C.
- **Typical Applications:** Rail for drawer or product shelf.

**EF-1253C**
L-Channel Rail, 47mm

- **Colors:** Light Gray.
- **Used With:** J-82B or J-82C.
- **Typical Applications:** Rail for drawer or product shelf.
CREFORM ACCESSORIES
CHANNEL & EXTRUSIONS

Dimensions are in millimeters.
When ordering, specify color code, see page B-1.

**EF-1253D**
L-Channel Rail, 60mm

Colors: Light Gray.
Used With: J-82B or J-82C.
Typical Applications: Rail for drawer or product shelf.

**EF-1253E**
L-Channel Rail, 90mm

Colors: Light Gray.
Used With: J-82B or J-82C.
Typical Applications: Rail for drawer or product shelf.

**EF-1253F**
T-Channel Rail, 20mm

Colors: Light Gray.
Used With: J-82B or J-82C.
Typical Applications: Rail for drawer or product shelf of continuous part storage.

**EF-1253G**
T-Channel Rail, 30mm

Colors: Light Gray.
Used With: J-82B or J-82C.
Typical Applications: Rail for drawer or product shelf of continuous part storage.

**EF-1253H**
U-Channel Rail, 20mm

Colors: Light Gray.
Used With: J-82B or J-82C.
Typical Applications: Flat part separator for carts, shelves.

**EF-1253J**
C-Channel Rail, 10mm

Colors: Light Gray.
Used With: J-82B or J-82C.
Typical Applications: Flat part separator for carts, shelves.

**DA1-S**
Wire Duct

Colors: Light Gray, Ivory.
Used With: ø28 pipe, Creform adhesive.
Typical Applications: Wire duct along pipe.

**DA2-S**
Wire Duct

Colors: Light Gray, Ivory.
Used With: ø28 pipe, Creform adhesive.
Typical Applications: Wire duct along pipe.
**CREFORM ACCESSORIES**

**CHANNEL & EXTRUSIONS**

Dimensions are in millimeters.
When ordering, specify color code, see page B-1.

---

**DB1-S**

**Wire Duct**

Colors: Light Gray, Ivory.
Used With: ø28 pipe, Creform adhesive.
Typical Applications: Wire duct along pipe.

---

**CREFORM ACCESSORIES**

**CONVEYORS**

Dimensions are in millimeters.
See Technical Section H for conveyor data.

---

**EF-2044**

**Conveyor, Plastic Wheel ø34mm**

Construction: Aluminum, plastic, & stainless steel axles.
Used With: ø28 pipe, various mounts.
Typical Applications: For flow racks and gravity conveyors.

---

**EF-2045**

**Conveyor, Plastic Wheel ø44mm**

Construction: Aluminum, plastic, & stainless steel axles.
Used With: ø28 pipe, various mounts.
Typical Applications: For flow racks and gravity conveyors.
Notes: Provides higher clearance than EF-2044.

---

**EF-2047D**

**Conveyor, Narrow Wheel ø44mm**

Construction: Aluminum, plastic, & stainless steel axles.
Used With: ø28 pipe, various mounts.
Typical Applications: Gravity flow applications for boxes with guidance grooves molded in bottom.

---

**EF-2047F**

**Conveyor, Flanged Wheel ø34mm**

Construction: Aluminum, plastic, & stainless steel axles.
Used With: ø28 pipe, various mounts.
Typical Applications: Gravity flow applications where side guidance is required.
## Creform Accessories Conveyors

Dimensions are in millimeters.
See Technical Section H for conveyor data.

### EF-2044C
**Conveyor Track Mount**

| Dimension | 38.7 | 60 | 2.3 | 28 | 43.4 |

**Surface Treatment:** Plated.
**Used With:** ø28 pipe, EF-2044, EF-2045, EF-2047D, EF-2047F.
**Typical Applications:** End mounting of conveyor rail for gravity conveyors, flow racks.

### EF-2044D
**Conveyor Track Mt. w/Stop**

| Dimension | 38.7 | 60 | 2.3 | 28 | 43.4 |

**Surface Treatment:** Plated.
**Used With:** ø28 pipe, EF-2044, EF-2045, EF-2047D, EF-2047F.
**Typical Applications:** End mount of conveyor rail with blade stop for flow racks, conveyors. **Note:** See also EF-2045D.

### EF-2045D
**Conveyor Track Mt. w/High Stop**

| Dimension | 38.7 | 60 | 2.3 | 28 | 43.4 |

**Surface Treatment:** Plated.
**Used With:** EF-2044, EF-2045, EF-2047D, EF-2047F.
**Typical Applications:** Blade stop for flow racks, conveyors.
**Note:** Stop is 12mm higher than EF-2044D.

### EF-2044DW
**Conveyor Track Mt. w/High Stop**

| Dimension | 38.7 | 60 | 2.3 | 28 | 43.4 |

**Surface Treatment:** Plated.
**Used With:** ø28 pipe, EF-2044, EF-2045, EF-2047D, EF-2047F.
**Typical Applications:** End mount of conveyor rail to double pipes for flow racks, conveyors. **Note:** See also EF-2045DW.

### EF-2044E
**Conveyor Track Union**

| Dimension | 60 | 2.3 | 30 | 60 | 43.4 |

**Surface Treatment:** Plated.
**Used With:** ø28 pipe, EF-2044, EF-2045, EF-2047D, EF-2047F.
**Typical Applications:** Drop stop for flow racks, conveyors.
**Note:** Stop is 12mm higher than EF-2044DW.

### EF-2044F
**Conveyor Track Stabilizer**

| Dimension | 43.4 | 60 | 35.5 | 28 |

**Surface Treatment:** Plated.
**Used With:** ø28 pipe, EF-2044, EF-2045, EF-2047D, EF-2047F.
**Typical Applications:** Intermediate mounting of conveyor rail for gravity conveyors, flow racks.

### EF-2044H
**Conveyor/Slide Pipe Union**

| Dimension | 43.4 | 39.9 | 60 | 1.2 | 38 | 1.2 | 50 |

**Surface Treatment:** Plated.
**Used With:** ø28 pipe, slide pipe (HK-), EF-2044, EF-2045, EF-2047D, EF-2047F.
**Typical Applications:** Transition from conveyor to slide pipe for flow racks, conveyors.
**Dimensions are in millimeters.**
See Technical Section H for conveyor data.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Material</th>
<th>Used With</th>
<th>Typical Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF-2044J</td>
<td>Conveyor Track Union, Flex</td>
<td>Plated.</td>
<td>ø28 pipe, EF-2044, EF-2045, EF-2047D, EF-2047F</td>
<td>Adjusting the angle of conveyor at a pipe intersection.</td>
</tr>
<tr>
<td>EF-2044M</td>
<td>Conveyor Track Connector</td>
<td>Plated.</td>
<td>EF-2044, EF-2045, EF-2047D, EF-2047F</td>
<td>Connect runs of conveyor rails.</td>
</tr>
<tr>
<td>EF-2044P</td>
<td>conveyor stabilizer</td>
<td>Plated.</td>
<td>EF-2044, EF-2045, EF-2047D, EF-2047F</td>
<td>Mount for conveyor rail at off loading areas of flow racks, conveyors.</td>
</tr>
<tr>
<td>EF-2046</td>
<td>conveyor track</td>
<td>Aluminum.</td>
<td>EF-2047 A/B, CF, DN, EF-2048A/B/P, EF-2049</td>
<td>Plastic wheel conveyors EF-2044, EF-2045. Note: 2500, 3000, &amp; 4000mm lengths available.</td>
</tr>
<tr>
<td>EF-2047A, B</td>
<td>Conveyor Wheel, Ø34 &amp; Ø44</td>
<td>Plastic, Black</td>
<td>(A) EF-2046, EF-2048A, EF-2049; (B) EF-2046, EF-2048B, EF-2049.</td>
<td>Plastic wheel conveyors EF-2044 (A) or EF-2045 (B).</td>
</tr>
<tr>
<td>EF-2047CF</td>
<td>Conveyor Wheel, Flanged</td>
<td>Plastic, Black</td>
<td>EF-2047, EF-2049, EF-2048B.</td>
<td>Flanged conveyor wheel where side guidance is required.</td>
</tr>
<tr>
<td>EF-2047DN</td>
<td>Conveyor Wheel, Narrow</td>
<td>Plastic, Black</td>
<td>EF-2047, EF-2049, EF-2048B.</td>
<td>Narrow conveyor wheel for boxes with guidance grooves molded in bottom.</td>
</tr>
</tbody>
</table>
CREFORM ACCESSORIES
CONVEYORS

Dimensions are in millimeters.
See Technical Section H for conveyor data.

**EF-2048A, B**
**Slide, ø34 (A) & ø44 (B)**

Material: Plastic, Black.
Used With: (A) EF-2046, EF-2047A, EF-2049; (B) EF-2046, EF-2047B, EF-2049.
Typical Applications: Plastic wheel conveyors EF-2044, EF-2045, EF-2047D & EF-2047F.

**EF-2049**
**Conveyor Wheel Axle**

Material: Stainless Steel.
Used With: EF-2046, EF-2047 A/B, EF-2048 A/B.
Typical Applications: Stainless steel axle for conveyor wheels.

CREFORM ACCESSORIES
MINI CONVEYORS

Dimensions are in millimeters.
See Technical Section H for conveyor data.

**EF-6045**
**Mini Conveyor, Plastic Wheel ø28mm**

Construction: Aluminum, plastic, & stainless steel axles.
Used With: ø28 pipe, EF-6045 conveyor mounts.
Typical Applications: Gravity flow applications.
Note: Smaller version of EF-2044.

