THE CREFORM SYSTEM

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

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 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 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. SECTION A Introduction to Creform Applications

SECTION B Creform Pipe Color Chart

SECTION C Metal Joints

SECTION D Plastic Joints

SECTION E Accessories & Special Connectors

SECTION F Casters

SECTION G Tools & Fasteners

SECTION H Technical Information

SECTION I Specialized Products

SECTION J How to Order

SECTION K Applications

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-tounderstand 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.

need 3000 components in inventory. creating logistical log jams on the factory floor. Creform structures promote efficient point-of-use racks and workstations, clearing up floor space and compressing manufacturing operations.

Ergonomic. Creform structures provide part and tool presentations that make the workplace comfortable and efficient, plus they can help lower the risks of workplace injuries.

> 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.

Creform roller conveyors and bin storage racks in kitting operation.

Creform is a truly global concept. For over 40 years, in the Pacific Rim, Europe, and North and South America, the Creform System has combined all of the elements of efficient material handling, elements that are today recognized as critical to success in the global market place.

Agile. To achieve continuous improvement, change is necessary. Creform makes modification easy with its modular components and adaptability to new processes.

JIT. It's an accepted fact that if you build 200 units a day, you don't



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.

A CREFORM STRUCTURE IS ONLY LIMITED BY YOUR IMAGINATION

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 offloading. 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.

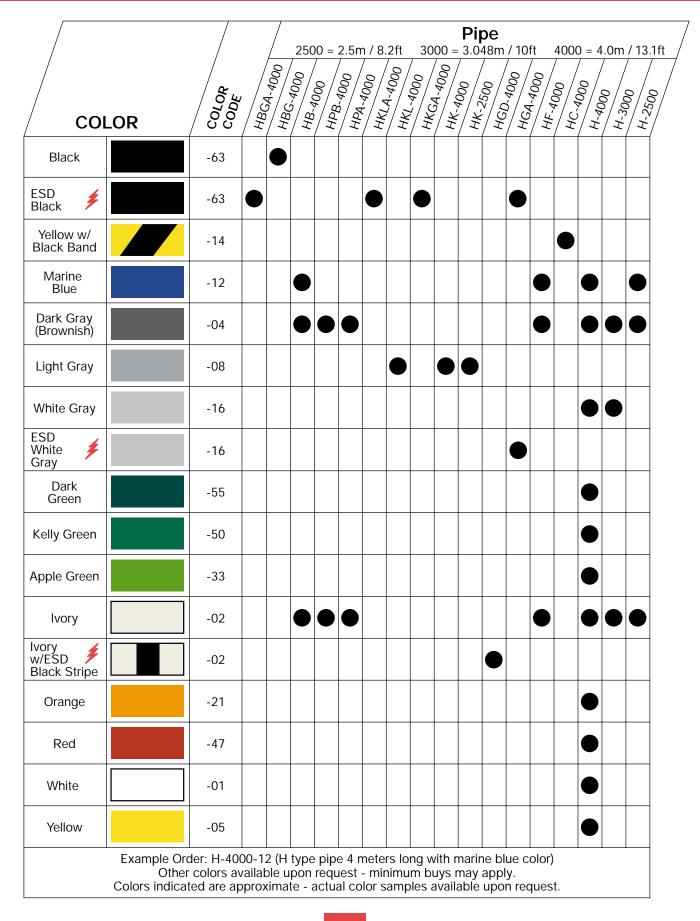
Folding, Portable Tool Crib

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.

CREFORM STANDARD COLORS AND PIPE LENGTH AVAILABILITY



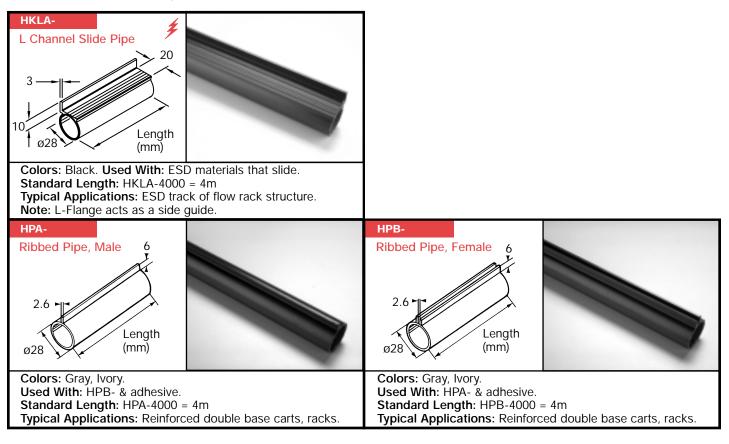
CREFORM PIPE 8 28MM

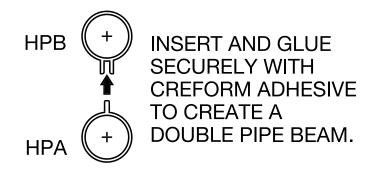
ø28 pipe is used for frame components of structures connected by plastic or metal joints, accessories and casters. Dimensions are in millimeters. See Technical Section H for pipe strength data. When ordering, specify color code, see page B-1. HGA and HK pipe series not compatible with Creform adhesive.



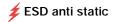
CREFORM PIPE 0 28MM

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.



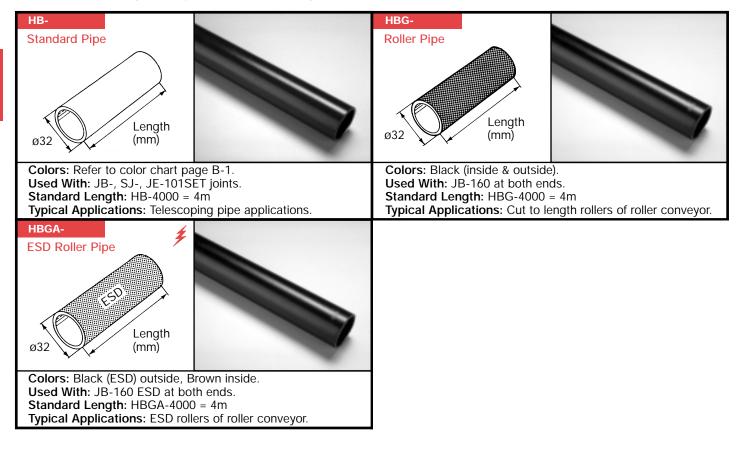


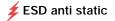
Double pipe available pre-glued for your convenience. Please inquire.



CREFORM PIPE 8 32MM

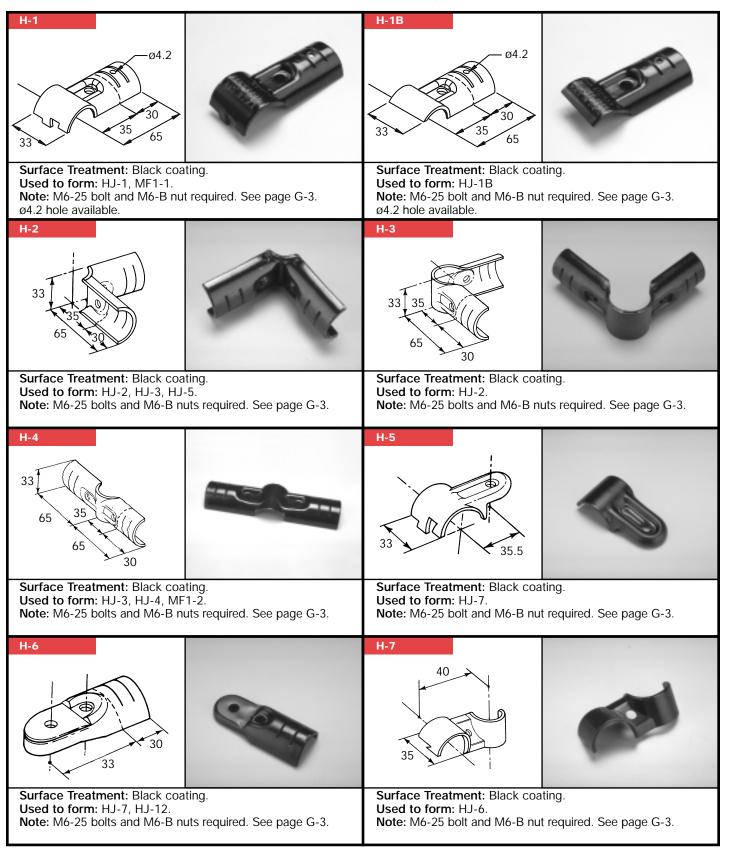
ø32 pipe is used in higher strength applications, for roller conveyors or with ø28 pipe for telescoping applications by connecting with joints and limited accessories. Dimensions are in millimeters. See Technical Section H for pipe strength data. When ordering, specify color code, see page B-1. HBG and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





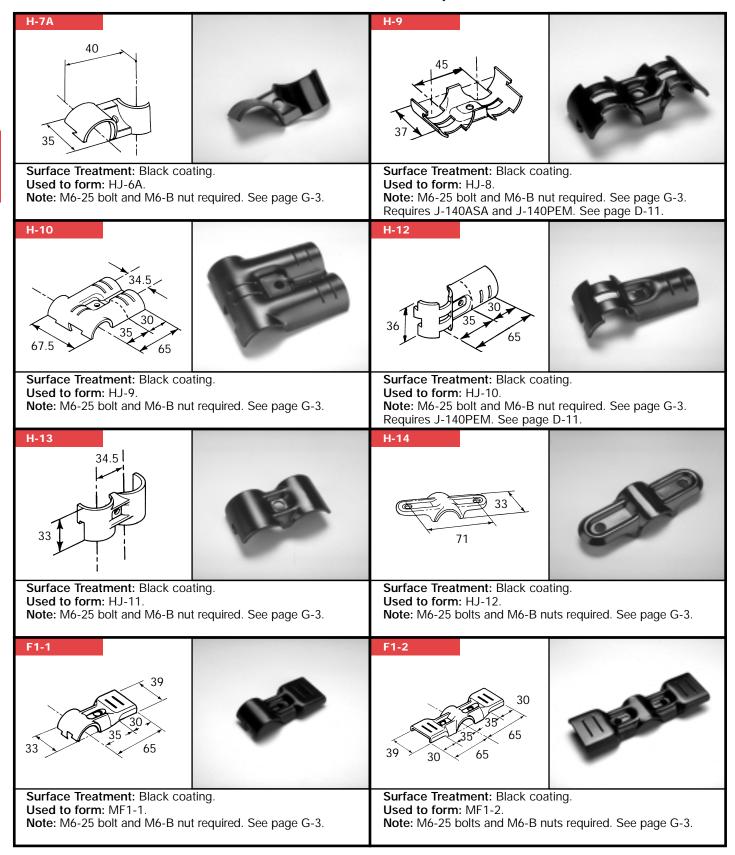
CREFORM METAL JOINT COMPONENTS 9 28MM

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.



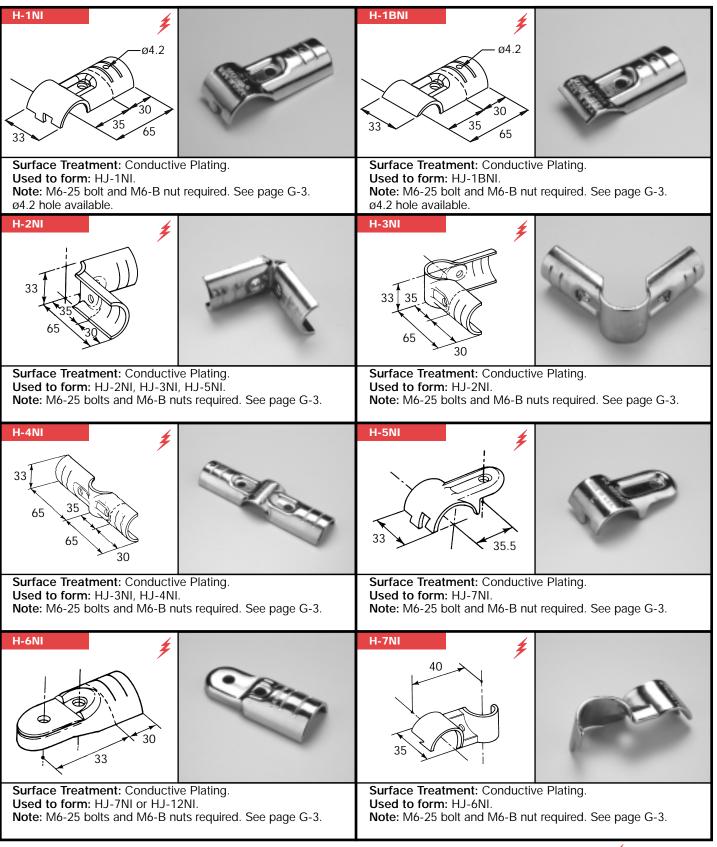
CREFORM METAL JOINT COMPONENTS 9 28MM

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.



CREFORM ESD METAL JOINT COMPONENTS 9 28MM

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.

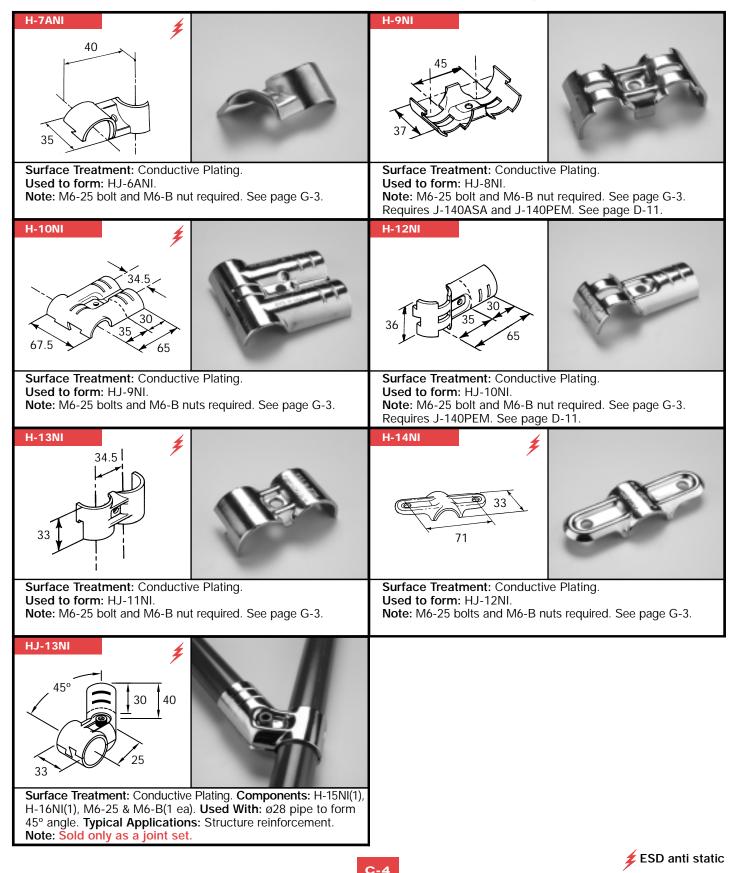


SECTION C

🗲 ESD anti static

CREFORM ESD METAL JOINT COMPONENTS & JOINT SETS 8 28MM

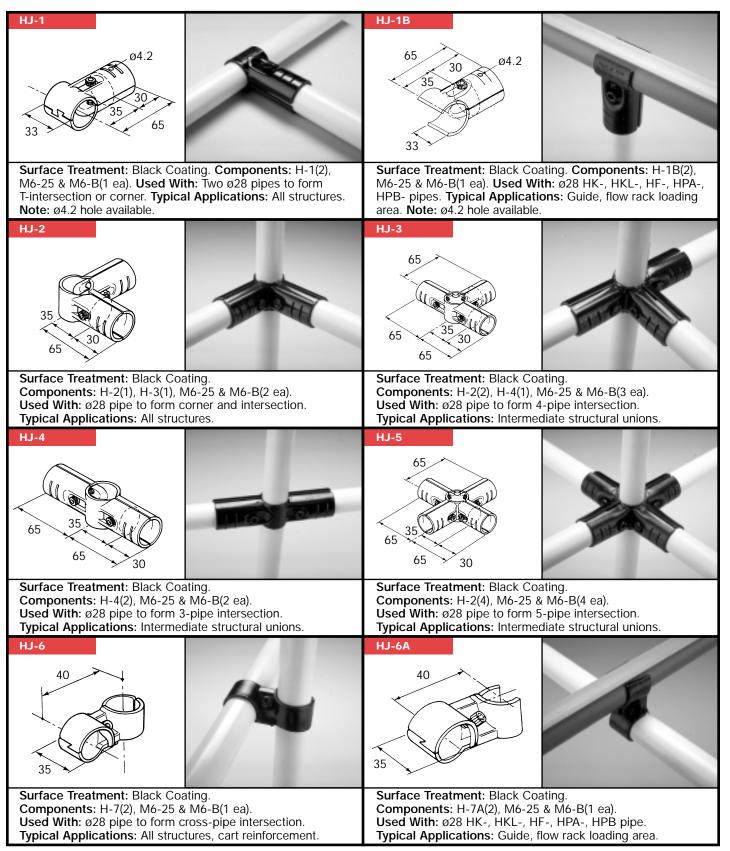
Individual H-NI components are combined with M6-25 bolts and M6-B nuts (see page G-3) to form HJ-NI joint assemblies for ø28 pipe. Most commonly used to assemble anti-static Creform structures. Dimensions are in millimeters. See Technical Section H for metal joint data.