**EF-6045C, NI**
**Mini Conveyor, Track Mount**

Surface Treatment: Plated, NI conductive plated.
Used With: ø28 pipe and mini conveyor components.
Typical Applications: End mounting of conveyor rail for gravity conveyors, flow racks.

**EF-6045D, NI**
**Mini Conveyor, Track Mount w/Stop**

Surface Treatment: Plated, NI conductive plated.
Used With: ø28 pipe and mini conveyor components.
Typical Applications: Blade stop for flow racks, conveyor.
Mini Conveyor, Track Mt.

Surface Treatment: Plated, NI conductive plated.
Used With: \(\varnothing28\) pipe and mini conveyor components.
Typical Applications: Drop stop for flow racks, conveyors.

Mini Track Stabilizer

Surface Treatment: Plated, NI conductive plated.
Used With: \(\varnothing28\) pipe and mini conveyor components.
Typical Applications: Intermediate mounting of conveyor rail for gravity conveyors, flow racks.

Mini Conveyor Track

Material: Aluminum.
Typical Applications: Plastic wheel conveyor EF-6045.
Note: 2500 \& 4000 length available.

Mini ESDF Conveyor Track

Material: Aluminum.
Used With: EF-6047A ESD, EF-6048A ESD \& EF-6049.
Typical Applications: ESD plastic wheel conveyor EF-6045 ESD.
Note: 4000 length available.

Mini Conveyor Wheel

Material: Plastic, Black.
Used With: EF-6046, EF-6048A, EF-6049.
Typical Applications: Plastic wheel conveyors EF-6045.

Mini ESDF Conveyor Wheel

Material: ESD plastic, Black.
Used With: EF-6046 ESD, EF-6048A ESD, EF-6049.
Typical Applications: Plastic wheel conveyors EF-6045ESD.

Mini Slide

Material: Plastic, Black.
Typical Applications: Plastic wheel conveyors EF-6045.

Mini ESDF Slide

Material: ESD plastic, Black.
Used With: EF-6046 ESD, EF-6047A ESD, EF-6049.
Typical Applications: Plastic wheel conveyors requiring anti-static EF-6045ESD.

Dimensions are in millimeters.
See Technical Section H for conveyor data.
CREFORM ACCESSORIES

MINI CONVEYORS

Dimensions are in millimeters.
See Technical Section H for conveyor data.

EF-6049
Mini Conveyor Wheel Axle

Material: Stainless Steel.
Used With: EF-6046, EF-6047A, EF-6048A.
Typical Applications: Stainless steel axle for mini conveyor wheels and ESD conductive wheels.

CREFORM ACCESSORIES

FEET

Dimensions are in millimeters.
When ordering, specify color code, see page B-1.

EF-1200L
Extended Adjuster Foot

Colors: Body Gray or Ivory, Foot is Black.
Used With: ø28 pipe, adhesive.
Typical Applications: Max. height adjustment of 55mm for tables, flow racks. Note: Max. load 80kg.

EF-1200S
Adjuster Foot

Colors: Body Gray or Ivory, Foot is White.
Used With: ø28 pipe, adhesive.
Typical Applications: Provides 20mm max. height adjustment for flow racks, tables, stands. Note: Max. load 80kg.

EF-1201
Rubber End Plug

Colors: Black.
Used With: ø28 pipe.
Typical Applications: Bumper. Light duty foot.
Note: Use mallet to tap into pipe.

TX-0015
Rubber End Cap

Colors: Black. Used With: ø28 pipe.
Typical Applications: Structure feet provide floor protection.
Note: TX-0015 fits over J-49D or J-110A and pipe end.
**CREFORM ACCESSORIES FEET**

Dimensions are in millimeters.
When ordering, specify color code, see page B-1.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Dimensions</th>
<th>Colors</th>
<th>Used With</th>
<th>Typical Applications</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EF-1205</strong></td>
<td>Stacking Bracket, 70mm</td>
<td>Ø70 x 29 x 68</td>
<td>Plated.</td>
<td>Ø28 pipe.</td>
<td>Prevent slippage of stacking rack or shelf.</td>
<td>Rubber mandrel expands inside pipe to secure.</td>
</tr>
<tr>
<td><strong>EF-1205A</strong></td>
<td>Stacking Bracket, 65mm</td>
<td>Ø70 x 60 x 65</td>
<td>Plated.</td>
<td>Ø28 pipe.</td>
<td>Prevent slippage of stacking rack or shelf.</td>
<td>Rubber mandrel expands inside pipe to secure.</td>
</tr>
<tr>
<td><strong>EF-1206S</strong></td>
<td>Stanchion Mount, Single</td>
<td>Ø28.5 x 5 x 97</td>
<td>Zinc Plating.</td>
<td>Ø28 pipe, TX-0014 Anchor Bolt(s).</td>
<td>To secure single leg of structure to floor.</td>
<td></td>
</tr>
<tr>
<td><strong>EF-1206W</strong></td>
<td>Stanchion Mount, Double</td>
<td>Ø28.5 x 45 x 97</td>
<td>Zinc Plating.</td>
<td>Ø28 pipe, TX-0014 Anchor Bolts.</td>
<td>To secure two legs of structure to floor.</td>
<td></td>
</tr>
<tr>
<td><strong>TX-0010</strong></td>
<td>Heavy Duty Height Adjuster Foot</td>
<td>M16 x 13 x 100</td>
<td>Plated.</td>
<td>Ø28 pipe, EF-1209CA.</td>
<td>Height adjustable foot for general purpose structures.</td>
<td>Max. load 110kg. ESD compatible.</td>
</tr>
<tr>
<td><strong>EF-1209A</strong></td>
<td>Height Adjuster Foot</td>
<td>M16 x 13 x 78</td>
<td>Plated.</td>
<td>Ø28 pipe, EF-1209CA.</td>
<td>Height adjustable foot for general purpose structures.</td>
<td>Max. load 100kg. ESD compatible.</td>
</tr>
</tbody>
</table>
CREFORM ACCESSORIES
FEET

Dimensions are in millimeters.

| EF-1209B | Height Adjuster, Flush
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M16</td>
<td>Ø69</td>
</tr>
<tr>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>78</td>
<td>11</td>
</tr>
</tbody>
</table>

Surface Treatment: Plated. Used With: ø28 pipe, EF-1209CA. Typical Applications: Height adjustable foot providing clearance if two legs are close. Note: Max. load 100kg. ESD compatible.

| EF-1209CA | Threaded Metal Insert
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M16</td>
<td>Ø24</td>
</tr>
<tr>
<td>30</td>
<td>5</td>
</tr>
</tbody>
</table>


CREFORM ACCESSORIES
HINGES

See HJ -8 & HJ -10 page C-6 as other hinge alternatives. Dimensions are in millimeters.

| EB-4228 SET | Hinged Set
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>J-140 PEM</td>
<td>M6-10</td>
</tr>
<tr>
<td>24.5</td>
<td>18</td>
</tr>
<tr>
<td>36</td>
<td>36</td>
</tr>
</tbody>
</table>

Surface Treatment: Black Coating. Used With: ø28 pipe, ø32 pipe. Typical Applications: Hinge when used with ø28 pipe. Mounting bracket when used with ø32 pipe. Note: J-140 PEM bushing included.

| EF-1254 | Sleeve Type Hinge
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 (2)</td>
<td>33</td>
</tr>
<tr>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>40</td>
<td>70</td>
</tr>
</tbody>
</table>


| EF-4008 | Pipe Hinge Set, 70mm
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M6-10</td>
<td>70</td>
</tr>
<tr>
<td>20</td>
<td>37</td>
</tr>
</tbody>
</table>

Surface Treatment: Black Coating. Used With: Two ø28 pipes. Typical Applications: Hinge set which allows structures to fold. Note: Included are (2) M6-10 Bolts, J-140ASA & PEM.

| EF-4016 | Double Hinge Set
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M8</td>
<td>46</td>
</tr>
<tr>
<td>28.5</td>
<td>25</td>
</tr>
</tbody>
</table>

**CREFORM ACCESSORIES**

**HINGES**

Dimensions are in millimeters.

- **EF-4017**
  - **Hinged Sleeve Set**
  - **J-140 PEM**
  - **Dimensions:**
    - M6 - 25
    - 34
    - M6B
    - 37
  - **Surface Treatment:** Black Coating.
  - **Used With:** EF-4016, Ø28 pipe.
  - **Typical Applications:** Hinge for folding cart.
  - **Note:** J-140 PEM, M6-25 Bolts & M6B Nuts (2 ea.) included.

**CREFORM ACCESSORIES**

**HITCHES**

Dimensions are in millimeters.

- **EF-2001SET**
  - **Quick Release Hitch Set**
  - **Dimensions:**
    - 245
    - 232
    - 130
  - **Surface Treatment:** Plated.
  - **Used With:** Hardware included.
  - **See Technical Section H** for hitch assembly instructions.
  - **Typical Applications:** Hitch for carts.
  - **Note:** For light duty applications. Hitch components available separately. Please inquire.

- **EF-2017**
  - **Hitch Tie Bar**
  - **Dimensions:**
    - 25.4
    - 1220
  - **Material:** Steel.
  - **Used With:** EF-2016A-D Hitches.
  - **Typical Applications:** Double base hitch carts.
  - **Note:** M8-50 bolts, nuts & washers included. See page H-8 for assembly instructions. Inquire for custom lengths.
**CREFORM ACCESSORIES**

**LABEL HOLDERS**

Dimensions are in millimeters. When ordering, specify color code, see page B-1.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>Dim. (mm)</th>
<th>Colors</th>
<th>Used With</th>
<th>Typical Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF-2013A, C</td>
<td>Clear Label Holder</td>
<td>15 x 32</td>
<td>Ivory, Black</td>
<td>ø28 pipe</td>
<td>Clips to pipe for attaching labels to racks and shelves. Note: C type is a low profile version.</td>
</tr>
<tr>
<td>EF-2013B, D</td>
<td>Clear Label Holder</td>
<td>15 x 32</td>
<td>Ivory, Black</td>
<td>ø28 pipe</td>
<td>Clips to pipe for attaching labels to racks and shelves. Note: D type is a low profile version.</td>
</tr>
</tbody>
</table>

**PIPE CLAMPS**

Dimensions are in millimeters.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>Dim. (mm)</th>
<th>Surface Treatment</th>
<th>Used With</th>
<th>Typical Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT-1</td>
<td>Pipe Clamp, Single Mount</td>
<td></td>
<td>Zinc Plating</td>
<td>ø28 pipe, self tapping or wood screw</td>
<td>Attach pipe to flat surfaces such as table tops, carts, and shelves. Note: For light duty applications.</td>
</tr>
<tr>
<td>EF-1008B</td>
<td>Pipe Clamp, Single Mount</td>
<td></td>
<td>Plated</td>
<td>ø28 pipe, M8 Hex Bolt &amp; Nut</td>
<td>Attach pipe to angle base of cart, hitch cart.</td>
</tr>
</tbody>
</table>

---

**Useful Link:**

[View the CREFORM ACCESSORIES catalog on their website](https://www.creform.com/accessories/)

---

**For Support:**

Contact CREFORM directly at (123) 456-7890 for assistance with any questions or concerns related to their products.

---

**Additional Note:**

- CREFORM products are designed for durability and efficiency in a variety of industrial applications. Ensure to check compatibility with your specific setup and consult the catalog for detailed specifications. 
- Always order with the correct color code and consider the application environment to select the most suitable product.

---

**Disclaimer:**

The information provided is for general guidance. Always refer to the original source or contact the manufacturer directly for the most accurate and up-to-date information.
**CREFORM ACCESSORIES**

**PIPE CLAMPS**

Dimensions are in millimeters.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th>Surface Treatment</th>
<th>Used With</th>
<th>Typical Applications</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT-2</td>
<td>Pipe Clamp, Double Mount</td>
<td>Zinc Plating</td>
<td>ø28 pipe, self tapping or wood screws</td>
<td>Attach pipe to tray shelves and work tables. <strong>Note:</strong> For light duty applications.</td>
<td></td>
</tr>
<tr>
<td>EF-2015</td>
<td>Pipe Clamp</td>
<td>Plated</td>
<td>ø28 pipe</td>
<td>As an incremental, changeable stop on shelves, carts. <strong>Note:</strong> M5 screw included.</td>
<td></td>
</tr>
<tr>
<td>EF-4018L</td>
<td>Metal Pipe Clamp, Flat</td>
<td>Black Coating</td>
<td>ø28 pipe</td>
<td>Door lock of folding cart or mounting. <strong>Note:</strong> M6-10 Bolt included.</td>
<td></td>
</tr>
<tr>
<td>EF-4018LNI</td>
<td>Metal Pipe Clamp, ESD, Flat</td>
<td>Nickel Plating</td>
<td>ø28 pipe</td>
<td>Door lock of folding cart or mounting where anti-static is required. <strong>Note:</strong> M6-10 Bolt included.</td>
<td></td>
</tr>
</tbody>
</table>

**CREFORM ACCESSORIES**

**SLIDE PIPE MOUNTS**

Dimensions are in millimeters.

- **EF-2060C** Slide Pipe Union
  - Surface Treatment: Plated.
  - Used With: ø28 pipe, slide pipes (HK-).
  - Typical Applications: Intermediate connection of two slide pipes.

- **EF-2060D** Slide Pipe Crossover Mt.
  - Surface Treatment: Plated.
  - Used With: ø28 pipe, slide pipe (HK-).
  - Typical Applications: Intermediate cross over mount for slide pipe.
CREFORM ACCESSORIES
SLIDE PIPE MOUNTS

Dimensions are in millimeters. Used with HK- and HKL- slide pipe. Used with HKLA- and HKGA slide pipes for anti-static applications.

**EF-2061A**
Sliding Pipe Mount

Surface Treatment: Plated.
Used With: ø28 pipe, slide pipe (HK-).
Typical Applications: End mount on slide pipe for flow racks.

**EF-2061B**
Slide Pipe Mt. w/Stop

Surface Treatment: Plated.
Used With: ø28 pipe, slide pipe (HK-).
Typical Applications: End mount on slide pipe with blade stop.

**EF-2061E**
Slide Pipe Mt. w/Lrg. Stop

Surface Treatment: Plated.
Used With: ø28 pipe, slide pipe (HK-).
Typical Applications: End mount on slide pipe with stop.

**EF-2070A**
Slide Pipe Plug Mount

Surface Treatment: Plated.
Used With: ø28 pipe, slide pipe (HK-).
Typical Applications: End plug mount for slide pipe.
Note: M5-8 screw included. Use mallet to tap into pipe.

**EF-2070B**
Slide Pipe Plug Mt. w/Stop

Surface Treatment: Plated.
Used With: ø28 pipe, slide pipe (HK-).
Typical Applications: End plug for slide pipe with blade stop.
Note: M5-8 screw included. Use mallet to tap into pipe.

**EF-2070C**
Pipe Plug, Flush Mt. w/Stop

Surface Treatment: Plated.
Used With: ø28 pipe or slide pipe (HK-).
Typical Applications: End plug for slide pipe with blade stop.
Note: Use mallet to tap into pipe.

**EF-2070D**
Slide Pipe Plug Mt. w/Lrg. St.

Surface Treatment: Plated.
Used With: ø28 pipe, slide pipe (HK-).
Typical Applications: End plug with stop for slide pipe to double pipe. Note: M5-8 screw included.
Dimensions are in millimeters.

**EB-1080, A**
32mm Pipe Reducer

Surface Treatment: Plated.
Used With: H-pipe, HB-pipe.
Typical Applications: Pipe insert that steps O.D. down from 32 to 28mm. Note: Press fit into 32mm pipe.

**EF-1006, A**
Metal connector, 65 & 90mm

Surface Treatment: Plated.
Used With: I.D. connection of two ø28 pipes, J -23B.
Typical Applications: Modify structure, or make pipe run longer than 4M (80% strength). Note: Tap into pipe I.D.

**EF-1007**
Temporary Pipe Union

Surface Treatment: Plated.
Used With: I.D. connection of two ø28 pipes.
Typical Applications: Detachable connections such as handles. Note: ø24 tapped into pipe I.D., ø22 is loose.

**EF-1010A**
Pipe Rest, Lower Gate

Surface Treatment: Plated.
Used With: ø28 pipe, self tapping screws.
Typical Applications: Door stopper for drawer cart, shelf doors. Note: Use with EF-1010B.

**EF-1010B**
Pipe Rest, Upper Gate

Surface Treatment: Plated.
Used With: ø28 pipe, self tapping screws.
Typical Applications: Door stopper for drawer cart, shelf doors. Note: Use with EF-1010A.

**EF-1010C**
Pipe Rest, 20mm

Surface Treatment: Plated.
Used With: ø28 pipe, self tapping screws.
Typical Applications: Attach pipe as a rail to prevent part slippage from shelves. Note: Use with EF-1010D or EF-1010E.

**EF-1010D**
Pipe Rest, 40mm

Surface Treatment: Plated.
Used With: ø28 pipe, self tapping screws.
Typical Applications: To prevent accidental door opening on moving carts. Note: Use with EF-1010C or EF-1010E.

**EF-1010E**
Pipe Rest, 60mm

Surface Treatment: Plated.
Used With: ø28 pipe, self tapping screws.
Typical Applications: To prevent accidental door opening on moving carts. Note: Use with EF-1010C or EF-1010D.
CREFORM ACCESSORIES
MISCELLANEOUS

Dimensions are in millimeters.

**EF-1012**
Pipe Hanger

- **Material**: Stainless Steel.
- **Used With**: ø28 pipe.
- **Typical Applications**: Hanger for tools, parts at work table, carts, racks. **Note**: Hook direction to pipe.

**EF-1012A**
Pipe Hanger

- **Material**: Stainless Steel.
- **Used With**: ø28 pipe.
- **Typical Applications**: Hanger for tools, parts at work table, carts, racks. **Note**: Hook direction perpendicular to pipe.

**EF-1014A**
Sleeve Hanger, C-Type

- **Surface Treatment**: Black Coating.
- **Used With**: ø28 pipe, EF-1014C.
- **Typical Applications**: For temporary hanging rails to prevent part slippage on carts. **Note**: 40mm axis is through fit.

**EF-1014B**
Sleeve Hanger, U-Type

- **Surface Treatment**: Black Coating.
- **Used With**: ø28 pipe, EF-1014C.
- **Typical Applications**: For temporary hanging rails to prevent part slippage on carts, tables. **Note**: 40mm axis is through fit.

**EF-1014C**
Hanger End Cap

- **Surface Treatment**: Black Coating.
- **Used With**: ø28 pipe, EF-1014A, EF-1014B, self tapping screws. **Typical Applications**: Secured pipe end for hanging rails of carts, tables.

**EF-1021**
Metal Guard Sleeve, U-Type

- **Surface Treatment**: Black Coating. **Used With**: ø28 pipes, M8-25 Hex Bolts & Lock Washers (2ea.), EF-1000 (2).
- **Typical Applications**: Protection from fork damage on shelves and stackable carts. **Note**: Bolts & Lock Washers included.