SECTION C

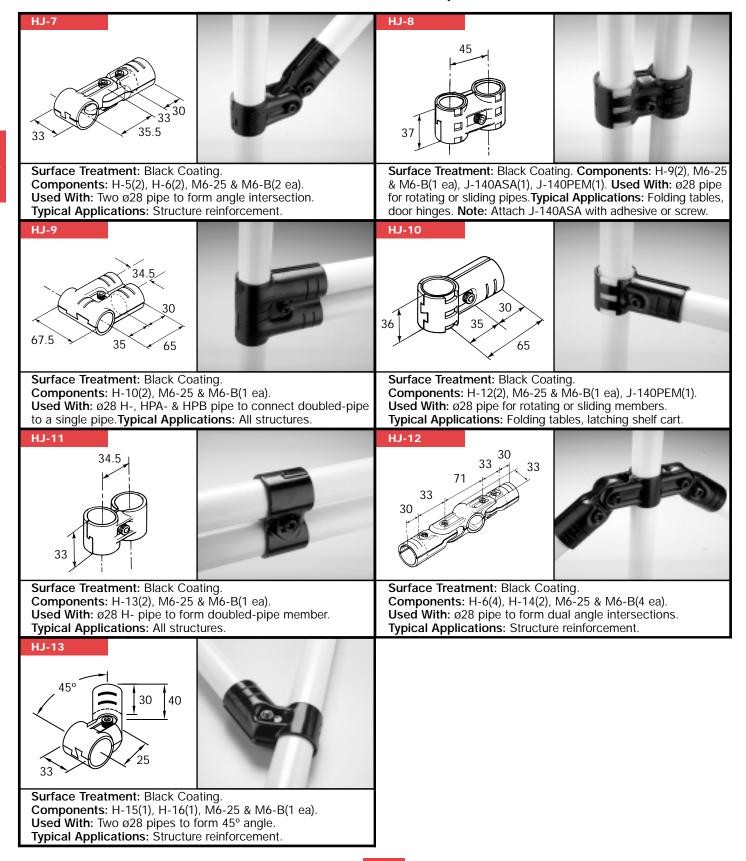
CREFORM METAL JOINT SETS 9 28MM

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.



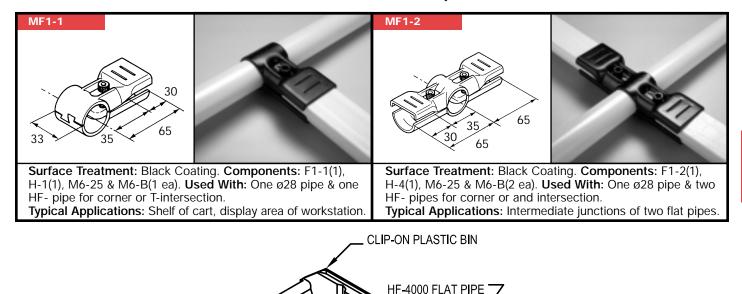
CREFORM METAL JOINT SETS 0 28MM

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 0 28MM

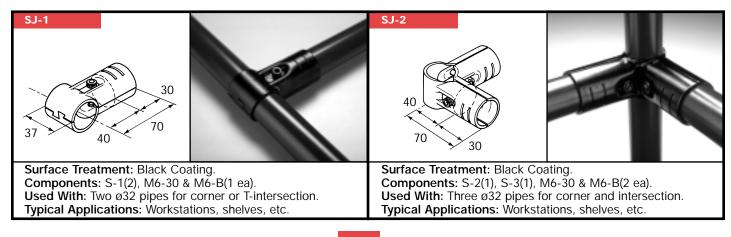
Complete joint assemblies for connecting ø28 (H- and HF-) pipe. Uses M6-25 bolts and M6-B nuts unless otherwise noted. Dimensions are in millimeters. See Technical Section H for metal joint data.





Complete joint assemblies for connecting ø32 pipe (HB-).

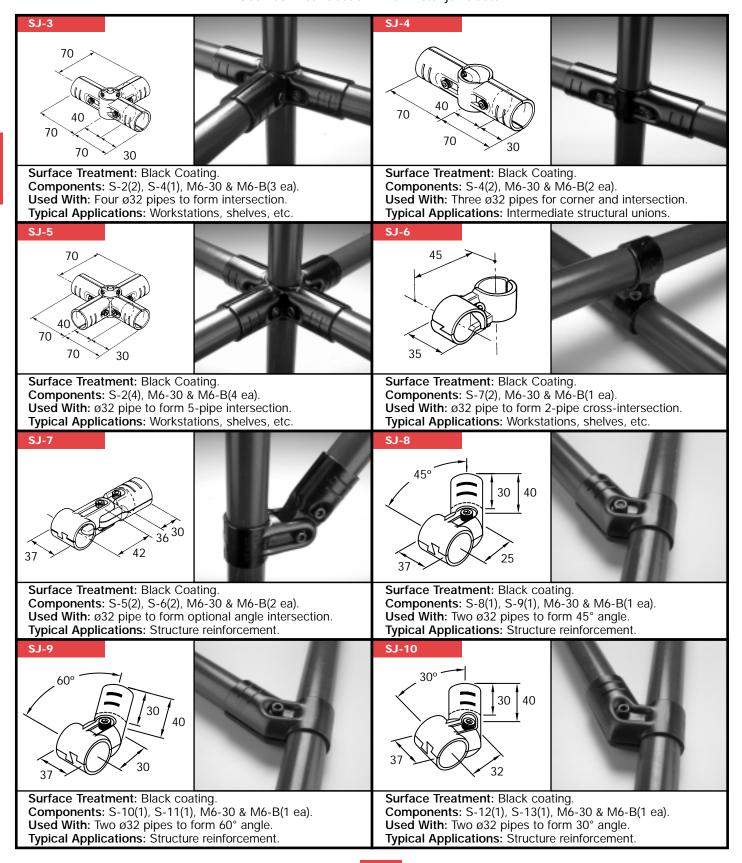
Attachment with M6-30 bolts and M6-B nuts unless otherwise noted. Dimensions are in millimeters. See Technical Section H for metal joint data.



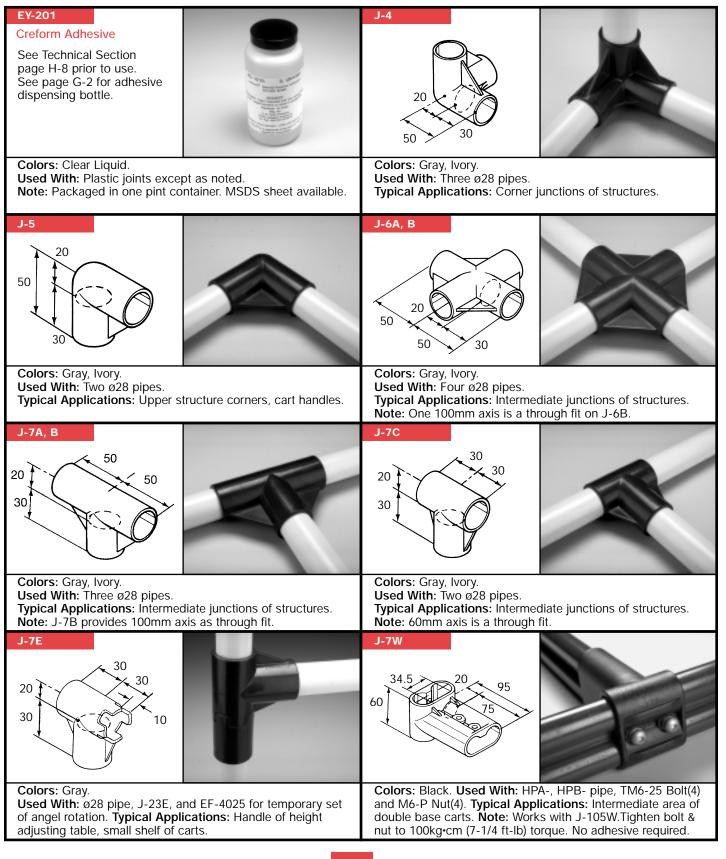
CREFORM METAL JOINT SETS 0 32MM

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.

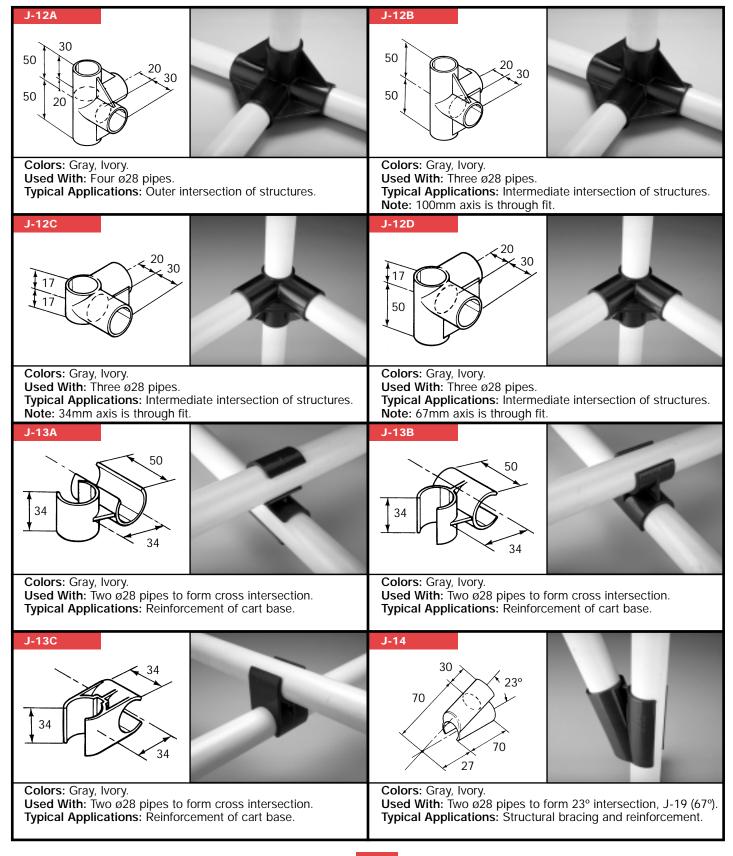


Plastic joints for connecting Ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page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



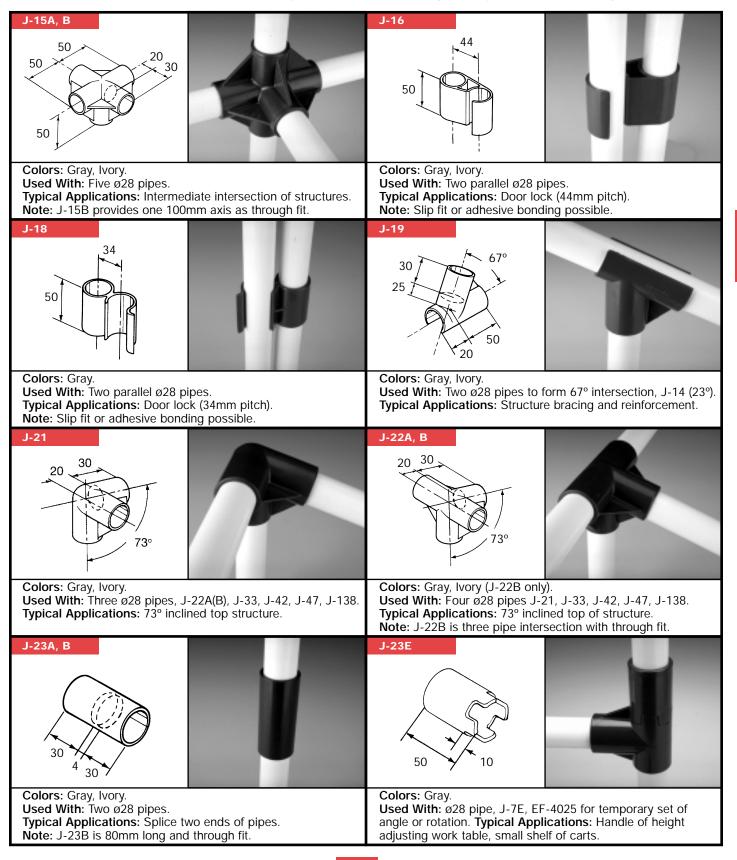
SECTION D

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.

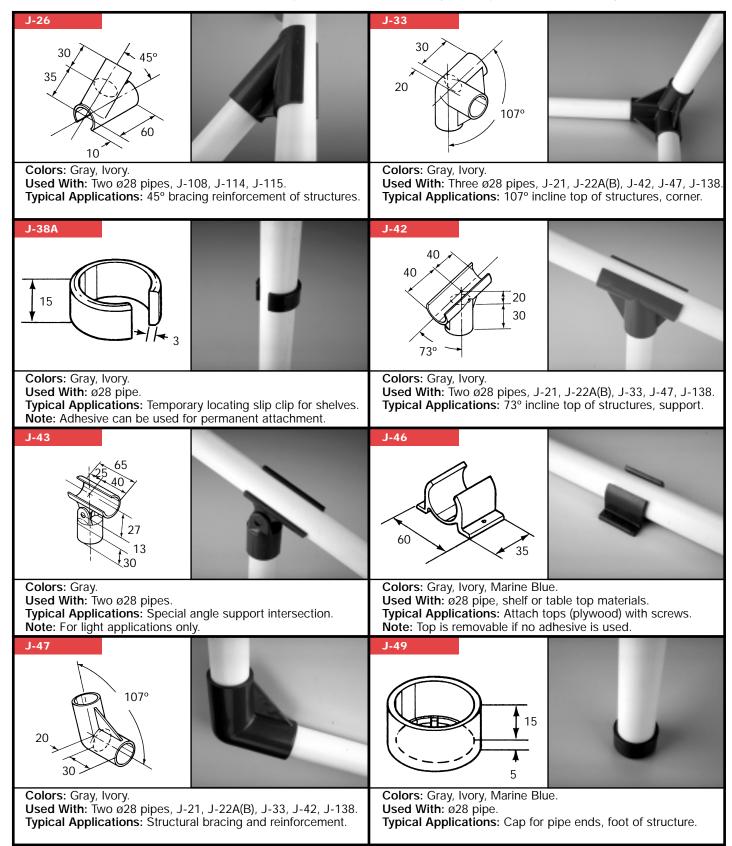


SECTION D

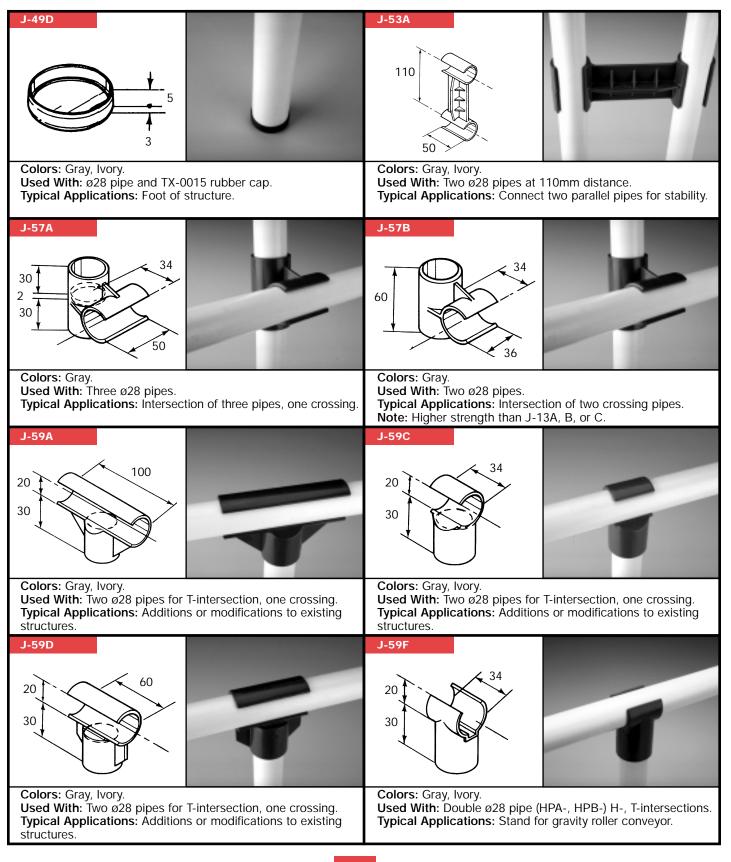
Plastic joints for connecting Ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page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

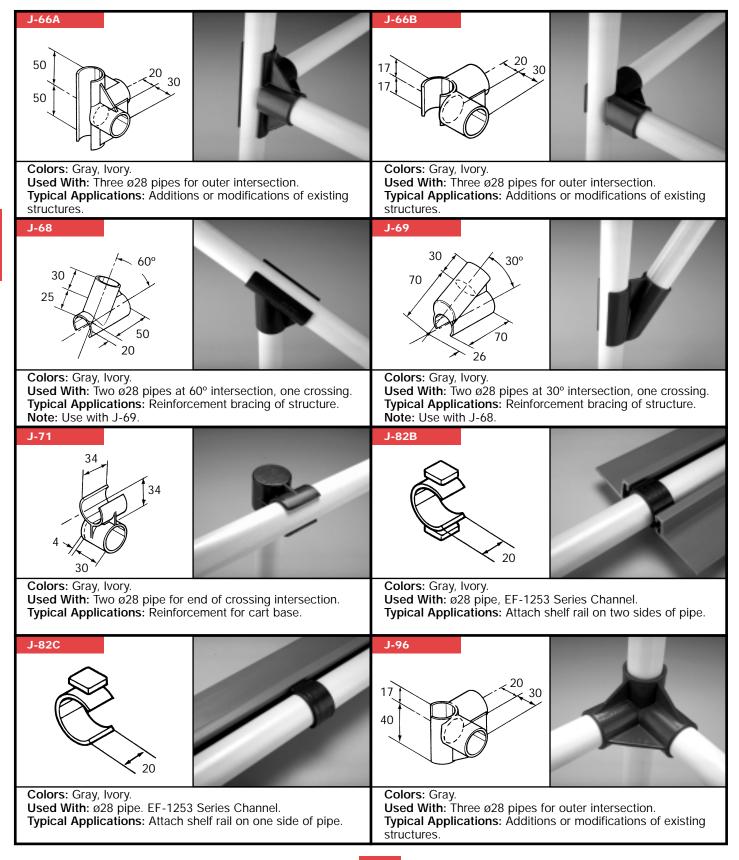


Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page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



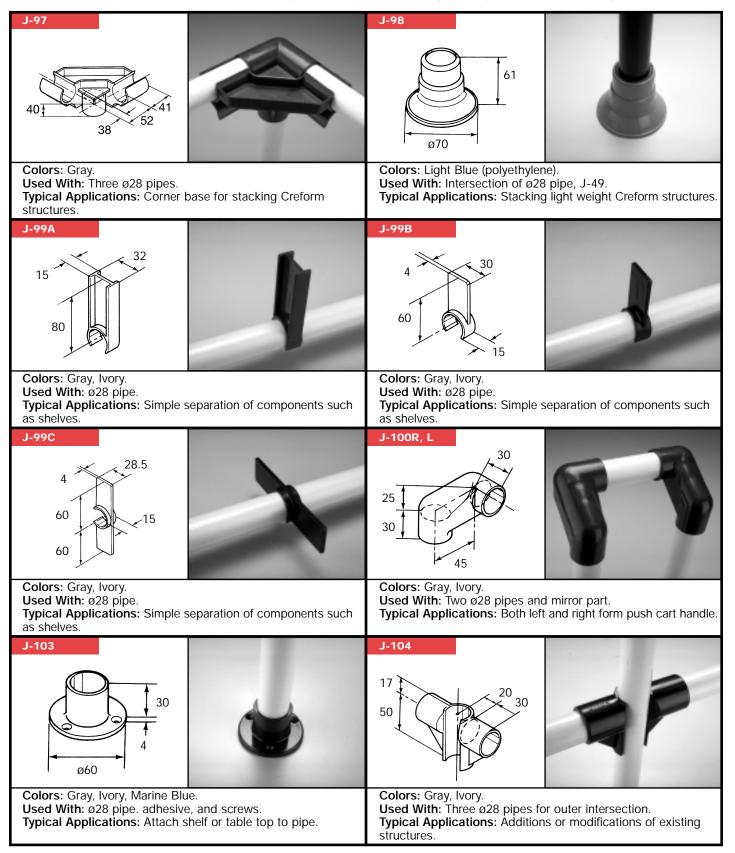
SECTION D

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.

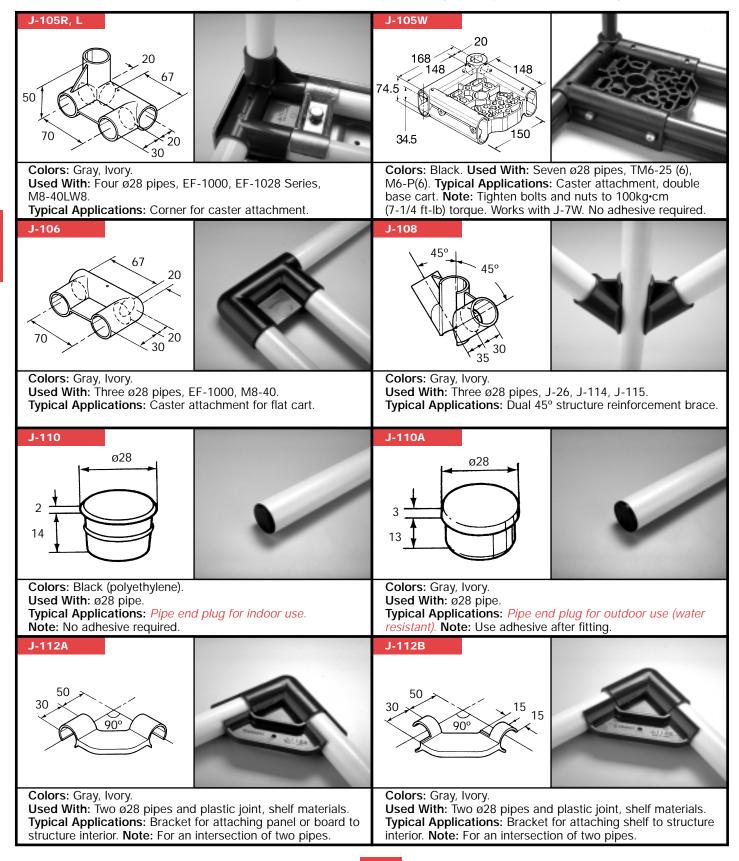


SECTION D

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.

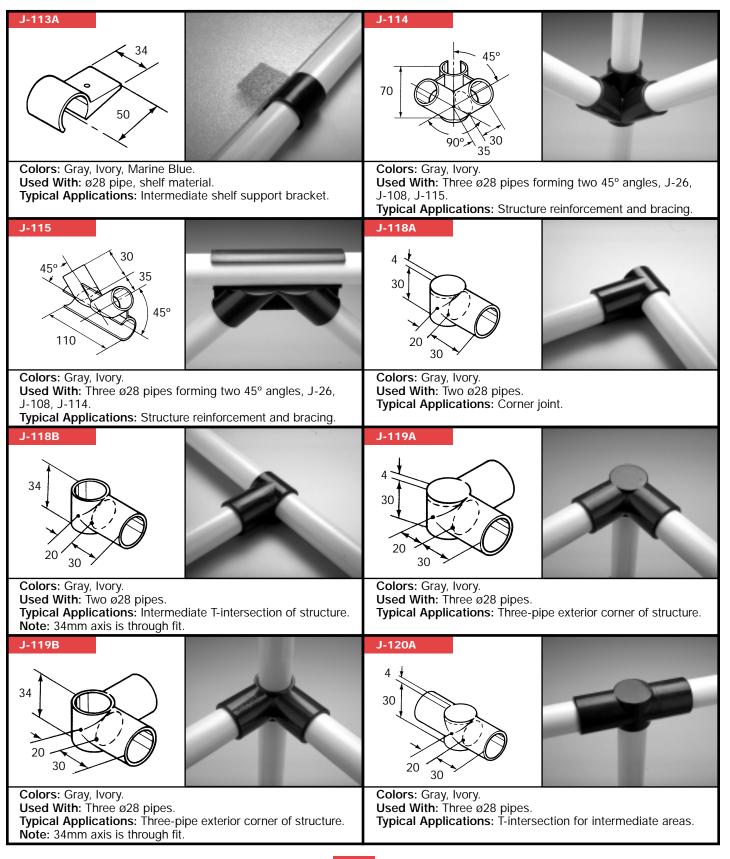


Plastic joints for connecting ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page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



D-8

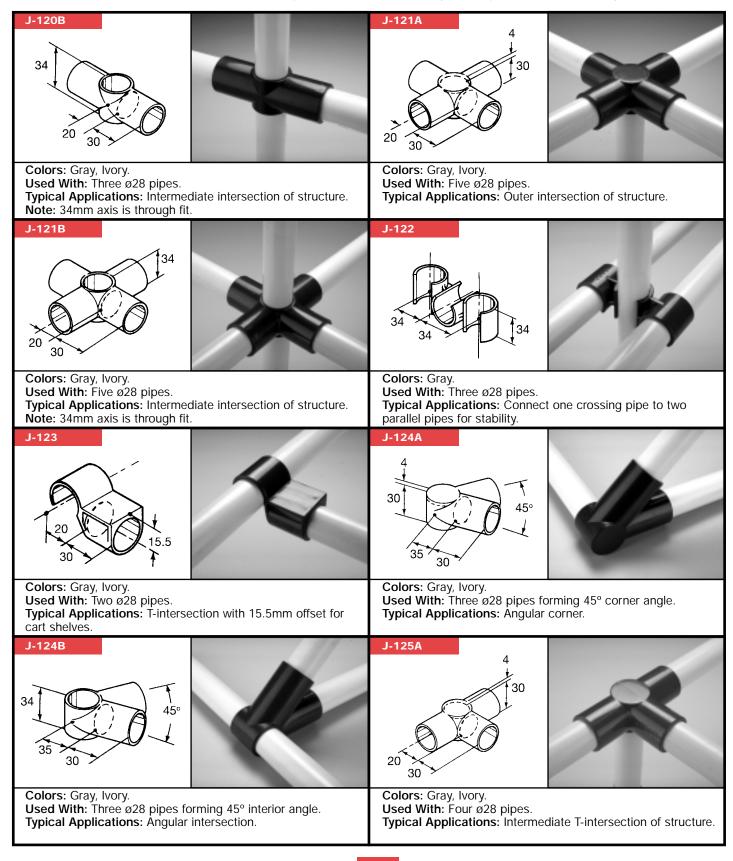
Plastic joints for connecting Ø28 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page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



SECTION D

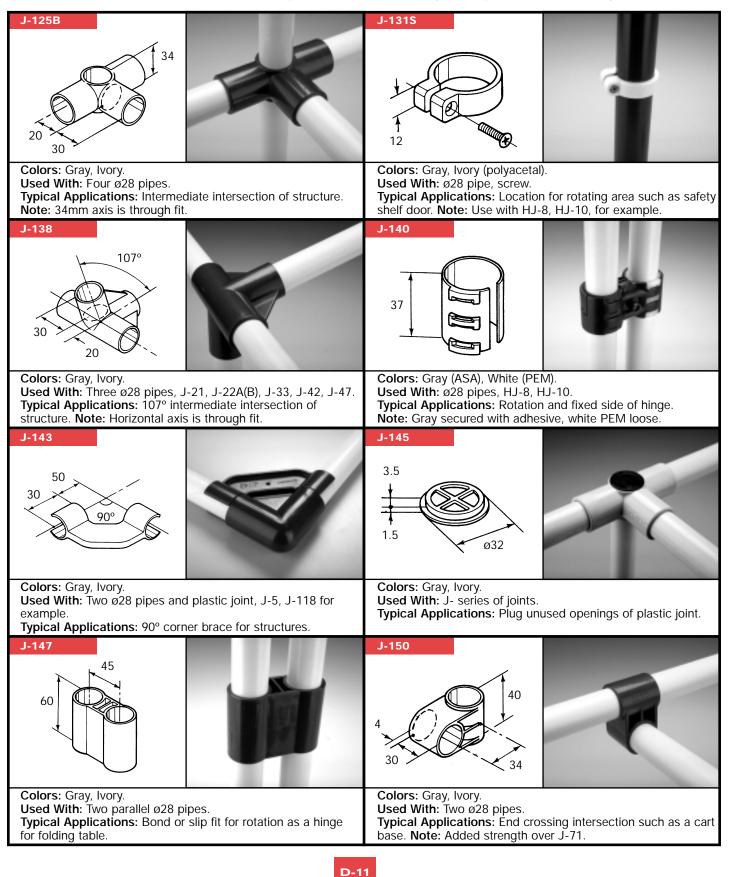
D-9

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.



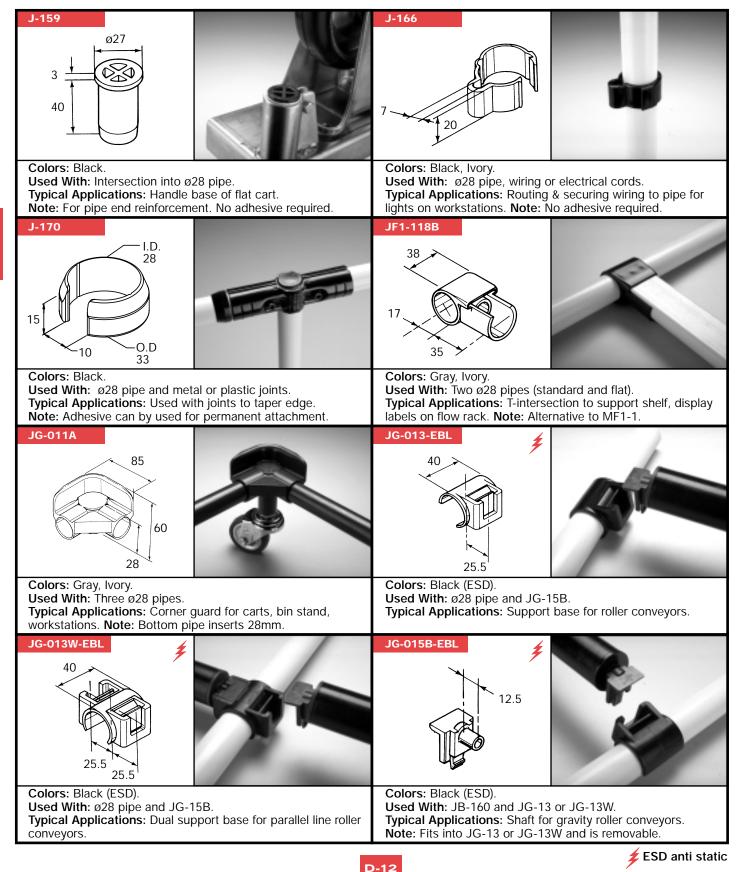
D-10

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.



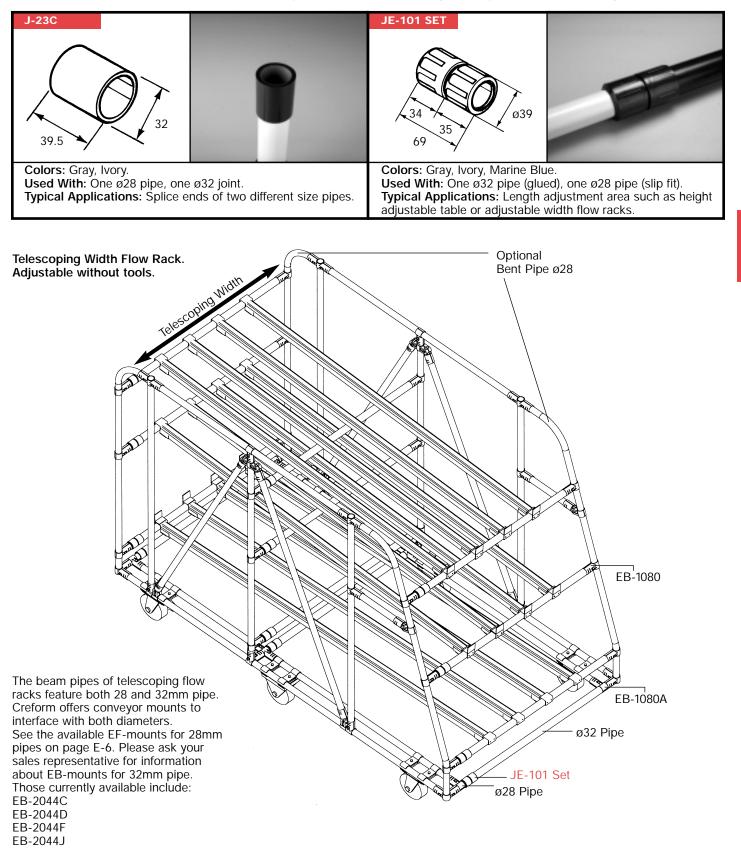
SECTION D

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.