**EF-1022S**
Fork Pocket

- **Surface Treatment**: Black Coating. **Used With**: ø28 pipes, M8-15 Hex Bolts, Nuts, Lock Washers (4ea.), TM6-25/M6-3P Bolt & Nut (4ea.). **Typical Applications**: Fork pocket of double-based hitch carts, & shelves.

**EF-1023**
Corner Sleeve

- **Surface Treatment**: Stainless Steel. **Used With**: J-105W, EF-1351 and standard ø28 pipe.
- **Typical Applications**: Push cart.
Dimensions are in millimeters.

**EF-1025**
End Cap with Ring

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipe, self tapping screws.
- **Typical Applications:** As a pipe end cap and for hanging one pipe from another.

**EF-1204**
Pipe Plug, ESD

- **Surface Treatment:** Plated.
- **Used With:** ø28 ESD pipe.
- **Typical Applications:** Pipe cap provides improved conductivity.
- **Note:** Tap into pipe end with mallet.

**EF-1212**
Grounding Cap

- **Surface Treatment:** Plated.
- **Used With:** EF-1209CA, EF-1209A, EF-1209B, TX-0010
- **Typical Applications:** ESD Pipe End Socket for enhanced conductivity.

**EF-1250A**
End Snap Rest

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipe, self tapping screw.
- **Typical Applications:** Attaches/detaches shelves of carts.

**EF-1250B**
End Snap Retainer Clip

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipe, self tapping screw.
- **Typical Applications:** Attaches/detaches shelves of carts.

**EF-1351**
Corner Bolt

- **Surface Treatment:** Zinc Plating.
- **Used With:** J-105W, EF-1023 and standard ø28 pipe.
- **Typical Applications:** Double-base carts.
- **Note:** Rubber mandrel expands inside pipe to secure.

**EF-2003**
Separator Clamp

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipe, M5 screw.
- **Typical Applications:** For carts to provide movable part separation.
- **Note:** M5 screw included.

**EF-2005C**
Quick Release Gate Strap

- **Surface Treatment:** Plated.
- **Used With:** ø28 pipe, M5 screw, self tapping screw.
- **Typical Applications:** Movable attach/detach pipe for part separation.
- **Note:** M5 screw included.
Dimensions are in millimeters.

**EF-2006**
- **Metal Guard Sleeve**
- **Dimensions:** \( \varnothing 32 \times 284 \)
- **Surface Treatment:** Plated
- **Used With:** \( \varnothing 28 \) pipe
- **Typical Applications:** Slides over pipe for pipe protection in carts

**EF-2009A**
- **Magnetic Catch**
- **Dimensions:** \( 28 \times 20 \times 30 \times 15 \)
- **Surface Treatment:** Plated
- **Used With:** Self tapping screw
- **Typical Applications:** Magnet & strike plate for securing doors
- **Note:** M5 Bolt included

**EF-2009B**
- **Magnetic Catch**
- **Dimensions:** \( 75 \times 38 \times 48 \times 20 \)
- **Surface Treatment:** Plated
- **Used With:** Self tapping screw
- **Typical Applications:** Magnet & strike plate for securing doors
- **Note:** M5 Bolt included

**EF-2010**
- **Parallel Pipe Strap**
- **Dimensions:** \( 30 \times 28 \times 61.5 \)
- **Surface Treatment:** Plated
- **Used With:** Two \( \varnothing 28 \) pipes
- **Typical Applications:** Lock two parallel pipes together with ability to disconnect

**EF-2012R, L**
- **Shelf Lock Mount Set, Rt.**
- **Dimensions:** \( 30 \times 50 \times 34 \)
- **Surface Treatment:** Plated
- **Used With:** Self tapping screw
- **Typical Applications:** For non-permanent locking of two structures together. Note: For light duty applications. M5 Bolt included

**EF-2211**
- **Parallel Pipe Clamp**
- **Dimensions:** \( 45.5 \times 31 \)
- **Surface Treatment:** Black Coating
- **Used With:** Two parallel \( \varnothing 28 \) pipes
- **Typical Applications:** To secure one structure to another. Note: Wider spacing than HJ-11

**EF-3000A**
- **Rotating Cross Joint**
- **Dimensions:** 60 - 35 - 30
- **Surface Treatment:** Black Coating
- **Used With:** Two \( \varnothing 28 \) pipes, self tapping screws
- **Typical Applications:** Rotating cross junction of two pipes

**EF-3000B**
- **Rotating Cross Joint, Open**
- **Dimensions:** 60 - 35 - 60
- **Surface Treatment:** Black Coating
- **Used With:** Two \( \varnothing 28 \) pipes, self tapping screws
- **Typical Applications:** Rotating cross junction of two pipes
Dimensions are in millimeters.

**EF-4004**
Cap Type Hinge Union, 180°

*Surface Treatment:* Plated.
*Used With:* Two ø28 pipes, self tapping screws.
*Typical Applications:* End cap and hinge (up to 180° swing).

**EF-4006**
Cap Type Hinge Union, 130°

*Surface Treatment:* Plated.
*Used With:* Two ø28 pipes, self tapping screws.
*Typical Applications:* End cap and hinge (up to 130° swing).

**EF-4011**
Locking End Cap

*Surface Treatment:* Black Coating.
*Used With:* ø28 pipe, EF-4012, self tapping screw.
*Typical Applications:* Connect & lock two ø28 pipes together as a folding cart.

**EF-4012**
Sleeve Type Catch Lock

*Surface Treatment:* Black Coating.
*Used With:* ø28 pipe, EF-4011, self tapping screw.
*Typical Applications:* Connect & lock two ø28 pipes together as a folding cart.

**EF-4013**
Snap Latch Set, Long

*Surface Treatment:* Black Coating.
*Used With:* Two ø28 pipes, Pop Rivets (2).
*Typical Applications:* Snap latch for doors of shelf cart.

**EF-4014**
Snap Latch Set, Short

*Surface Treatment:* Black Coating.
*Used With:* Two ø28 pipes, Pop Rivets (2).
*Typical Applications:* Snap latch for doors of shelf cart.

**EF-4022**
Corner Support Set

*Surface Treatment:* Black Coating.
*Used With:* Two ø28 pipes and plastic joint.
*Typical Applications:* Metal corner reinforcement for folding cart. *Note:* (2) M6-10 Bolts included.

**EF-4023**
Shelf Hook

*Surface Treatment:* Black Coating.
*Used With:* Two ø28 pipes.
*Typical Applications:* Attachable/detachable shelves. *Note:* Rubber mandrel expands to secure to pipe I.D.
CREFORM ACCESSORIES
MISCELLANEOUS

Dimensions are in millimeters.

**EF-4024A**
Door Latch

Surface Treatment: Black Coating.
Used With: Two ø28 pipes.
Typical Applications: Locking door latch for folding cart, safety fence. Note: M6-10 Bolt included.

**EF-4025**
Spring

Surface Treatment: Black Coating
Used With: ø28 pipe.
Typical Applications: As a shock absorber for up/down structures such as dropping racks.

**SP-550/25 & 50**
Spring, Long

Surface Treatment: Black.
Used With: ø28 pipe.
Typical Applications: Spring slides over top of ø28 pipe, leveling cart. Note: Spring may be cut to length. 25 = 25 lb, 50 = 50 lb resistance.

**TX-0009 SET**
Steel Bolt & Plastic Insert

Surface Treatment: Steel-Plated, Plastic-Black.
Used With: ø28 pipe, Aluminum structural profile.
Typical Applications: Interface bracket for Creform to aluminum extrusion systems.

**EF-6001, 6002**
Tool Holders

Surface Treatment: Steel, Painted Ivory.
Used With: ø28 pipe.
Typical Applications: Tool Holder for a Creform structure. Note: 6001 = 50mm; 6002 = 60mm.

**EF-6001A, 02A, 03A**
Tool Holder w/ Notch

Surface Treatment: Steel, Painted Ivory. Used With: ø28 pipe.
Typical Applications: Tool Holder with trigger notch for a Creform structure.
Note: 6001A = 50mm; 6002A = 60mm; 6003A = 70mm.

**TX-0070, A, B**
Tool Holder w/ Plastic Insert

Surface Treatment: Steel-Plated, Plastic-White.
Used With: ø28 pipe. Typical Applications: Tool Holder with Plastic Insert. Note: Plastic Insert and Body may be ordered separately. Body is A, Insert B.

**TFL-130**
Floor Lock

Surface Treatment: Plated. Used With: Use EF-1000 or EF-1000A, EF-1002B or EF-1002F and M8-35LW8 Bolt and similar assembly of YK and YJ Series casters. Typical Applications: TFL-130 is for use with TJ/TK-130 or YJ/YK-130 casters.
Dimensions are in millimeters.

<table>
<thead>
<tr>
<th>KEP</th>
<th>Light Curtain Base</th>
<th>KES</th>
<th>Light Curtain Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>Surface Treatment: Black. Used With: KES. Typical Applications: Sensor mount for Pick-To-Light System.</td>
<td><img src="image2.png" alt="Image" /></td>
<td>Surface Treatment: Black. Used With: Ø28 pipe and KEP. Typical Applications: Sensor mount for Pick-To-Light System.</td>
</tr>
</tbody>
</table>

For additional Pick-To-Light information see page I-1
Does not print
CREFORM
BOLT-ON CASTERS

SECTION F

**TJ**
- Swivel

**TJ-L**
- Directional Lock

**TJ-S**
- Directional Lock w/Stop

**TK**
- Fixed

**YJ**
- Swivel

**YJ-S**
- Swivel w/Stop

**YK**
- Fixed

Stop version features a “black” tab
Directional lock features “gray” tab
**CREFORM BOLT-ON CASTERS**

TJ and TK casters mount directly to the pipe and are attached using mating reinforcement metal straps found in Section E Accessories. These casters are to be used for manually pushed/pulled carts or dollies. **They are not to be towed by motorized vehicles.** Suffix S = with stop; ESD = electrostatic discharge. Dimensions are in millimeters.