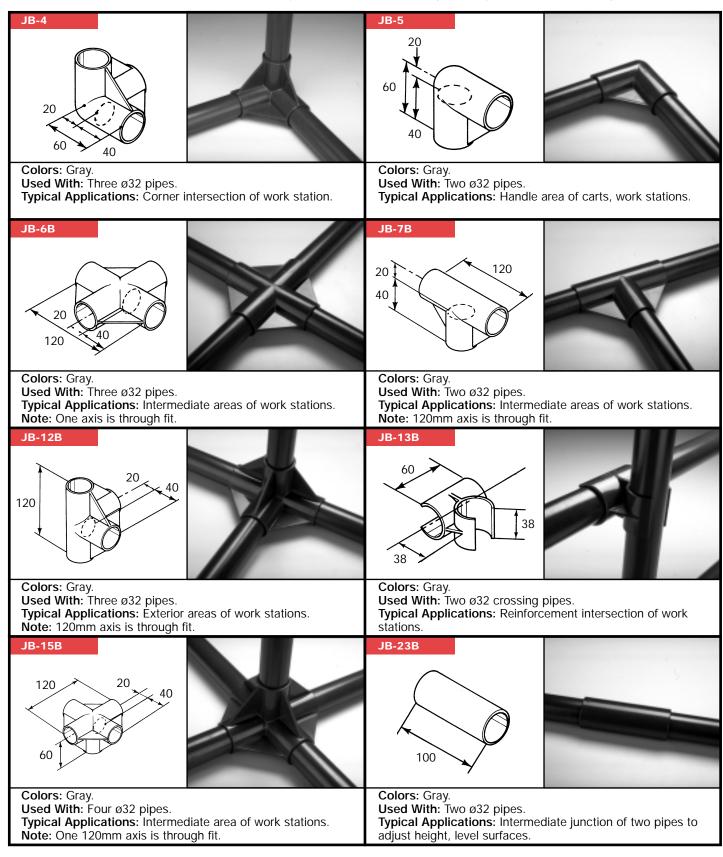


CREFORM PLASTIC JOINTS 28MM & 32MM

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.

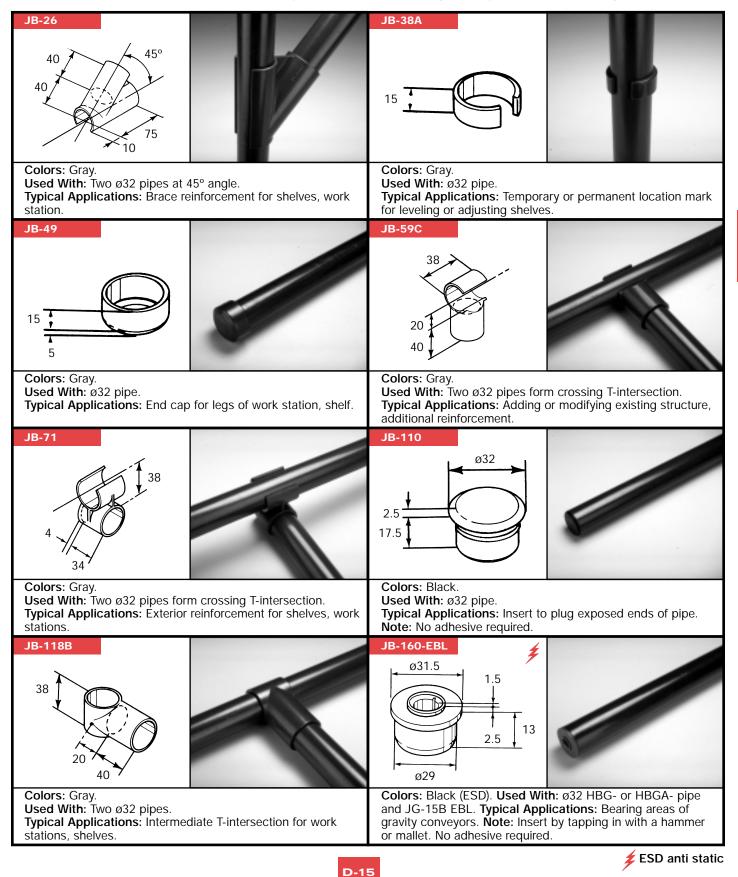


Plastic joints for connecting ø32 pipe (H-, HC-, HPA-, HPB-). Unless otherwise noted, permanent attachment is accomplished using only specially formulated Creform Adhesive (EY-201). Dimensions are in millimeters. See Technical Section H for plastic joint data. When ordering, specify color code, see page B-1.



SECTION D

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.



CREFORM ACCESSORIES PART NUMBER-TO-PAGE NUMBER INDEX

Part Number	Description	Page	Part Number	Description	Page	Part Number	Description	Page
DA1-S	WIRE DUCT	E-4	EF-1253F	T-CHANNEL, 20 MM	E-4	EF-3000B	ROTATING CROSS JOINT, OPEN	E-20
DA2-S	WIRE DUCT	E-4	EF-1253G	T-CHANNEL, 30 MM	E-4	EF-4004	CAP TYPE HINGE UNION	E-21
DB1-S	WIRE DUCT	E-5	EF-1253H	U-CHANNEL, 20 MM	E-4	EF-4006	CAP TYPE HINGE UNION	E-21
EB-1080	PIPE REDUCER, 80 MM	E-17	EF-1253J	C-CHANNEL, 10 MM	E-4	EF-4008	PIPE HINGE SET, 70 MM	E-12
EB-1080A	PIPE REDUCER, 114 MM	E-17	EF-1254	SLEEVE HINGE	E-12	EF-4011	LOCKING END CAP	E-21
EB-4228SET	FLAT HINGE SET W/BUSHING	E-12	EF-1351	CORNER BOLT	E-19	EF-4012	SLEEVE TYPE CATCH LOCK	E-21
EF-1000	CASTER STRAP, UPPER, 70 MM	E-2	EF-2001SET	QUICK RELEASE HITCH SET	E-13	EF-4013	SNAP LATCH SET, LONG	E-21
EF-1000A	CASTER STRAP, UPPER, 82 MM	E-2	EF-2003	SEPARATOR CLAMP	E-19	EF-4014	SNAP LATCH SET, SHORT	E-21
EF-1002B	CASTER STRAP, LOWER, 70 MM	E-2	EF-2005C	QUICK RELEASE GATE STRAP	E-19	EF-4016	DOUBLE HINGE SET	E-12
EF-1002C	CASTER SUPPORT PLATE, 70 MM	E-2	EF-2006	METAL SLEEVE GUARD, 284 MM	E-20	EF-4017	HINGE SLEEVE SET	E-13
EF-1002F	CASTER STRAP, LOWER, 82 MM	E-2	EF-2009A	MAGNETIC CATCH	E-20	EF-4018L	METAL PIPE CLAMP, FLAT	E-15
EF-1002G	CASTER SUPPORT PLATE, 82 MM	E-2	EF-2009B	MAGNETIC CATCH	E-20	EF-4018LNI	NICKEL, ESD, PIPE CLAMP, FLAT	E-15
EF-1006	METAL PIPE CONNECTOR, 65 MM	E-17	EF-2010	PARALLEL PIPE STRAP	E-20	EF-4022	UPPER CORNER SUPPORT SET	E-21
EF-1006A	CONNECTOR, 90 MM	E-17	EF-2012L	SHELF LOCK MOUNT SET, LEFT	E-20	EF-4023	SHELF HOOK	E-21
EF-1007	TEMPORARY PIPE UNION	E-17	EF-2012R	SHELF LOCK MOUNT SET, RIGHT	E-20	EF-4024A	DOOR LATCH	E-22
EF-1008B	PIPE CLAMP, SINGLE MOUNT	E-14	EF-2013A	RACK LABEL HANGER, 260 MM	E-14	EF-4025	SPRING, 85MM LONG	E-22
EF-1010A	PIPE REST, LOWER GATE	E-17	EF-2013B	RACK LABEL HANGER, 150 MM	E-14	EF-6001	TOOL HOLDER, 50 MM, NO NOTCH	E-22
EF-1010B	PIPE REST, UPPER GATE	E-17	EF-2013C	RACK LABEL HANGER, 260 MM	E-14	EF-6001A	TOOL HOLDER, 50 MM, NOTCH	E-22
EF-1010C	PIPE REST, 20 MM	E-17	EF-2013D	RACK LABEL HANGER, 150 MM	E-14	EF-6002	TOOL HOLDER, 60 MM, NO NOTCH	E-22
EF-1010D	PIPE REST, 40 MM	E-17	EF-2015	PIPE CLAMP, WITHOUT BLADE	E-15	EF-6002A	TOOL HOLDER, 60 MM, NOTCH, IVORY	E-22
EF-1010E	PIPE REST, 60 MM	E-17	EF-2016A	HITCH SET, 530 MM TONGUE	E-13	EF-6003A	TOOL HOLDER, 70 MM, NOTCH, IVORY	E-22
EF-1012	HANGER, PARALLEL HOOK	E-18	EF-2016B	HITCH SET, 630 MM TONGUE	E-13	EF-6045	CONVEYOR, MINI, PLASTIC WHEEL	E-8
EF-1012A	HANGER, PERPENDICULAR HOOK	E-18	EF-2016D	HITCH SET, 830 MM TONGUE	E-13	EF-6045C	MINI CONVEYOR MT.	E-8
EF-1014A	SLEEVE HANGER, C-TYPE	E-18	EF-2017	TIE BAR, 1220 MM BASE LENGTH	E-13	EF-6045C,NI	MINI CONVEYOR MT., ESD	E-8
EF-1014B	SLEEVE HANGER, U-TYPE	E-18	EF-2044	CONVEYOR, 34 MM PLASTIC WHEEL	E-5	EF-6045D	MINI CONVEYOR MT. W/STOP	E-8
EF-1014C	HANGER END CAP	E-18	EF-2044C	CONVEYOR MOUNT	E-6	EF-6045D,NI	MINI CONVEYOR MT. W/STOP, ESD	E-8
EF-1021	METAL GUARD SLEEVE, U-TYPE	E-18	EF-2044D	CONVEYOR MOUNT, STOP	E-6	EF-6045DW	MINI CONVEYOR MT. W/LG STOP	E-9
EF-1022S	FORK POCKET	E-18	EF-2044DW	CONVEYOR MOUNT, LARGE STOP	E-6	EF-6045DW,NI	MINI CONVEYOR MT. W/LG STOP, ESD	E-9
EF-1023	DOUBLE BASE CORNER SLEEVE	E-18	EF-2044E	CONVEYOR UNION	E-6	EF-6045ESD	ESD CONVEYOR, 28 MM PLASTIC WHEEL	E-8
EF-1025	END CAP WITH RING	E-19	EF-2044F	CONVEYOR SUPPORT	E-6	EF-6045F	MINI CONVEYER STABILIZER	E-9
EF-1028LL	CORNER SUPPORT PLATE, LEFT	E-2	EF-2044H	CONVEYOR SLIDE PIPE UNION	E-6	EF-6045F,NI	MINI CONVEYER STABILIZER, ESD	E-9
EF-1028LR	CORNER SUPPORT PLATE, RIGHT	E-2	EF-2044J	CONVEYOR MOUNT, UNION FLEX	E-7	EF-6046	CONVEYOR, MINI ALUM RAIL	E-9
EF-1028SL	CORNER SUPPORT PLATE, LEFT	E-2	EF-2044M	CONVEYOR TRACK CONNECTOR	E-7	EF-6046ESD	CONVEYOR, ESD MINI ALUM RAIL	E-9
EF-1028SR	CORNER SUPPORT PLATE, RIGHT	E-2	EF-2044P	CONVEYOR TRACK STABILIZER	E-7	EF-6047A	MINI-CONVEYOR WHEEL	E-9
EF-1200L	EXTENDED ADJUSTER FOOT	E-10	EF-2045	CONVEYOR, 44 MM PLASTIC WHEEL	E-5	EF-6047AESD	MINI-CONVEYOR WHEEL	E-9
EF-1200S	ADJUSTER FOOT	E-10	EF-2045D	CONVEYOR MOUNT W/TALL STOP	E-6	EF-6048A	MINI-CONVEYOR SLIDE	E-9
EF-1201	RUBBER END PLUG	E-10	EF-2045DW	CONVEYOR MOUNT W/EXTENDED STOP	E-6	EF-6048AESD	MINI-CONVEYOR SLIDE, ESD	E-9
EF-1203	PLASTIC PIPE CAP, METAL CLAD	E-11	EF-2046	Conveyor, Aluminum Rail	E-7	EF-6049	MINI-CONVEYOR STAINLESS AXLE	E-10
EF-1203A	PLASTIC PIPE CAP, RUBBER CLAD	E-11	EF-2047A	CONVEYOR WHEEL, 34 MM	E-7	EMT-1	PIPE CLAMP, SINGLE MOUNT	E-14
EF-1204	METAL END PLUG, ESD	E-19	EF-2047B	CONVEYOR WHEEL, 44 MM	E-7	EMT-2	PIPE CLAMP, DOUBLE MOUNT	E-15
EF-1205	STACKING BRACKET, ROUND	E-11	EF-2047CF	CONVEYOR WHEEL, FLANGED	E-7	KEP	LIGHT CURTAIN BASE	E-23
EF-1205A	STACKING BRACKET, SQUARE	E-11	EF-2047D	CONVEYOR, NARROW WHEEL	E-5	KES	LIGHT CURTAIN BRACKET	E-23
EF-1206S	STANCHION MOUNT, SINGLE PIPE	E-11	EF-2047DN	CONVEYOR WHEEL, NARROW	E-7	SP-550/25	SPRING FOR LEVELING CART	E-22
EF-1206W	STANCHION MOUNT, TWO PIPES	E-11	EF-2047F	CONVEYOR, FLANGED WHEEL	E-5	SP-550/50	SPRING FOR LEVELING CART	E-22
EF-1209A	HEIGHT ADJUSTER FOOT, FULL BASE	E-11	EF-2048A	CONVEYOR SLIDE CARRIER, 42 MM	E-8	TFL-130	FLOOR LOCK	E-22
EF-1209B	HEIGHT ADJUSTER FOOT, FLUSH	E-12	EF-2048B	CONVEYOR SLIDE CARRIER,50 MM	E-8	TX-0009	CREFORM/BOSCH INTERFACE	E-22
EF-1209CA	THREADED METAL INSERT	E-12	EF-2048P	CONVEYOR END CLIP, BLACK	E-7	TX-0010	HEAVY DUTY ADJUSTER FOOT	E-11
EF-1212	GROUNDING CAP	E-19	EF-2049	CONVEYOR AXLE	E-8	TX-0015	RUBBER END CAP	E-10
EF-1250A	END SNAP REST	E-19	EF-2060C	SLIDE PIPE UNION	E-15	TX-0016	CLEAR LABEL HOLDER	E-14
EF-1250B	END SNAP RETAINER CLIP	E-19	EF-2060D	SLIDE PIPE CROSSOVER MOUNT	E-15	TX-0070	TOOL HOLDER, W/PLASTIC INSERT	E-22
EF-1251	PIPE DOUBLER	E-3	EF-2061A	SLIDE PIPE MOUNT	E-16	TX-0070A	TOOL HOLDER, METAL BODY	E-22
EF-1252A	PIPE COVER	E-3	EF-2061B	SLIDE PIPE MOUNT W/STOP	E-16	TX-0070B	PLASTIC INSERT FOR TOOL HOLDER	E-22
EF-1252B	PIPE FACING, SMALL	E-3	EF-2061E	SLIDE PIPE MOUNT, LARGE STOP	E-16			
EF-1252C	PIPE FACING, LARGE	E-3	EF-2070A	SLIDE PIPE PLUG MOUNT	E-16			
EF-1253	L-CHANNEL, 20 MM	E-3	EF-2070B	SLIDE PIPE PLUG MOUNT W/STOP	E-16			
EF-1253A	L-CHANNEL, 30 MM	E-3	EF-2070C	SLIDE PIPE PLUG, FLUSH MT W/STOP	E-16			
EF-1253B	L-CHANNEL, 40 MM	E-3	EF-2070D	SLIDE PIPE PLUG MT, W/LARGE STOP	E-16			
EF-1253C	L-CHANNEL, 47 MM	E-3	EF-2211	PARALLEL PIPE CLAMP	E-20			
EF-1253D	L-CHANNEL, 60 MM	E-4	EF-2901	CLEAR LABEL HOLDER, 180 MM	E-14			
EF-1253E	L-CHANNEL, 90 MM	E-4	EF-3000A	ROTATING CROSS JOINT	E-20			

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

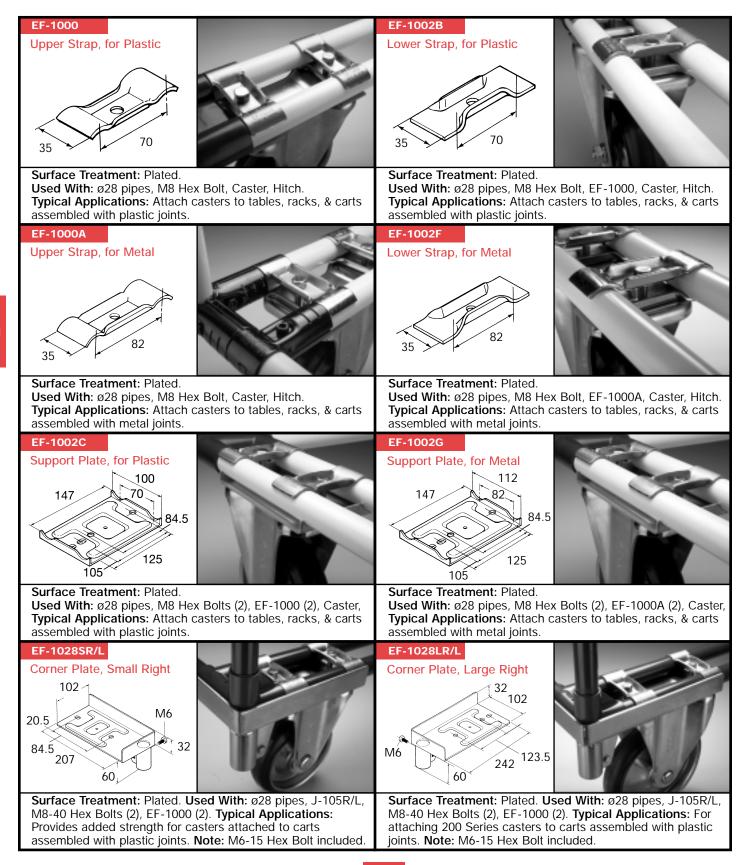
Pipe Clamps E-14 & 15

Slide Pipe Mounts E-15 & 16

Miscellaneous E-16 thru 23

CREFORM ACCESSORIES CASTER HARDWARE

See bolt-on casters listed in Section F. Dimensions are in millimeters. See Technical Section H for caster installation instructions.



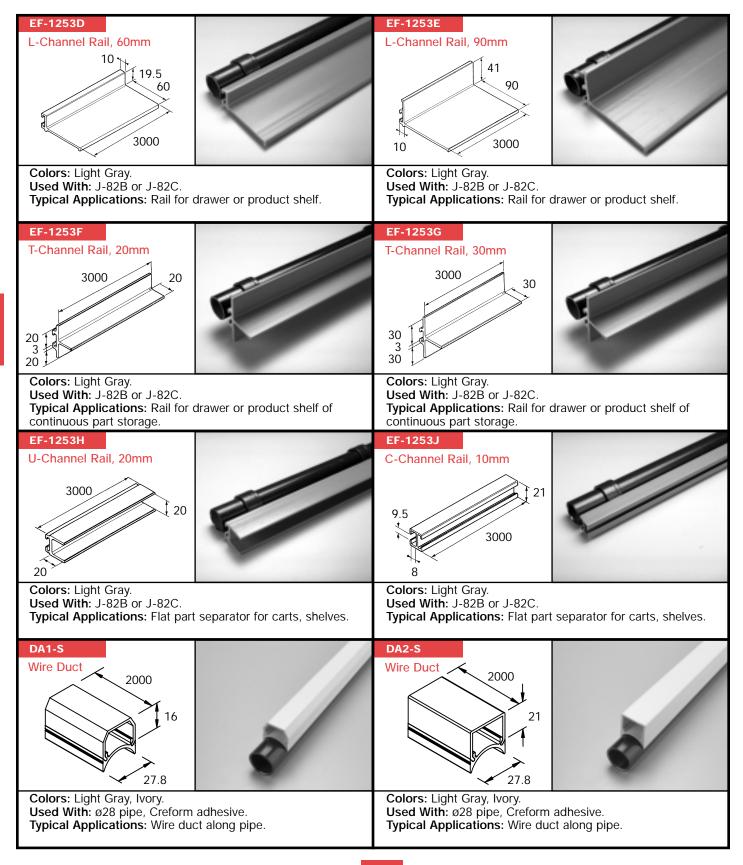
CREFORM ACCESSORIES CHANNEL & EXTRUSIONS

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



CREFORM ACCESSORIES CHANNEL & EXTRUSIONS

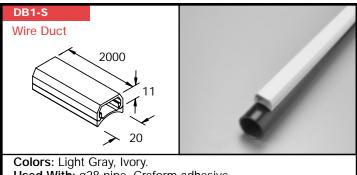
Dimensions are in millimeters. When ordering, specify color code, see page B-1.



SECTION

CREFORM ACCESSORIES CHANNEL & EXTRUSIONS

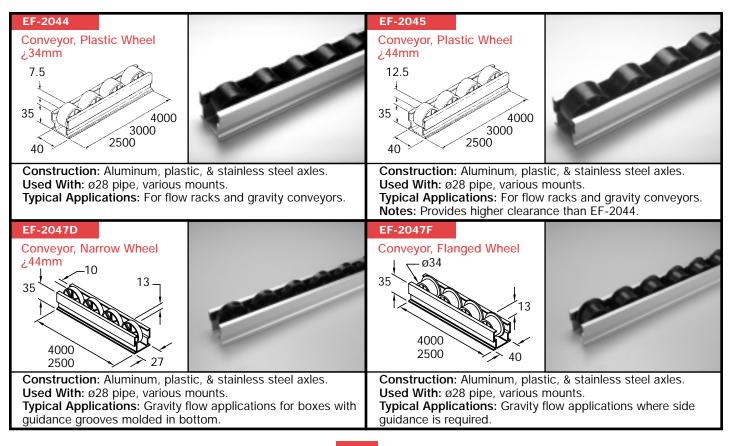
Dimensions are in millimeters. When ordering, specify color code, see page B-1.



Colors: Light Gray, Ivory. Used With: Ø28 pipe, Creform adhesive. Typical Applications: Wire duct along pipe.

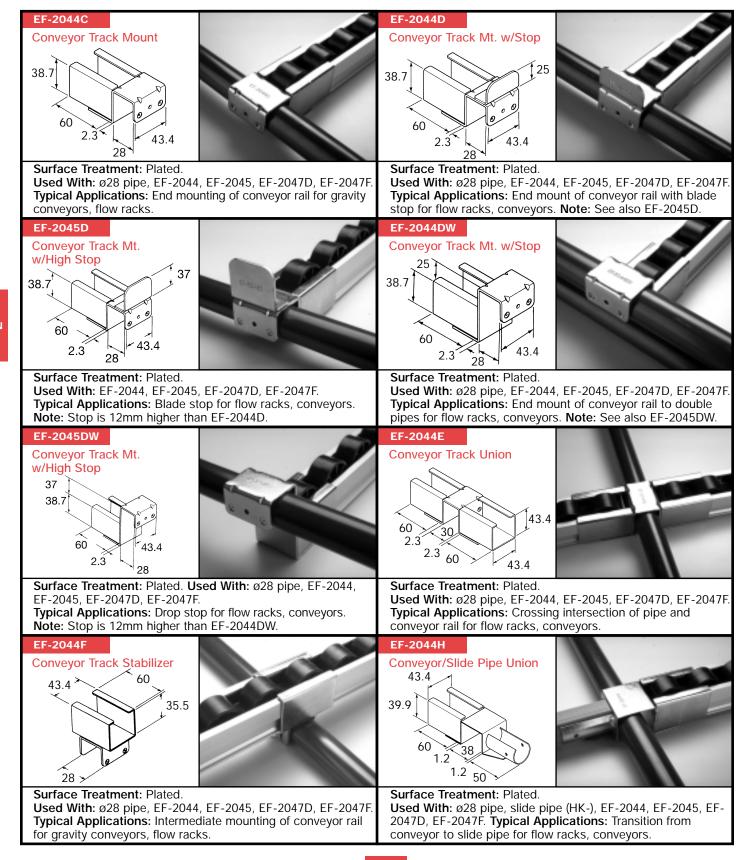
CREFORM ACCESSORIES CONVEYORS

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



CREFORM ACCESSORIES CONVEYORS

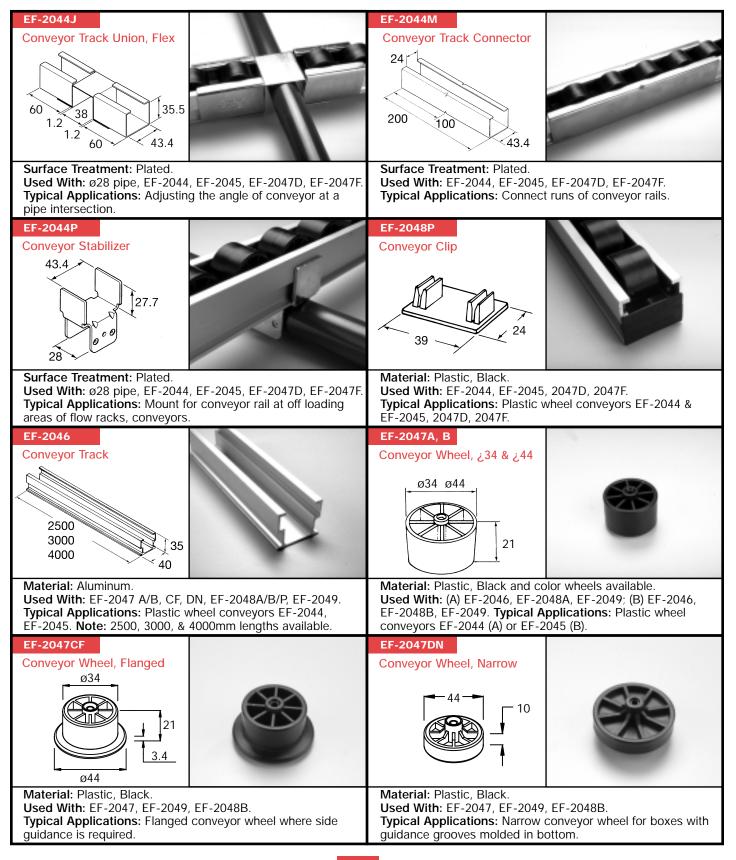
Dimensions are in millimeters. See Technical Section H for conveyor data.



SECTION

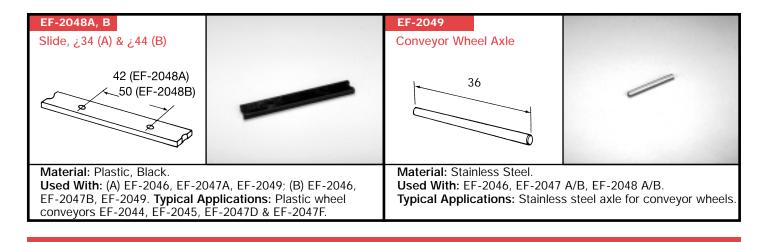
CREFORM ACCESSORIES CONVEYORS

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



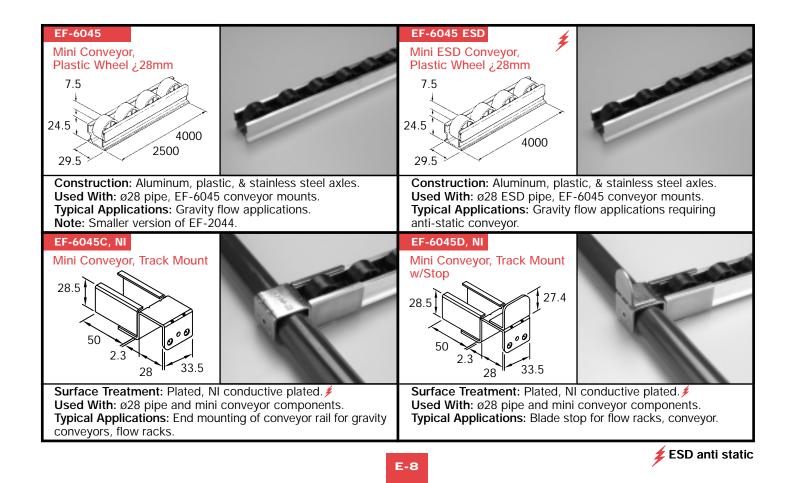
CREFORM ACCESSORIES CONVEYORS

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



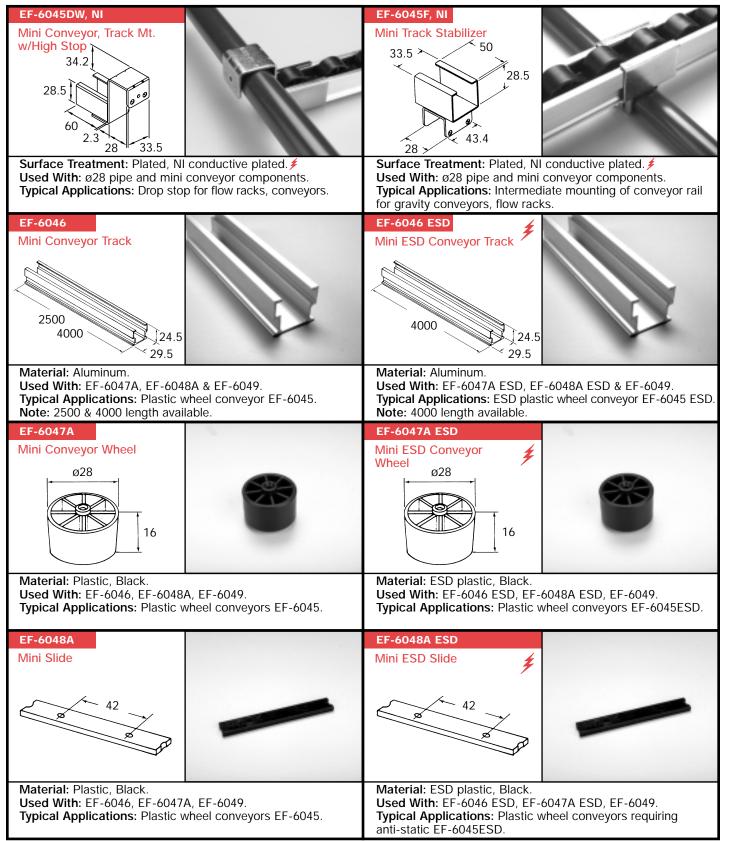
CREFORM ACCESSORIES MINI CONVEYORS

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



CREFORM ACCESSORIES MINI CONVEYORS

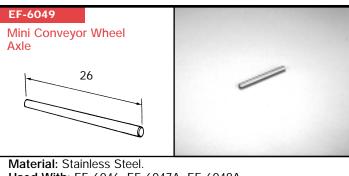
Dimensions are in millimeters. See Technical Section H for conveyor data.