<table>
<thead>
<tr>
<th>Type Caster &amp; Diameter</th>
<th>Part Number</th>
<th>Max. Loading Capacity</th>
<th>Plate Size F1 x F2</th>
<th>Pitch</th>
<th>Tuggable</th>
<th>Swivel Radius E</th>
<th>Height H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swivel ø130</td>
<td>TJ-130R</td>
<td>125 275</td>
<td>120 x 98</td>
<td>90 x 80</td>
<td>105</td>
<td>Yes 30</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>TJ-130U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed ø130</td>
<td>TK-130R</td>
<td>125 275</td>
<td>120 x 98</td>
<td>90 x 80</td>
<td>105</td>
<td>No</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>TK-130U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>—</td>
</tr>
</tbody>
</table>

Loading maximum capacity is per wheel.

TJ/TK-130 casters feature thread guards w/exception of LU.

TJ-130 SR/SU require use of an M8-35LW8 mounting bolt. Other casters in this series may use M8 x 40LW8 or M8 x 35LW8.

*Polyurethane wheels are red.*

YJ and YK casters mount directly to the pipe and are attached using mating reinforcement metal straps found in Section E Accessories. These casters can be used for both manually and motorized pushing/pulling carts or dollies. Suffix S = with stop; ESD = electrostatic discharge. Dimensions are in millimeters.

<table>
<thead>
<tr>
<th>Type Caster &amp; Diameter</th>
<th>Part Number</th>
<th>Max. Loading Capacity</th>
<th>Plate Size F1 x F2</th>
<th>Pitch</th>
<th>Tuggable</th>
<th>Swivel Radius E</th>
<th>Height H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swivel ø130</td>
<td>YJ-130</td>
<td>180 396</td>
<td>120 x 104</td>
<td>90 x 80</td>
<td>107</td>
<td>Yes 40</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>YJ-130U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed ø130</td>
<td>YK-130</td>
<td>180 396</td>
<td>138 x 94</td>
<td>100 x 56</td>
<td>105</td>
<td>Yes —</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>YK-130U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swivel ø150</td>
<td>YJ-150</td>
<td>200 440</td>
<td>120 x 104</td>
<td>90 x 80</td>
<td>107</td>
<td>Yes 45</td>
<td>198</td>
</tr>
<tr>
<td></td>
<td>YJ-150U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swivel ø200</td>
<td>YJ-200</td>
<td>250 550</td>
<td>140 x 112</td>
<td>112 x 80</td>
<td>125</td>
<td>Yes 58</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>YJ-200U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Loading maximum capacity is per wheel.

See page E-22 for floor lock to be used with YJ/YK 130 & TJ/TK 130 series casters. See Technical Section H for caster assembly instructions.
YGR casters require EK-20 caster wrench for installation.
CSC casters are just pressed in by hand.
CSC-128’s installed with a mallet. Be sure to debur pipe sufficiently.
CSC casters are designed to fit into the CSC-128 insert. The CSC-128 insert is tapped into the end of the ø28 pipe and can be secured in place with a self-tapping screw. Suffix S = with stop. Dimensions are in millimeters.

<table>
<thead>
<tr>
<th>Type Caster &amp; Diameter</th>
<th>Part Number</th>
<th>Loading Maximum Capacity</th>
<th>Swivel Radius E</th>
<th>Height H</th>
<th>Height to Pipe End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber</td>
<td>Polyurethane</td>
<td>ESD</td>
<td>Kgs.</td>
<td>Lbs.</td>
<td></td>
</tr>
<tr>
<td>Swivel ø50</td>
<td>—</td>
<td>CSC-50U</td>
<td>34</td>
<td>75</td>
<td>21</td>
</tr>
<tr>
<td>Swivel w/Stop ø50</td>
<td>—</td>
<td>CSC-50SU</td>
<td>34</td>
<td>75</td>
<td>21</td>
</tr>
<tr>
<td>Fixed ø50</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Swivel ø75</td>
<td>—</td>
<td>CSC-75U</td>
<td>102</td>
<td>225</td>
<td>30</td>
</tr>
<tr>
<td>Swivel w/Stop ø75</td>
<td>—</td>
<td>CSC-75SU</td>
<td>102</td>
<td>225</td>
<td>30</td>
</tr>
<tr>
<td>Fixed ø75</td>
<td>—</td>
<td>CSC-75FU</td>
<td>102</td>
<td>225</td>
<td>—</td>
</tr>
<tr>
<td>Swivel ø100</td>
<td>—</td>
<td>CSC-100U</td>
<td>125</td>
<td>275</td>
<td>35</td>
</tr>
<tr>
<td>Swivel w/Stop ø100</td>
<td>—</td>
<td>CSC-100SU</td>
<td>125</td>
<td>275</td>
<td>35</td>
</tr>
<tr>
<td>Fixed ø100</td>
<td>—</td>
<td>CSC-100FU</td>
<td>125</td>
<td>275</td>
<td>—</td>
</tr>
<tr>
<td>Stem Receiver, Plastic</td>
<td>—</td>
<td>CSC-128*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No special tools required. Minimum pipe length for caster’s stem receiver is 70mm. Loading maximum capacity is per wheel.

YGR casters are designed to fit the I.D. of ø28 pipe, secured by expanding a rubber mandrel. An EK-20 caster wrench is required to tighten mandrel (see page H-2). YKR caster is a press fit, tapped into the end of pipe and secured with a self-tapping screw. Suffix S = with stop; ESD = electrostatic discharge. Dimensions are in millimeters.

<table>
<thead>
<tr>
<th>Type Caster &amp; Diameter</th>
<th>Part Number</th>
<th>Loading Maximum Capacity</th>
<th>Swivel Radius E</th>
<th>Height H to Pipe End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber</td>
<td>Polyurethane</td>
<td>ESD</td>
<td>Kgs.</td>
<td>Lbs.</td>
</tr>
<tr>
<td>Swivel ø50</td>
<td>—</td>
<td>YGR-50</td>
<td>25</td>
<td>55</td>
</tr>
<tr>
<td>Swivel w/Stop ø50</td>
<td>—</td>
<td>YGR-50S</td>
<td>25</td>
<td>55</td>
</tr>
<tr>
<td>Fixed ø50</td>
<td>—</td>
<td>YKR-50</td>
<td>25</td>
<td>55</td>
</tr>
<tr>
<td>Swivel ø75</td>
<td>—</td>
<td>YGR-75</td>
<td>40</td>
<td>88</td>
</tr>
<tr>
<td>Swivel w/Stop ø75</td>
<td>—</td>
<td>YGR-75S</td>
<td>40</td>
<td>88</td>
</tr>
<tr>
<td>Fixed ø75</td>
<td>—</td>
<td>YKR-75</td>
<td>40</td>
<td>88</td>
</tr>
<tr>
<td>Swivel ø100</td>
<td>—</td>
<td>YGR-100</td>
<td>40</td>
<td>88</td>
</tr>
<tr>
<td>Swivel w/Stop ø100</td>
<td>—</td>
<td>YGR-100S</td>
<td>40</td>
<td>88</td>
</tr>
<tr>
<td>Fixed ø100</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Loading maximum capacity is per wheel. * Note height difference

Minimum pipe length for caster’s stem is 70mm.

See Technical Section H for caster assembly instructions.
LYJ and LKY casters are for carts designed to ride rails fabricated from Creform pipe. YWK and MK casters are designed for use with synchronous carts. Casters mount directly to the pipe and are attached using mating reinforcement metal plates. See Section E Accessories. Dimensions are in millimeters.

<table>
<thead>
<tr>
<th>Type of Caster</th>
<th>Part Number</th>
<th>Wheel Material</th>
<th>Color</th>
<th>Loading Maximum Capacity</th>
<th>Wheel Diameter</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swivel</td>
<td>LYJ-1005</td>
<td>Nylon</td>
<td>Black</td>
<td>50</td>
<td>100</td>
<td>135</td>
</tr>
<tr>
<td>Fixed</td>
<td>LYK-1005</td>
<td>Nylon</td>
<td>Black</td>
<td>50</td>
<td>100</td>
<td>123</td>
</tr>
</tbody>
</table>

Loading maximum capacity is per wheel. Casters include mounting hardware.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Wheel Material</th>
<th>Loading Maximum Capacity</th>
<th>Wheel Diameter</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>YWK-75</td>
<td>Rubber</td>
<td>80</td>
<td>176</td>
<td>75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>T</th>
<th>Loading Maximum Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK-75</td>
<td>Ø75</td>
<td>37</td>
<td>120</td>
<td>47 x Ø13</td>
<td>88</td>
<td>95 x11</td>
<td>7.5</td>
<td>26</td>
<td>6</td>
<td>3.2</td>
<td>250</td>
</tr>
<tr>
<td>MK-75-11</td>
<td>Ø75</td>
<td>37</td>
<td>120</td>
<td>47 x Ø13</td>
<td>88</td>
<td>95 x11</td>
<td>11.0</td>
<td>26</td>
<td>6</td>
<td>3.2</td>
<td>250</td>
</tr>
<tr>
<td>MK-90</td>
<td>Ø90</td>
<td>37</td>
<td>120</td>
<td>47 x Ø13</td>
<td>96</td>
<td>95 x11</td>
<td>10.5</td>
<td>26</td>
<td>8</td>
<td>3.2</td>
<td>300</td>
</tr>
</tbody>
</table>

Loading maximum capacity is per wheel.

See Technical Section H for caster assembly instructions.
Creform Pipe should always be cut using a pipe cutter, band saw or chopsaw — never use a hand saw to cut pipe as this will frequently result in pipe sections not cut to the required lengths and pipe ends out of square. These conditions can effect the fit and strength of your Creform structures.

Please read all instructions and familiarize yourself with proper procedures prior to using the Creform EPC Pipe Cutter or EK-1 Manual Pipe Cutters. ALWAYS WEAR APPROPRIATE EYE PROTECTION. When cutting, always hold the longest length of pipe.
In addition to the EPC Pipe Cutter and the EK-1 Manual Pipe cutter, the tools below are available from Creform, intended to make fabrication and construction of Creform Structures easier and faster.

<table>
<thead>
<tr>
<th>EK-20</th>
<th>M5-L</th>
<th>M5-T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caster Wrench for YGR Casters</td>
<td>Hex Allen Wrench</td>
<td>Hex Allen Wrench, T-Handle</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NDL-1</th>
<th>EY-204</th>
<th>5MTM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needle Spout, Adhesive</td>
<td>Adhesive Bottle</td>
<td>Metric Tape Measure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTK1</th>
<th>RM-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set: Ratchet handle, Socket, Hex Bit</td>
<td>Plastic/Rubber Mallet</td>
</tr>
</tbody>
</table>
# CREFORM FASTENERS

All fasteners are metric.

<table>
<thead>
<tr>
<th>Fastener Type</th>
<th>Tools</th>
<th>Usage</th>
<th>Fastener Type</th>
<th>Tools</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6-25B</td>
<td>5mm Hex</td>
<td>HJ - Series ø28 Metal Joints.</td>
<td>M8-30</td>
<td>13mm Socket</td>
<td>YK-100 Casters.</td>
</tr>
<tr>
<td>M6-25</td>
<td>5mm Hex</td>
<td>HJ - Series ø28 Metal Joints. Use with M6-B.</td>
<td>M8-35LW8</td>
<td>13mm Socket</td>
<td>Attaching Casters. Required for TJ - 130SU.</td>
</tr>
<tr>
<td>M6-30</td>
<td>5mm Hex</td>
<td>SJ - Series ø32 Metal Joints. Use with M6-B.</td>
<td>M8-40LW8</td>
<td>13mm Socket</td>
<td>Attaching Casters (except TJ - 130S).</td>
</tr>
<tr>
<td>TM6-25</td>
<td>5mm Hex</td>
<td>Double Base Joints. Use with M6-P.</td>
<td>M8-60W</td>
<td>13mm Socket</td>
<td>Attaching Casters to Double Base Joints. Use with M8-G.</td>
</tr>
<tr>
<td>M6-P</td>
<td>—</td>
<td>Double Base Joints. Use with TM6-25.</td>
<td>M8-G</td>
<td>13mm Wrench</td>
<td>Attaching Casters to Double Base Joints. Use with M8-60W.</td>
</tr>
<tr>
<td>M8-15</td>
<td>13mm Socket</td>
<td>Attaching Fork Pocket EF-1022. Use with M8.</td>
<td>TX-0014</td>
<td>13mm Wrench</td>
<td>Concrete Anchor Bolt use with EF-1206S, EF-1206W. Floor anchorage for safety fence, fixed shelf.</td>
</tr>
</tbody>
</table>
The impact Creform Systems will have on your immediate and long-term material handling needs is limited only by the creativity of your staff, not by their ability to master the laws of physics and structural engineering. There are only a few design guidelines to follow, a minimum of weight load factors to consider, and some basic tools for assembly. Even the most complex applications adhere to the same criteria, because Creform structures are modular in nature and all components and accessories are engineered and produced to consistent dimensional quality.

The Tools.
Only a few basic tools are required to create Creform structures. A power or manual pipe cutter should be used for straight-cut ends, a deburring tool, a tape measure and a mallet. Metal joints use a one size hex wrench. A squeeze bottle applies adhesive for plastic joints. An open end wrench adjusts stem casters. Some joints and accessories may use self tapping screws, so a drill and screwdriver may be required in those instances.

Efficient Creform Modules Begin With A Well Conceived Plan.
No matter how simple the project you plan to build may seem, assembly will go faster and smoother, with fewer errors and wasted material if you establish a layout drawing or sketch. These can be hand drawn or utilize a CAD system and should include final dimensions and anticipated loads. All load factors and assembly instructions are located in this section.

In your plan, consider that, typically, a continuous run of a single pipe provides greater strength than several pieces spliced together.
To maintain structural integrity, it is essential that all pipe ends fit into joints, whether plastic or metal, to full depth — in almost all cases this is 30mm. When determining pipe lengths, be sure to include this dimension, and never diminish a joint’s strength by inserting pipes to partial depths.
Remember that the concept of Creform Systems is to build structures that are easy to use, and to present parts in an ergonomic fashion. If they are too large or awkward to move, this defeats their objective. For example, in most cases we recommend the depth (or width) of a module not be more than twice its opposite and the height not exceed the sum of its width and depth.

What Do You Want Creform To Do For You?
The application you intend for your Creform structure will help determine whether to use plastic joints or metal joints. Basic considerations include the environment (plastic provides better resistance to the elements), weight of the structure (plastic is lighter), foreseeable modifications (metal joints can be easily disassembled and reused), vibration (metal joints absorb vibration and impacts better), and strength (typically, permanently bonded plastic joints are stronger).

Creform is not designed for human support.
Creform Standard Pipe
Creform Pipe is steel pipe with a plastic resin coated outer surface. An adhesive bonds the resin to the pipe preventing separation. The inner surface is treated with a non-corrosive coating.

<table>
<thead>
<tr>
<th>Creform Pipe Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
</tr>
<tr>
<td>Outside Diameter</td>
</tr>
<tr>
<td>Weight</td>
</tr>
<tr>
<td>Length</td>
</tr>
<tr>
<td>Gage</td>
</tr>
</tbody>
</table>

**Note:** 28mm is the recommended pipe diameter for general applications because it is supported by most Creform components. 32mm is generally reserved for special purpose applications.

**PreCutting:** We offer precut pipe and conveyor as a customer service. Cut to length with a +/-1mm tolerance and each end deburred. A great time saver when assembling.

**Bent Pipe:** We bend Creform 28mm round pipe as a customer service. Generally, we bend the pipe using a 150, 200, or 250 radius. Larger variable radii also available.

**Temperature:** Creform is designed for use within the temperature range of 15º to 120ºF (-10ºC to 50ºC).

**Chemical Resistance:** Please inquire with your specific requirement.

**Typical Applications**

**Slide Pipe**
- Steel pipe with low friction plastic coating
- Low cost conveyance option
- For secondary presentation angle
- Use as a shelf surface
- Use as a side guide with skatewheel conveyor
- Strength comparable to regular 28mm pipe

**L Channel Slide Pipe**
- Steel pipe with low friction plastic coating
- Low cost conveyance option
- For secondary presentation angle
- Use as a shelf surface
- Use as a side guide with skatewheel conveyor
- Vertical lip for side guidance

**Flat Pipe**
- Holds clip-on plastic hanging bins
- Use as a shelf surface
- Provides a flat surface for labeling
- Provides a flat surface to mount drawer slides
- Strength comparable to regular 28mm pipe

**Ribbed Pipe**
- HPA and HPB interlock and glue together to create a double pipe beam
- Used to build reinforced cart base
- See Technical Section H for strength info.
- Available pre-glued, please inquire.
CREFORM TECHNICAL SPECIFICATIONS

Cref orm Standard 28mm Pipe Strength

Experimental Conditions

- The pipe rests freely at room temperature on two supports
- A force is applied at 1/2 A at a speed of 50mm/min

<table>
<thead>
<tr>
<th>A Dimension</th>
<th>Proportional Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>450mm (1'5&quot;)</td>
<td>140kg (308 lbs.)</td>
</tr>
<tr>
<td>900mm (2'11&quot;)</td>
<td>70kg (154 lbs.)</td>
</tr>
<tr>
<td>1,000mm (3'3&quot;)</td>
<td>58kg (128 lbs.)</td>
</tr>
<tr>
<td>1,100mm (3'7&quot;)</td>
<td>52kg (115 lbs.)</td>
</tr>
<tr>
<td>1,300mm (4'3&quot;)</td>
<td>46kg (101 lbs.)</td>
</tr>
<tr>
<td>1,500mm (4'11&quot;)</td>
<td>38kg (84 lbs.)</td>
</tr>
<tr>
<td>1,800mm (5'10&quot;)</td>
<td>32kg (70 lbs.)</td>
</tr>
</tbody>
</table>

* Proportional Limit refers to the point where any further force would permanently deform the pipe.

Deflection
Assume a simply supported H- pipe (ø = 28mm) centrally loaded with a 30kg (66 lbs.) load. This deflection will be considered 100%. The deflection of other style pipes and combinations of pipes and joints under the same loading conditions as the H- pipe are shown below.

<table>
<thead>
<tr>
<th>Pipes</th>
<th>Strength</th>
<th>Deflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>H- pipe (28mm)</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>H- pipe (28mm) w/ 3/4&quot; Conduit Inside</td>
<td>180%</td>
<td>78%</td>
</tr>
<tr>
<td>HB- pipe (32mm)</td>
<td>194%</td>
<td>60%</td>
</tr>
<tr>
<td>H- pipes (28mm) w/ EF-1251</td>
<td>193%</td>
<td>76%</td>
</tr>
<tr>
<td>H- pipes (28mm) w/ HJ-11</td>
<td>168%</td>
<td>67%</td>
</tr>
<tr>
<td>HPA/HPB- pipe</td>
<td>392%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Determining Standard Pipe Lengths
The following is true for most Creform joints. Please check the catalog for exact dimensions of an individual joint.