SECTION E

CREFORM ACCESSORIES MINI CONVEYORS

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



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

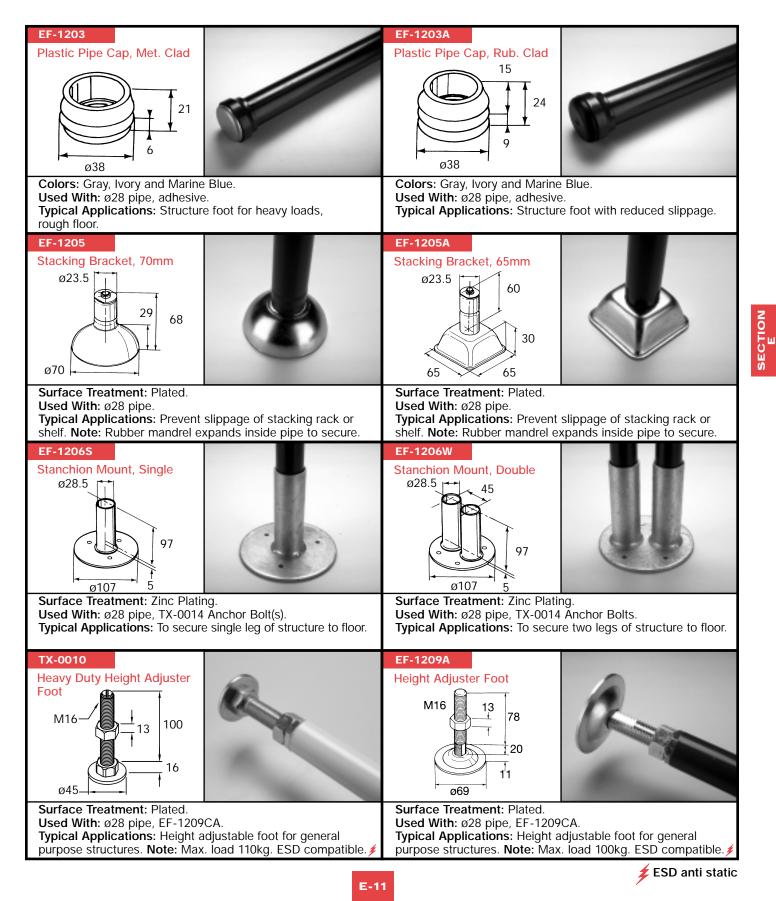
CREFORM ACCESSORIES FEET

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

EF-1200L Extended Adjuster Foot 10 + 74 10 + 74 4 + 028 10	EF-1200S 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.	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 20 32 024	TX-0015 Rubber End Cap
Colors: Black. Used With: Ø28 pipe. Typical Applications: Bumper. Light duty foot. Note: Use mallet to tap into pipe.	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.
	-10 <i>f</i> ESD anti static

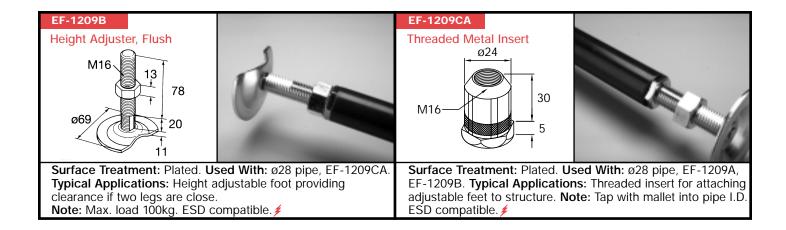
CREFORM ACCESSORIES FEET

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



CREFORM ACCESSORIES FEET

Dimensions are in millimeters.



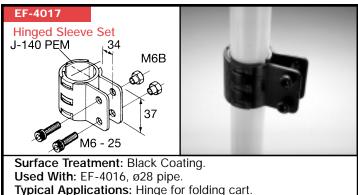
CREFORM ACCESSORIES HINGES

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

EB-4228 SET Hinged Set J-140 PEM PEM 24.5 18 M6-10 36	EF-1254 Sleeve Type Hinge M5 (2) 30 23 30 70 40
Surface Treatment: Black Coating.	Surface Treatment: Plated.
Used With: Ø28 pipe, Ø32 pipe. Typical Applications: Hinge	Used With: ø28 pipe, self tapping screws.
when used with Ø28 pipe. Mounting bracket when used with	Typical Applications: Hinge for carts, shelves.
Ø32 pipe. Note: J-140 PEM bushing included.	Note: M5 screws included.
EF-4008	EF-4016
Pipe Hinge Set, 70mm	Double Hinge Set
70	M8 - 35
20	M8 - 46
37	46
M6-10	46
37	28.5
Surface Treatment: Black Coating.	Surface Treatment: Black Coating.
Used With: Two Ø28 pipes.	Used With: Two Ø28 pipes, self tapping screw.
Typical Applications: Hinge set which allows structures to	Typical Applications: Hinge for drop down bar.
fold. Note: Included are (2) M6-10 Bolts, J-140ASA & PEM.	Note: J-140 PEM, M8-35 Bolt & M8 Nut included.
	ESD anti static

CREFORM ACCESSORIES HINGES

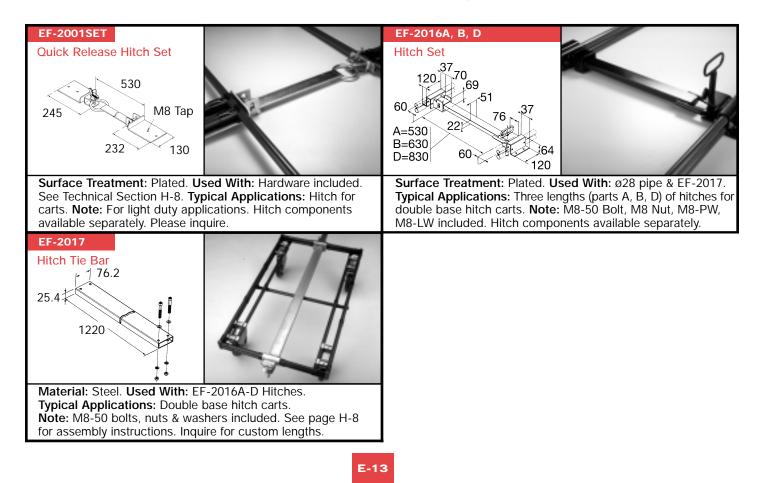
Dimensions are in millimeters.



Note: J-140 PEM, M6-25 Bolts & M6B Nuts (2 ea.) included.

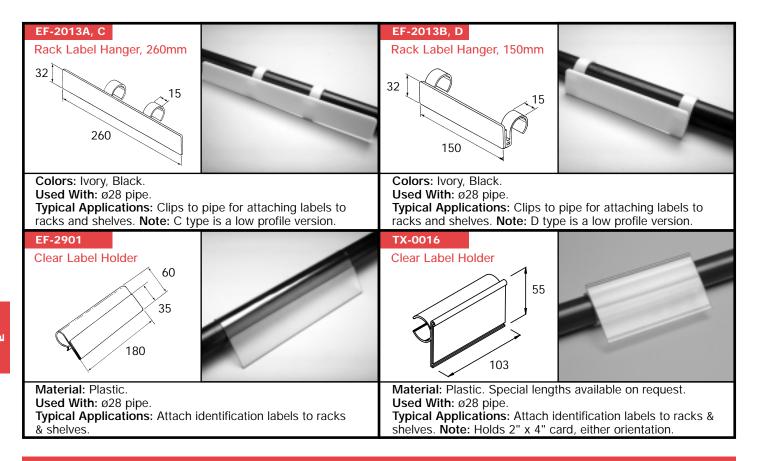
CREFORM ACCESSORIES HITCHES

Dimensions are in millimeters. Hitch components available separately, please inquire. See Technical Section H for hitch assembly instructions.



CREFORM ACCESSORIES LABEL HOLDERS

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

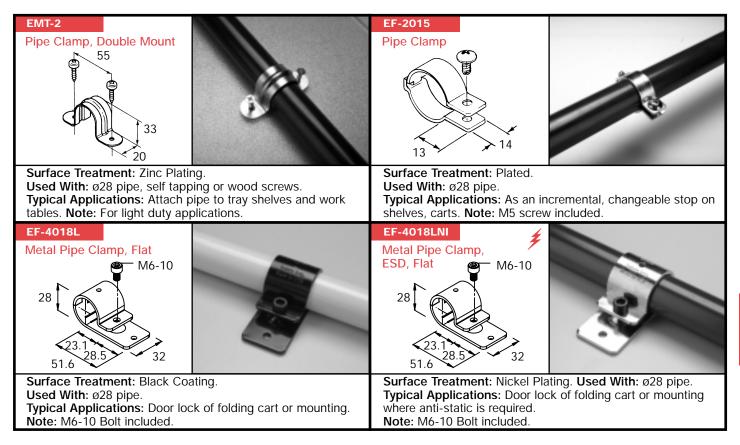


CREFORM ACCESSORIES PIPE CLAMPS



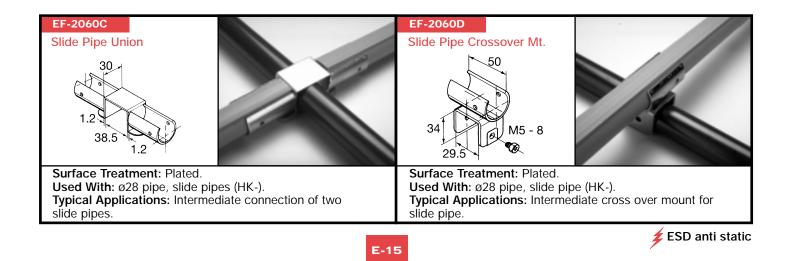
CREFORM ACCESSORIES PIPE CLAMPS

Dimensions are in millimeters.



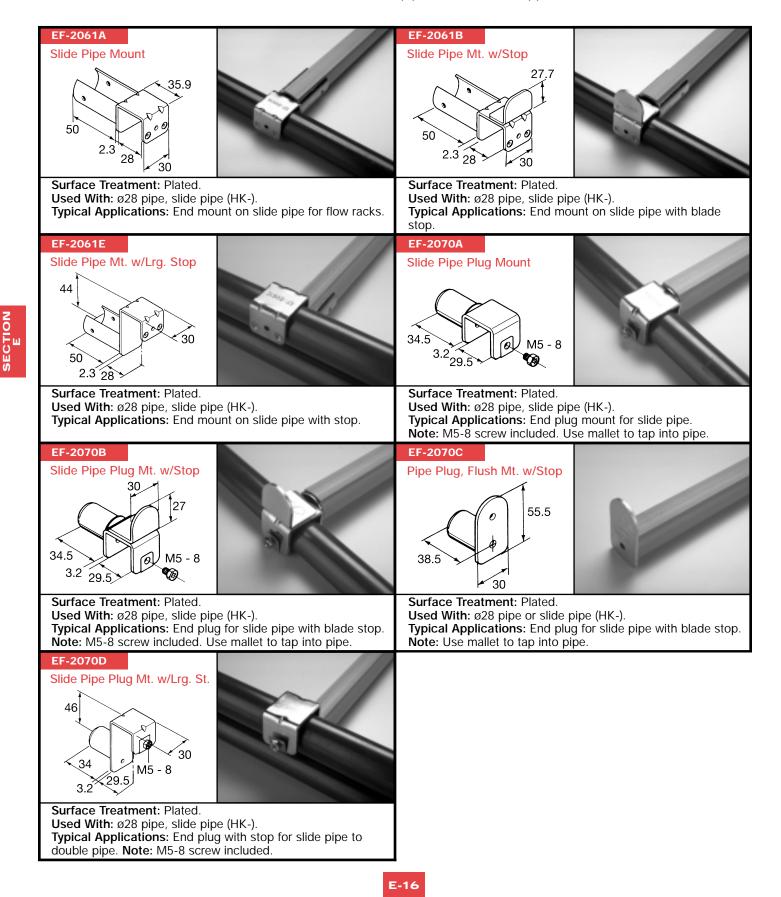
CREFORM ACCESSORIES SLIDE PIPE MOUNTS

Dimensions are in millimeters. Used with HK-, HKLA- and HKGA slide pipe for anti-static applications. *≸*

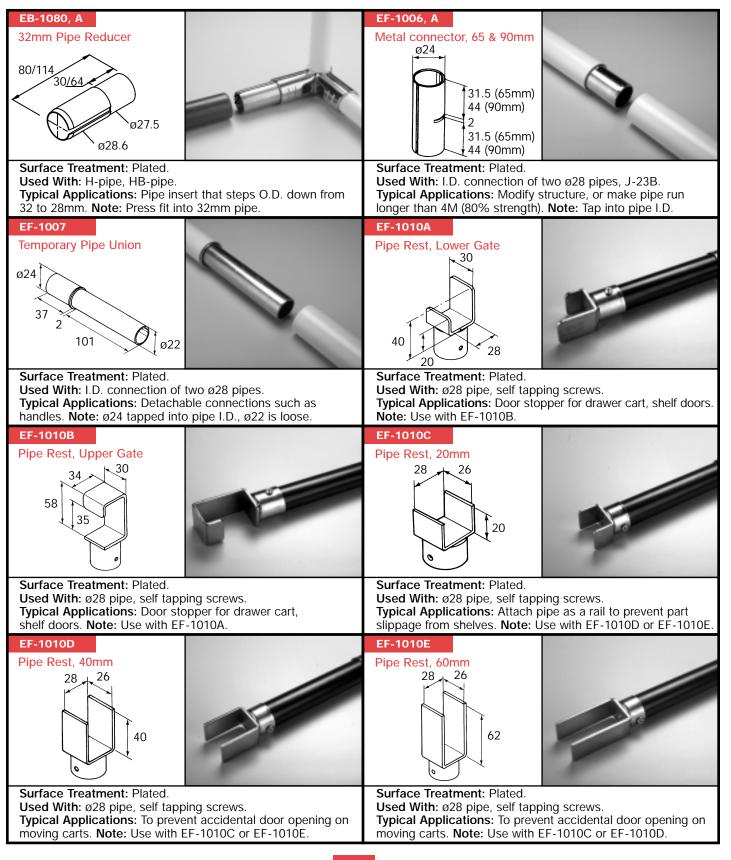


CREFORM ACCESSORIES SLIDE PIPE MOUNTS

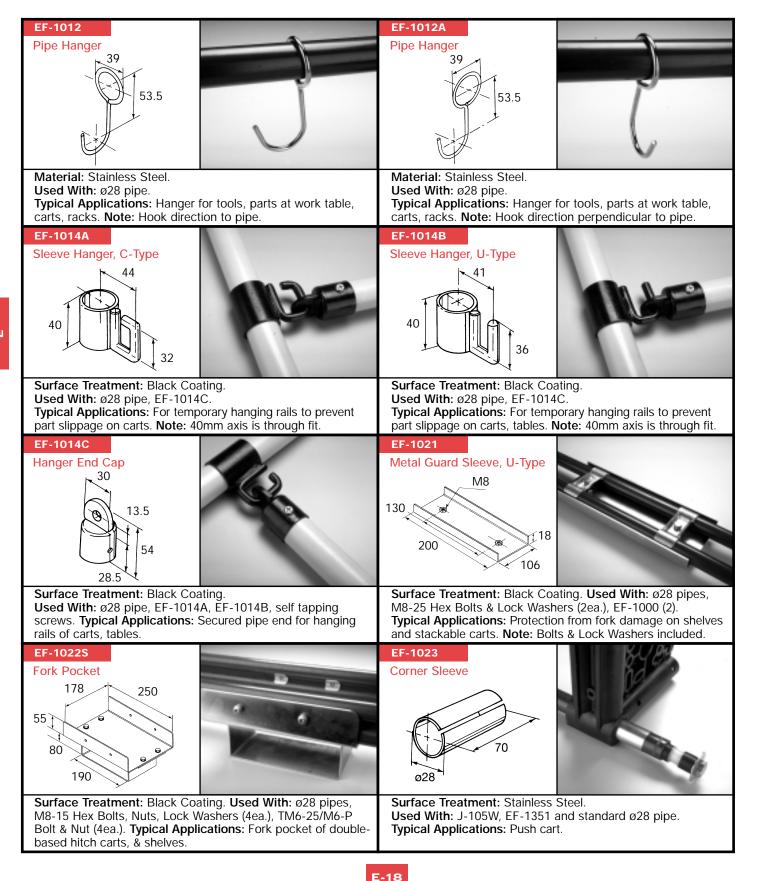
Dimensions are in millimeters. Used with HK- and HKL- slide pipe. Used with HKLA- and HKGA slide pipes for anti-static applications. *¥*