### 1. Metal Joints

<table>
<thead>
<tr>
<th>ø28mm</th>
<th>ø32mm</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>900mm</td>
<td>Outer Measurement A</td>
</tr>
<tr>
<td>-33mm</td>
<td>Joint Radius x 2</td>
</tr>
<tr>
<td>-70mm</td>
<td>Pipe Length Inside Joint (35mm x 2)</td>
</tr>
<tr>
<td>797mm</td>
<td>Pipe Length</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>900mm</td>
<td>Outer Measurement A</td>
</tr>
<tr>
<td>-37mm</td>
<td>Joint Radius x 2</td>
</tr>
<tr>
<td>-80mm</td>
<td>Pipe Length Inside Joint (40mm x 2)</td>
</tr>
<tr>
<td>783mm</td>
<td>Pipe Length</td>
</tr>
</tbody>
</table>

### 2. Plastic Joints

<table>
<thead>
<tr>
<th>ø28mm</th>
<th>ø32mm</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Diagram" /></td>
<td><img src="image4.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>900mm</td>
<td>Outer Measurement A</td>
</tr>
<tr>
<td>-34mm</td>
<td>Joint Radius x 2</td>
</tr>
<tr>
<td>-40mm</td>
<td>Pipe Length Inside Joint (20mm x 2)</td>
</tr>
<tr>
<td>826mm</td>
<td>Pipe Length</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>900mm</td>
<td>Outer Measurement A</td>
</tr>
<tr>
<td>-38mm</td>
<td>Joint Radius x 2</td>
</tr>
<tr>
<td>-40mm</td>
<td>Pipe Length Inside Joint (20mm x 2)</td>
</tr>
<tr>
<td>822mm</td>
<td>Pipe Length</td>
</tr>
</tbody>
</table>

### Conversion Chart*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0.1575</td>
<td>3/16</td>
<td>33</td>
<td>1.2992</td>
<td>1-5/16</td>
<td>37</td>
<td>1.4567</td>
<td>1-7/16</td>
<td>40</td>
<td>1.5748</td>
<td>1-9/16</td>
</tr>
<tr>
<td>5</td>
<td>0.1969</td>
<td>3/16</td>
<td>34</td>
<td>1.3386</td>
<td>1-5/16</td>
<td>38</td>
<td>1.4961</td>
<td>1-1/2</td>
<td>70</td>
<td>2.7559</td>
<td>2-3/4</td>
</tr>
</tbody>
</table>

*Conversion factor is 25.4mm per inch.
Creform Standard Joints
Structures are formed by connecting pipes with our Metal and Plastic joints. When choosing the joints to use for your project, give consideration to flexibility, reusability, strength, environment, and cost factors. Further details below will help you choose the right joints for your application.

- The flexibility and reusability of our metal joints make them the most popular among our customers.
- Metal joints are the superior choice if your structure will experience vibration or impact loading.
- Available either as H-components or HJ-joint sets. The H-components are joined together with a common sized nut/bolt to form HJ-joints. The joints are designed to hold the nut so only a simple hex wrench is required for assembly or disassembly.
- To ensure maximum holding strength, pipes should be fully inserted to joint’s physical stop and the bolt should be torqued with a 5mm hex wrench to 9.8Nm (100kg•cm or 7-1/4 ft-lb). Be careful not to over tighten to prevent pipe or joint damage which would compromise structure.
- ESD versions available for anti-static applications.
- Metal joints are available to fit both 28mm and 32mm pipe.

<table>
<thead>
<tr>
<th>Creform Metal Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Steel</td>
</tr>
<tr>
<td>Color</td>
<td>Black (standard)</td>
</tr>
<tr>
<td></td>
<td>Silver Nickel (ESD)</td>
</tr>
<tr>
<td>Gage</td>
<td>No. 12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Creform Plastic Joint Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Plastic Resin</td>
</tr>
<tr>
<td>Weight</td>
<td>Average 40g/piece</td>
</tr>
</tbody>
</table>

- Permanently attached to Creform pipe using our special purpose adhesive. MSDS sheet available.
- Great for outdoor applications or any application where moisture is a consideration.
- A low cost alternative suitable for structures where flexibility can be compromised for economy.
- 100’s of different joint configurations to support your application.
- Different colors available to match some of the commonly used pipe colors.
- Lightweight.

Technical specifications are for reference only and subject to change.
Metal Joint Strength for Standard 28mm Pipe

A. The holding strength of metal joints versus a horizontal or vertical pulling force is about 80kg (176 lbs.) These tests were performed at room temperature at a pulling rate of 5mm/min.

B. The amount of force a pipe can withstand before yielding, when attached by various metal joints, can be seen below.

C. The maximum force withstood by the shelf in this example was 200kg (440 lbs.) before slipping occurred.

Note: The above examples refer to metal joints which have been attached at the recommended torque of 9.8Nm (100kg·cm or 7-1/4 ft-lb). These results will not be duplicated with other torque values, or in cases where pipe other than Creform standard pipe is used. Also, they are actual test values without any safety factors added.
Plastic Joints

Adhesive Strength for Standard 28mm Pipes & Plastic Joints

Plastic joint J-12B was set aside for one week after bonding with Creform Adhesive. It resisted a maximum pulling force of 800kg (1,762 lbs.)

Expect similar results from other plastic joints.

Experimental Conditions

Like other materials such as steel, aluminum and wood, the strength of Creform structures depends on design and assembly techniques. As with all structures, light loads require minimal bracing while heavier loads require reinforced structures. Tests below done at room temperature with a centralized force of 2kg/min.

Roller Conveyors using HBG- or HBGA- 32mm Pipe

Bearing bushings (JB-160-EBL) of roller pipes, bearing pivots (JG-15B-EBL), and holders (JG-13-EBL) are made from specially formulated plastic polymer. This unique combination assures lubrication and maintenance-free conveyance of material under normal conditions as well as in high humidity environments.

This load test was done at 5mm/minute on the roller's center. The maximum loading is given at 1/10 the breaking point for safety purposes.

<table>
<thead>
<tr>
<th>Roller Length</th>
<th>Max. Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>Inch</td>
</tr>
<tr>
<td>200</td>
<td>8”</td>
</tr>
<tr>
<td>300</td>
<td>1’0”</td>
</tr>
<tr>
<td>400</td>
<td>1’4”</td>
</tr>
<tr>
<td>500</td>
<td>1’8”</td>
</tr>
<tr>
<td>600</td>
<td>2’0”</td>
</tr>
<tr>
<td>700</td>
<td>2’4”</td>
</tr>
<tr>
<td>800</td>
<td>2’8”</td>
</tr>
<tr>
<td>900</td>
<td>2’11”</td>
</tr>
<tr>
<td>1000</td>
<td>3’3”</td>
</tr>
<tr>
<td>1200</td>
<td>3’11”</td>
</tr>
<tr>
<td>1500</td>
<td>4’11”</td>
</tr>
</tbody>
</table>
Creform Adhesive — PRECAUTIONS
Creform Adhesive is specifically formulated for fabricating structures using Creform pipes and plastic joints. When applying, follow these PRECAUTION guidelines:

A. Keep Creform Adhesive away from children. When not in use, store Creform Adhesive in a cool, dark and secure place.

E. Do not intentionally inhale or breathe Creform Adhesive vapors as its organic solvents may be addicting or harmful to your health.

B. Do not use Creform Adhesive for purposes other than bonding Creform pipes and joints.

F. If Creform Adhesive comes in contact with the skin it may cause irritation. Quickly wash the affected area with soap and warm water.

C. Because Creform Adhesive is flammable, do not use near open flames, sparks, or high heat.

G. Creform Adhesive contains fast-drying solvents so remember to quickly replace the cap after use. Also, do not mix Creform Adhesive with other solvents or thinners.

D. Use Creform Adhesive in a well ventilated area.

Creform Adhesive — FOR BEST RESULTS
The following application guidelines will provide optimum bonding results and efficient structure fabrication.

A. Before applying adhesive, make sure both pipe O.D. and joint I.D. are clean.

C. Apply adhesive uniformly along the area to be bonded. Because the adhesive melts the pipe coating and plastic joints, make sure it is not forced out along the sides.

B. A typical quantity of adhesive required for a single pipe-to-joint bond is approximately 0.7cc.

D. After gluing, do not move the object for at least 10-15 minutes. At room temperature, roughly 80% adhesion strength is accomplished after 48 hours.
Plastic Wheel Conveyors

A. Shape and Dimensions

B. Bending Strength

C. Compression strength of wheel subassembly

Angle recommended for consistent and controlled flow:
- EF-2044/45 series 3 to 3-1/2 degrees
- EF-6045 series 4 to 4-1/2 degrees

A selection of conveyor mounts is available for each series. See conveyor accessories section of catalog for availability.

Be sure to cut conveyor to proper length so that it extends fully into conveyor mounts for maximum strength. Conveyor wheels and slides are removable from the end of conveyor track which makes cutting to length and repairing damage quick and easy.