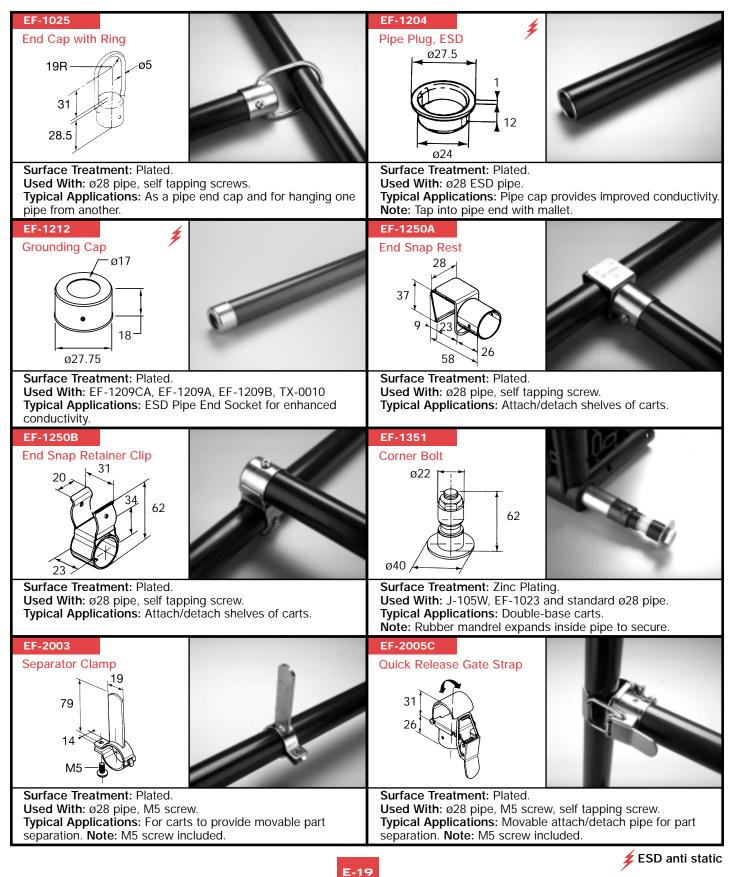


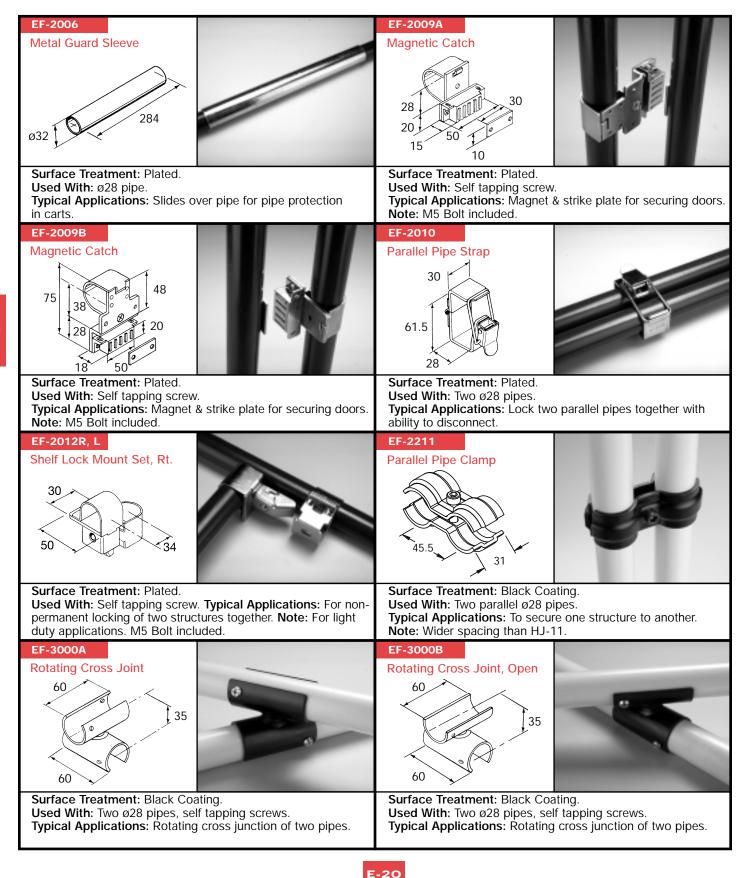
Dimensions are in millimeters.



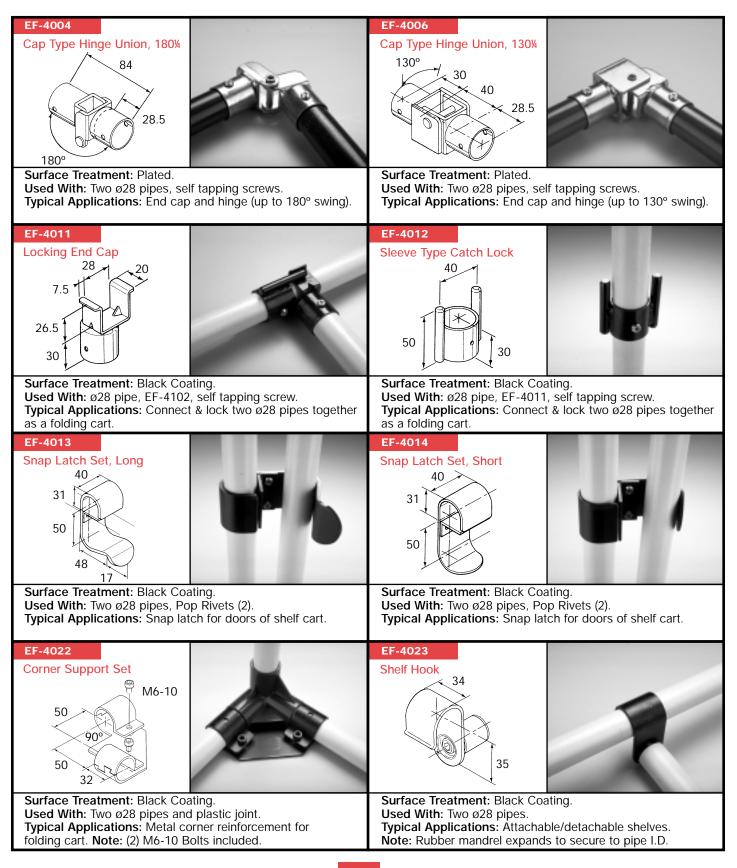
E-17





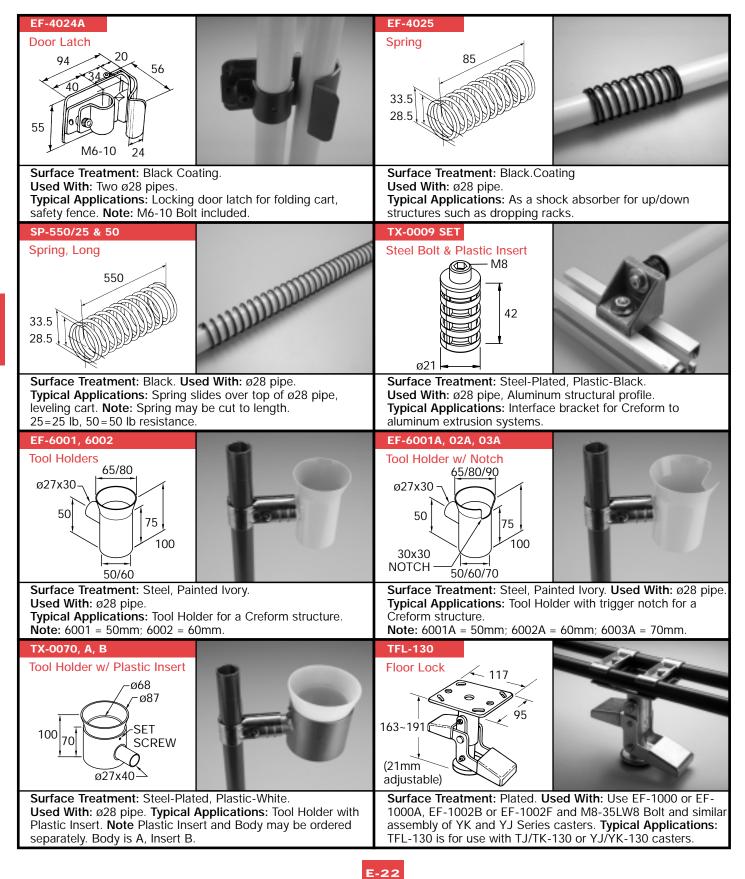


Dimensions are in millimeters.



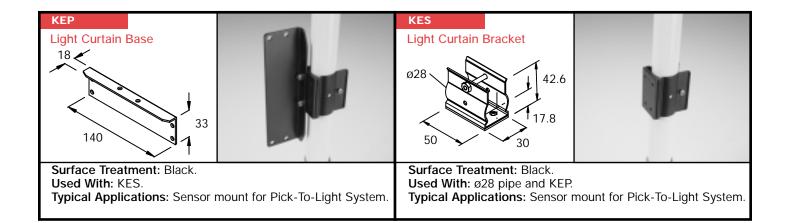
SECTION E

Dimensions are in millimeters.



SECTION

Dimensions are in millimeters.

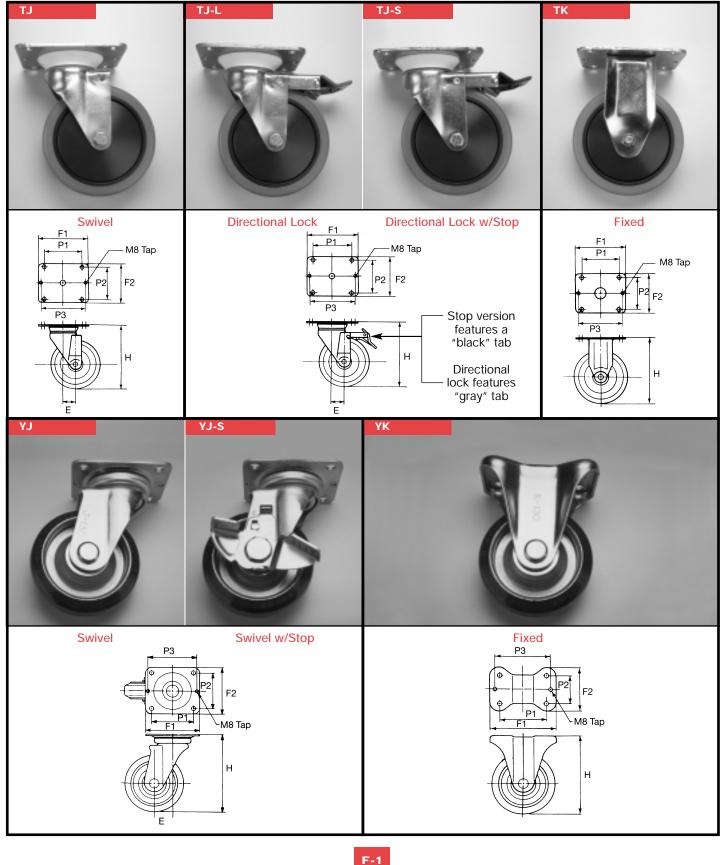




For additional Pick-To-Light information see page I-1

DOes not print

CREFORM BOLT-ON CASTERS



SECTION

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.

Type Caster &	Part Number			Max. Loading Capacity		Pitch		Tuggable	Swivel Radius	Height	
Diameter	Rubber	Polyurethane*	ESD 🗲	Kgs.	Lbs.	- F1 x F2	P1 x P2	P3		E	Н
Swivel ø130	TJ-130R	TJ-130U	—	125	275	120 x 98	90 x 80	105	No	30	164
Directional, Lock ø130	TJ-130LR	TJ-130-LU	—	125	275	120 x 98	90 x 80	105	No	30	164
Directional, Lock w/Stop ø130	TJ-130SR	TJ-130-SU	—	125	275	120 x 98	90 x 80	105	No	30	164
Fixed ø130	TK-130R	TK-130U	_	125	275	120 x 98	90 x 80	105	No	_	164

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.

Type Caster &		Part Number		capacity		Plate Size	Pitch		Tuggable	Swivel Radius	Height
Diameter	Rubber	Polyurethane	ESD 🗲	Kgs.	Lbs.	- F1 x F2	P1 x P2	P3		E	Н
Swivel ø130	YJ-130	YJ-130U	YJ-130E	180	396	120 x 104	90 x 80	107	Yes	40	177
Swivel w/Stop ø130	YJ-130S	YJ-130-SU	YJ-130SE	180	396	120 x 104	90 x 80	107	Yes	40	177
Fixed ø130	YK-130	YK-130U	YK-130E	180	396	138 x 94	100 x 56	105	Yes	_	177
Swivel ø150	YJ-150	YJ-150U	_	200	440	120 x 104	90 x 80	107	Yes	45	198
Swivel w/Stop ø150	YJ-150S	YJ-150SU	_	200	440	120 x 104	90 x 80	107	Yes	45	198
Fixed ø150	YK-150	YK-150U	_	200	440	138 x 94	100 x 56	105	Yes	_	198
Swivel ø200	YJ-200	YK-200U	YJ-200E	250	550	140 x 112	112 x 80	125	Yes	58	250
Swivel w/Stop ø200	YJ-200S	YJ-200SU	YJ-200SE	250	550	140 x 112	112 x 80	125	Yes	58	250
Fixed ø200	YK-200	YK-200U	YJ-200E	250	550	154 x 103	112 x 63	125	Yes	_	250

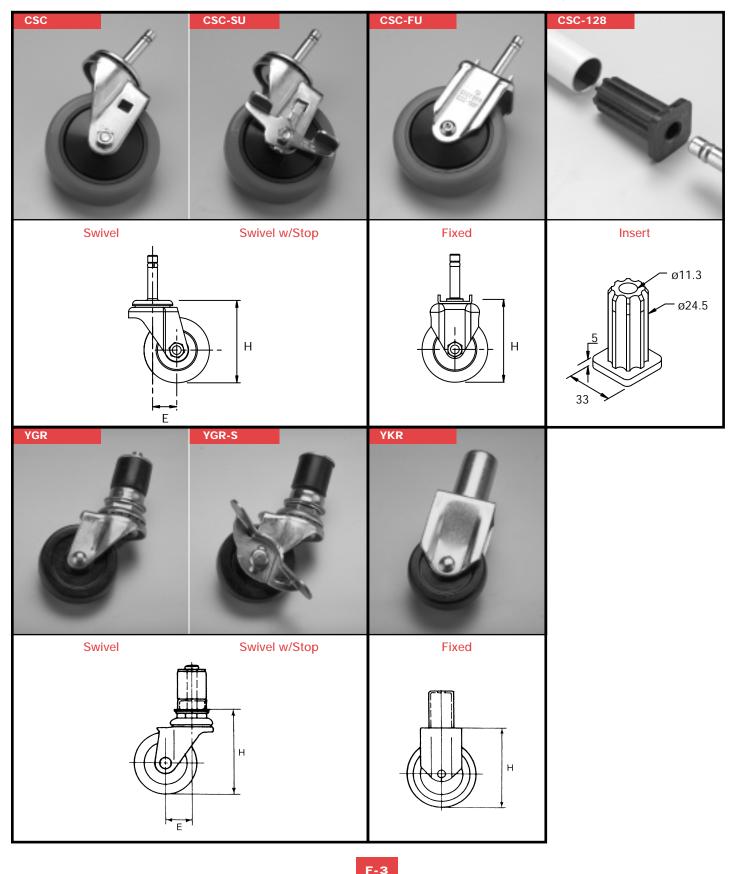
Loading maximum capacity is per wheel.

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.



CREFORM STEM CASTERS

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.



CREFORM STEM CASTERS

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.

Type Caster &		Part Number			Maximum acity	Swivel Radius	Height	Height to Pipe
Diameter	Rubber	Polyurethane	ESD 🗲	Kgs.	Lbs.	E	H	End
Swivel ø50	—	CSC-50U	—	34	75	21	64	69
Swivel w/Stop ø50	—	CSC-50SU	—	34	75	21	64	69
Fixed ø50	—	_	—	_	—	—	_	—
Swivel ø75	—	CSC-75U	—	102	225	30	99	104
Swivel w/Stop ø75	_	CSC-75SU	_	102	225	30	99	104
Fixed ø75	_	CSC-75FU	_	102	225	_	99	104
Swivel ø100	—	CSC-100U	—	125	275	35	124	129
Swivel w/Stop ø100	_	CSC-100SU	_	125	275	35	124	129
Fixed ø100	_	CSC-100FU		125	275		124	129
Stem Receiver, Plastic	_	CSC-128*	Included with ea	ch CSC-series cas	ter, also available s	separately.		

No special tools required.

Loading maximum capacity is per wheel.

Minimum pipe length for caster's stem receiver is 70mm.

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.