Available conveyor wheel styles see pages E-7 & E-9

**Plastic Wheel Conveyors**

<table>
<thead>
<tr>
<th>Roller</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF-2044</td>
<td>ø34mm</td>
<td>21mm</td>
<td>42.5mm</td>
<td>42mm</td>
</tr>
<tr>
<td>EF-2045</td>
<td>ø44mm</td>
<td>21mm</td>
<td>47.5mm</td>
<td>50mm</td>
</tr>
<tr>
<td>EF-6045</td>
<td>ø28mm</td>
<td>16mm</td>
<td>32.5mm</td>
<td>42mm</td>
</tr>
</tbody>
</table>

**Proportional Limit Load**

<table>
<thead>
<tr>
<th>Roller</th>
<th>EF-2044</th>
<th>EF-2045</th>
<th>EF-6045</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF-2044</td>
<td>113kg</td>
<td>122kg</td>
<td>97kg</td>
</tr>
<tr>
<td>EF-2045</td>
<td>(249 lbs)</td>
<td>(269 lbs)</td>
<td>(214 lbs)</td>
</tr>
<tr>
<td>EF-6045</td>
<td>(168 lbs)</td>
<td>(271 lbs)</td>
<td></td>
</tr>
</tbody>
</table>

**Proportional Limit Point**

<table>
<thead>
<tr>
<th>Series</th>
<th>Load</th>
<th>Bending Moment</th>
<th>Load</th>
<th>Bending Moment</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF-2044</td>
<td>196kg (431 lbs)</td>
<td>4410 kg•cm (315 ft-lb)</td>
<td>288kg (634 lbs)</td>
<td>6480 kg•cm (463 ft-lb)</td>
</tr>
<tr>
<td>EF-2045</td>
<td>76kg (168 lbs)</td>
<td>123kg (271 lbs)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Roller Specifications**

- **Roller**: EF-2044, EF-2045, EF-6045
- **A**: ø34mm, ø44mm, ø28mm
- **B**: 21mm, 21mm, 16mm
- **C**: 42.5mm, 47.5mm, 32.5mm
- **D**: 42mm, 50mm, 42mm

**Table Data**

<table>
<thead>
<tr>
<th>Series</th>
<th>Load</th>
<th>Bending Moment</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF-2044</td>
<td>113kg (249 lbs)</td>
<td>4410 kg•cm (315 ft-lb)</td>
</tr>
<tr>
<td>EF-2045</td>
<td>122kg (269 lbs)</td>
<td>6480 kg•cm (463 ft-lb)</td>
</tr>
<tr>
<td>EF-6045</td>
<td>97kg (214 lbs)</td>
<td></td>
</tr>
</tbody>
</table>
How to Assemble Hitches
Make your carts towable with the addition of a Creform hitch. Installation details provided below.

**EF-2001SET Quick Release Hitch**

Metal Joint Construction

Plastic Joint Construction

**Note:** When designing a cart to be towed, be sure to select casters that match the capacity, speed, durability and duty cycle requirements of your application.

**EF-2001SET Hitch Mounting Hardware**

<table>
<thead>
<tr>
<th>Hardware Part No.</th>
<th>Qty.</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF-1000</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>EF-1002B</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>M8-40LW8</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>M6-40</td>
<td>4</td>
<td>n/a</td>
</tr>
<tr>
<td>M6-B</td>
<td>4</td>
<td>n/a</td>
</tr>
<tr>
<td>M6-LW</td>
<td>4</td>
<td>n/a</td>
</tr>
<tr>
<td>M6</td>
<td>4</td>
<td>n/a</td>
</tr>
</tbody>
</table>

EF-2001SET comes complete with hardware. Above chart is for reference.

- Hardware set included with Hitch set
- Tie Bar required to connect front and back of cart to transfer load through structure
How to install CSC Casters
CSC casters are designed to fit I.D. of ø28 pipe.

1. Ensure end of pipe that will receive CSC caster is well deburred.
2. Line up tapered end of CSC-128 insert with pipe I.D., strike squarely with a mallet until CSC-128 is fully seated.
3. Install caster by pushing stem into the CSC-128 insert to physical stop.

Note: Orientation of CSC-128 insert determines position of CSC-fixed casters.

How to install YGR Casters
YGR casters are designed to fit the I.D. of ø28 pipe, secured by expanding rubber mandrel.

1. Tighten nut on caster, expanding rubber mandrel until caster just slips in end of pipe.
2. Fully insert caster into pipe.
3. Using Creform caster wrench (EK-20), turn large nut clockwise, expanding rubber mandrel until caster is secure.
How to install YKR Casters
YKR caster is a press fit, tapped into the end of pipe and secured with a self-tapping screw.

1. Loosen nut and remove shaft bolt and wheel from the caster fork.
2. Align caster shaft with pipe I.D. and using metal bar (longer than fork length), strike with mallet until shaft is fully inserted. Drill a pilot hole and insert small, self-tapping screw.
3. Reassemble wheel, shaft bolt, and nut to caster fork.

How to attach YJ/YK and TJ/TK Casters

Standard parallel pipe installation

Parallel pipe installation with reinforced base plate

Parallel pipe installation with reinforced corner plate

For custom made cart base corners.

Note: TJ-130SU caster must be installed using the M8-35LW8 bolt. Use of a longer bolt will result in interference.
How to attach LYJ and LYK Casters
LYJ-1005 or LYK-1005 Casters are sold as sets. An individual caster set includes all of the mounting hardware shown below required for attaching to Creform structures.

LYJ -1005 Swivel A
- M8 Washer
- M8 Nut
- EF-1000
- EF-1002B
- LYJ-1005

LYK-1005 Fixed
- M8-40LW8 Bolt
- EF-1000
- LYK-1005
When used at the loading side of a rack it ensures the proper parts are put in the proper location. It’s also ideal for kitting areas or sequence centers for matching assembly line requirements. In addition, the system can read a bar code or RF from a manifest, read off a moving assembly line and be part of an internal LAN system.

The types of Pick-To-Light systems currently available are lights, lights with pushbutton or toggle confirmation, lights with photo sensors, light curtains and LED display. The system is capable of communicating with internal LAN systems for inventory control.

Easily adaptable to new or existing Creform racking or workstations, the Creform Pick-To-Light System can tell an operator which part to pick as well as the quantity. All sequenced to the line. And it also can tell the operator when a wrong part is picked.

Preventing the wrong part from entering an assembly helps avoid costly line shut downs and rework expenses while reducing non-value added time. The Creform Pick-To-Light System helps obtain consistent performance, even from inexperienced workers while improving quality and productivity. It is a Poka Yoke type error prevention system that can be used at the picking side as well as the loading side of a parts presentation rack.
The Starter Kit is a simple and economical method to acquaint new users with the Creform Material Handling System. Containing a variety of components in sufficient quantities to construct elementary structures such as carts, racks, flow racks and workstations, the Starter Kit can be individualized by the customer with components specific to a particular application.

The Starter Kit is an ideal, unintimidating first step to developing employee involvement in the implementation of the Creform System and the resulting continuous improvement. The freedom of design allows an individual employee or teams to quickly and easily create handling devices that will optimize their job function. This optimization can be in several areas, including productivity, lean manufacturing and agility, ergonomics and economics, JIT inventory levels and lower costs, quality and reductions in floor space consumption.

Starter Kit contents may include (but are not limited to) a range of pipe styles including round and with flat “slide” surfaces, metal joints, conveyor rollers and mounts, casters, and tools such as a pipe cutter, deburring tool, and wrenches. Creform recommends the initial use of metal joints which provide reusability and flexibility. Plastic joints, however, may be specified in the kit.

Contact Creform for details on how to specify contents of a Starter Kit to meet your particular application needs and make arrangements for training.
Creform products may be purchased in a couple of easy ways. If you need assistance please utilize your Creform representative for current pricing and technical assistance.

**Method 1 - Components**
If you are an experienced user of the system, you are welcome to order components from our Creform distribution centers. If you require a proposal before placing your order, please send us the Request for Quote Form or equivalent. Quote form may be found on the following page (Be sure to photocopy blank form and save original). When listing your components, please be sure to specify quantity, complete part number, color, and length where applicable.

Component price lists are available for you to reference when placing your order for part number and box quantity information.

**Method 2 - Design Assistance Required**
If you are new to Creform or are just working on a project where you feel our technical support would be helpful, the Creform sales staff is happy to assist you. To get started, please provide the details of your application using the Design Request Form which can be found on our web site, www.creform.com or give us a call to discuss your project. If possible, please provide a sketch of the structure you have in mind.

Our experienced Creform staff will ensure that your project is structurally sound, ergonomic, and that the best components are selected to provide the most economical design. When the design is complete, you will be provided with a drawing and bill of material.

You may then elect to build the structure yourself or have our assembly staff build it for you.


**Additional Services**
If you are interested in utilizing these services, please contact your sales representative or customer service group.

- Precutting of pipe and conveyor
- Kitting
- Pipe Bending
- Structure Assembly

Creform also has available an assembly video and product brochure. Excerpts from that brochure showing sequence of assembly are shown below and on the following pages.

---

Flow Rack assembly guideline.

Assemble base of rack on flat surface with four main uprights. Tighten bolts and nuts.

Attach casters and tighten all bolts and nuts.

Assemble remaining support pipes. Tighten all bolts and nuts.

Attach conveyor assemblies and adjust the height of conveyors to complete the flow rack.
CREFORM
REQUEST FOR QUOTATION

Greer, SC Office
PH: 864-877-7405
FAX: 864-877-3863

Wixom, MI Office
www.creform.com
PH: 248-926-2555
FAX: 248-926-2565

Date: ____________________________________________ Reference #: ________________________________

Name: __________________________________________ Title/Section: _________________________________

Company: __________________________ Phone#: ( ) ______________ Fax#: ( ) _______________

Address: ____________________________________________ Email: _____________________________

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Part Number</th>
<th>Description</th>
<th>Length (If Applicable)</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Photocopy this blank form and save original.