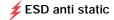
Type Caster &		Part Number			Maximum acity	Swivel Radius	Height H
Diameter	Rubber	Polyurethane	ESD 🗲	Kgs.	Lbs.	E	to Pipe End
Swivel ø50	YGR-50	_	YGR-50E	25	55	20.5	68.5
Swivel w/Stop ø50	YGR-50S	_	YGR-50SE	25	55	20.5	68.5
Fixed ø50	YKR-50	_	—	25	55	_	71*
Swivel ø75	YGR-75	YGR-75U	YGR-75E	40	88	28	99.5
Swivel w/Stop ø75	YGR-75S	YGR-75SU	YGR-75SE	40	88	28	99.5
Fixed ø75	YKR-75	_	—	40	88	_	83.5*
Swivel ø100	YGR-100	YGR-100U	—	40	88	32	128.5
Swivel w/Stop ø100	YGR-100S	YGR-100SU		40	88	32	128.5
Fixed ø100	_	_	_	_	—	_	—

Loading maximum capacity is per wheel.

* Note height difference

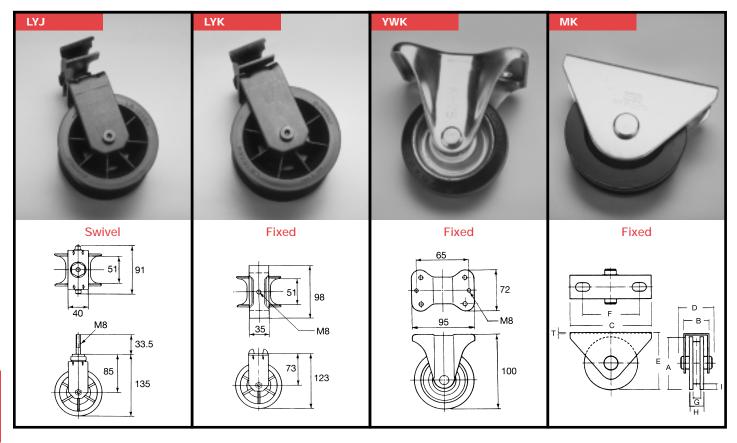
Minimum pipe length for caster's stem is 70mm.

See Technical Section H for caster assembly instructions.



CREFORM SPECIALTY CASTERS

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.



Part	Wheel	Color	Loading Maximum Capacity Diameter			Height	
Number	imber Material		Kgs.	Lbs.	Diameter		
LYJ-1005	Nylon	Black	50	110	100	135	
LYK-1005	Nylon	Black	50	110	100	123	
	Number LYJ-1005	NumberMaterialLYJ-1005Nylon	NumberMaterialColorLYJ-1005NylonBlack	PartWheelColorCap.NumberMaterialKgs.LYJ-1005NylonBlack50	PartWheelColorCapacityNumberMaterialKgs.Lbs.LYJ-1005NylonBlack50110	PartWheelColorCapacityWheelNumberMaterialColorKgs.Lbs.DiameterLYJ-1005NylonBlack50110100	

Loading maximum capacity is per wheel.

Casters include mounting hardware.

Part Number	Wheel	Wheel Loading Maximum Capacity		Wheel Diameter	Height	
Number			Lbs.	Diametei		
YWK-75	Rubber	80	176	75	100	

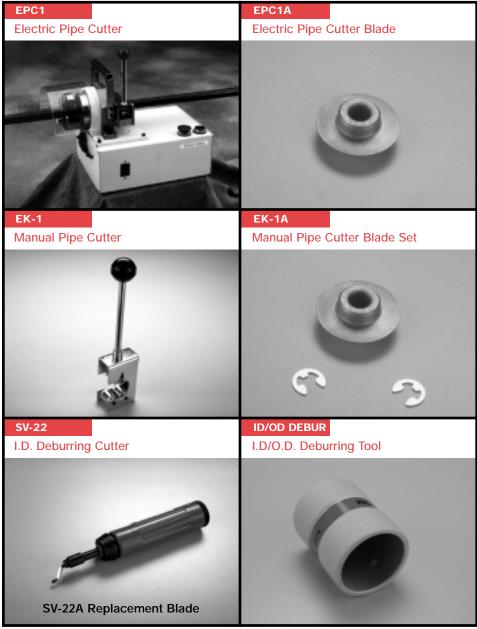
Part Number	А	В	С	D	E Height	F	G	Н	I	Т	Loading I Cap	Maximum acity
Number					neight						Kgs.	Lbs.
MK-75	ø75	37	120	47 x ø13	88	95 x11	7.5	26	6	3.2	250	550
MK-75-11	ø75	37	120	47 x ø13	88	95 x11	11.0	26	6	3.2	250	550
MK-90	ø90	37	120	47 x ø13	96	95 x11	10.5	26	8	3.2	300	660

Loading maximum capacity is per wheel.

See Technical Section H for caster assembly instructions.

CREFORM TOOLS

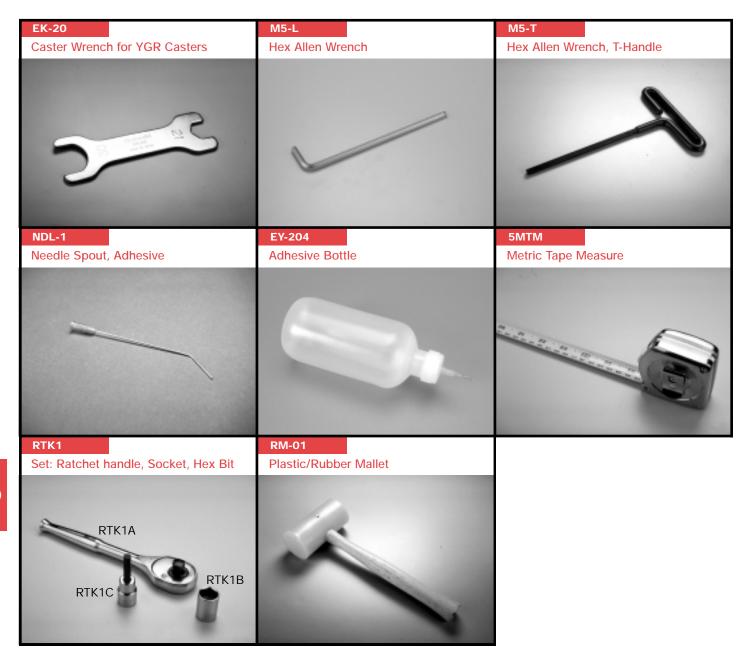
Creform Pipe should always be cut using a pipe cutter, band saw or chopsaw — never use a hand saw to cut pipe as this will frequently result in pipe sections not cut to the required lengths and pipe ends out of square. These conditions can effect the fit and strength of your Creform structures.



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.

CREFORM TOOLS

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.



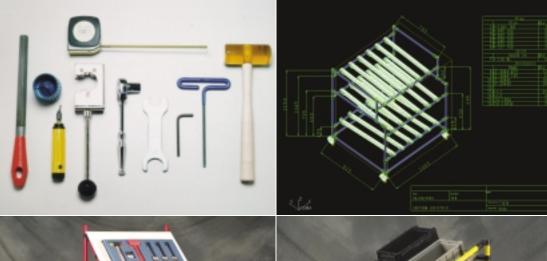
CREFORM FASTENERS

All fasteners are metric.

Fastener Type	Tools	Usage	Fastener Type	Tools	Usage
M6-25B	5mm Hex	HJ-Series ø28 Metal Joints.	M8-30	13mm Socket	YK-100 Casters.
M6-25	5mm Hex	HJ-Series ø28 Metal Joints. Use with M6-B.	M8-35LW8	13mm Socket	Attaching Casters. Required for TJ-130SU.
M6-30	5mm Hex	SJ-Series ø32 Metal Joints. Use with M6-B.	M8-40LW8	13mm Socket	Attaching Casters (except TJ-130S).
M6-40	5mm Hex	Installing Hitch EF-2001. Use with M6, M6-LW.	M8-50	6mm Hex Wrench	EF-2016A-D and EF-2017. Use with M8-PW, M8 - LW, M8.
TM6-25	5mm Hex	Double Base Joints. Use with M6-P.	M8-60W	13mm Socket	Attaching Casters to Double Base Joints. Use with M8-G.
M6-LW	_	EF-2001. Use with M6-40 & M6.	M8-LW	_	EF-2016A-D and EF-2017. Use with M8-50, M8-PW, M8.
M6-B	_	HJ-Series ø28 & SJ-Series ø32 Metal Joints. Use with M6-25 & M6-30.	M8-PW	_	EF-2016A-D, and EF-2017. Use with M8-50, M8-LW, M8.
M6	10mm Wrench	Installing Hitch EF-2001. Use with M6-40 & M6-LW.	MB	13mm Wrench	For EF-2016A-D, EF-2017 or EF-1022. Use with M8-LW, M8-PW, M8-50 (hitch) or M8 -15 (fork pocket).
M6-P		Double Base Joints. Use with TM6-25.	M8-G	13mm Wrench	Attaching Casters to Double Base Joints. Use with M8-60W.
M8-15	13mm Socket	Attaching Fork Pocket EF- 1022. Use with M8.	TX-0014	13mm Wrench	Concrete Anchor Bolt use with EF-1206S, EF-1206W. Floor anchorage for safety fence, fixed shelf.

The impact Creform Systems will have on your immediate and longterm 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 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





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 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

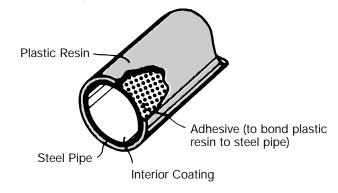
structure (plastic is lighter), foreseeable modifications (metal joints can be easily disassembled and reused), vibration (metal joints absorb vibration and impacts better), and strength (typically, permanently bonded plastic joints are stronger).

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.

Creform Pipe	Creform Pipe Specifications					
Material	Steel pipe [Cold-rolled steel, SPCC-1 approx. 0.7mm (0.03") thick, 28mm; 0.9mm (0.04") thick, 32mm] plastic resin coating					
Outside Diameter	28mm (1.10"), nominal 32mm (1.26"), nominal					
Weight	28mm, approx, 520g/m (5.5ozs./ft.); 32mm approx. 740g/m (7.8ozs./ft.)					
Length	2.5m (8'2"), 3.0m (10') 4.0m (13'1")					
Gage	28mm No. 23 32mm No. 21					



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 15° to 120°F (-10°C to 50°C). **Chemical Resistance:** Please inquire with your specific requirement.

Typical Applications



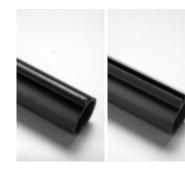
Slide Pipe

- 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

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





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

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 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

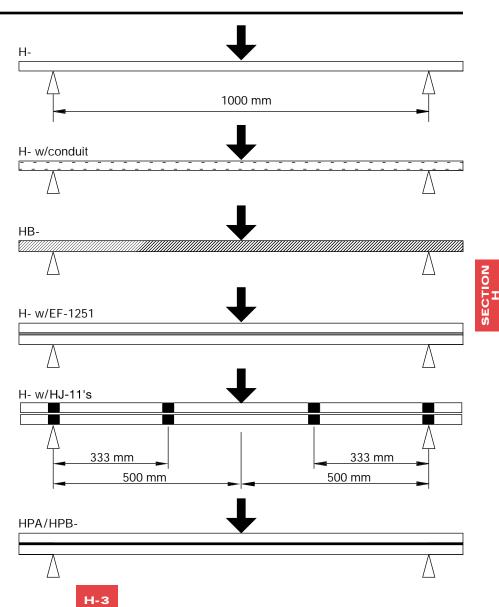
A Dimension	Proportional Limit				
450mm (1'5")	140kg (308 lbs.)				
900mm (2'11")	70kg (154 lbs.)				
1,000mm (3'3")	58kg (128 lbs.)				
1,100mm (3'7")	52kg (115 lbs.)				
1,300mm (4'3")	46kg (101 lbs.)				
1,500mm (4'11")	38kg (84 lbs.)				
1,800mm (5'10")	32kg (70 lbs.)				

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

Deflection

Assume a simply supported H- pipe $(\emptyset = 28 \text{ mm})$ 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.

Pipes	Strength	Deflection
H- pipe (28mm)	100%	100%
H- pipe (28mm) w/ 3/4" Conduit Inside	180%	78%
HB- pipe (32mm)	194%	60%
H- pipes (28mm) w/ EF-1251	193%	76%
H- pipes (28mm) w/ HJ-11	168%	67%
HPA/HPB- pipe	392%	13%



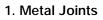
Α

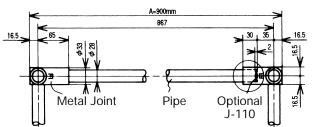
Determining Standard Pipe Lengths

The following is true for most Creform joints. Please check the catalog for exact dimensions of an individual joint.

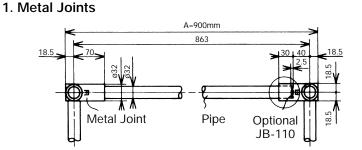
ø28mm

ø32mm





900mm	Outer Measurement A
-33mm	Joint Radius x 2
-70mm	Pipe Length Inside Joint (35mm x 2)
797mm	Pipe Length



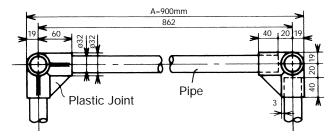
900mm	Outer Measurement A
-37mm	Joint Radius x 2
-80mm	Pipe Length Inside Joint (40mm x 2)
783mm	Pipe Length

2. Plastic Joints

2	
0	
	-
5	÷
ш	

900mm	Outer Measurement A
-34mm	Joint Radius x 2
-40mm	Pipe Length Inside Joint (20mm x 2)
826mm	Pipe Length

2. Plastic Joints



900mm	Outer Measurement A
-38mm	Joint Radius x 2
-40mm	Pipe Length Inside Joint (20mm x 2)
822mm	Pipe Length

Conversion Chart*

20

mm	Inches, Dec.	Inches, Frac. Approx.	mm	Inches, Dec.	Inches, Frac. Approx.									
4	0.1575	3/16	33	1.2992	1-5/16	37	1.4567	1-7/16	40	1.5748	1-9/16	80	3.1496	3-1/8
5	0.1969	3/16	34	1.3386	1-5/16	38	1.4961	1-1/2	70	2.7559	2-3/4	900	35.4331	35-7/16

* Conversion factor is 25.4mm per inch.

Creform Standard Joints

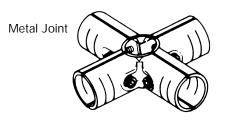
Structures are formed by connecting pipes with our Metal and Plastic joints. When choosing the joints to use for your project, give consideration to flexibility, reusability, strength, environment, and cost factors. Further details below will help you choose the right joints for your application.

Creform Metal Specifications				
Material Steel				
Color	Black (standard) Silver Nickel (ESD)			
Gage	No. 12			

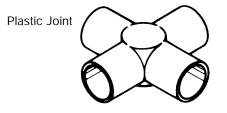
- The flexibility and reusability of our metal joints make them the most popular among our customers.
- Metal joints are the superior choice if your structure will experience vibration or impact loading.
- Available either as H-components or HJ-joint sets. The H-components are joined together with a 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.

Creform Plastic Joint Specifications				
Material Plastic Resin				
Weight	Average 40g/piece			

- 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.









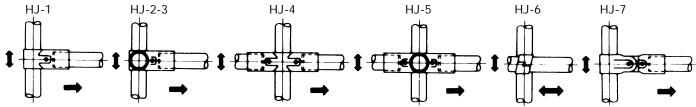


Technical specifications are for reference only and subject to change.

H-5

Metal Joint Strength for Standard 28mm Pipe

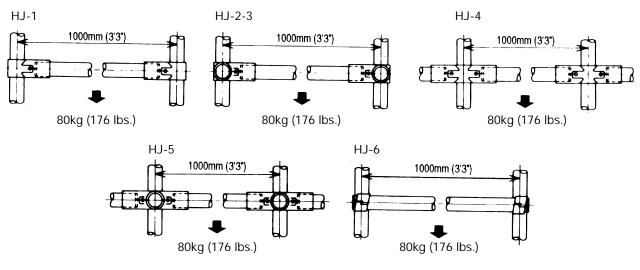
A. The holding strength of metal joints versus a horizontal or vertical pulling force is about 80kg (176 lbs.) These tests were performed at room temperature at a pulling rate of 5mm/min.



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

Experimental Conditions

At room temperature, a force was applied in the center of a 1000mm (3'3") length pipe. The force rate was 1kg/min.



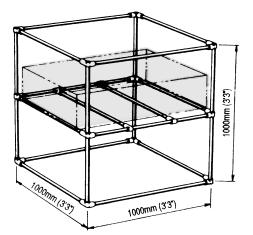
ECTION H

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

Experimental Conditions

A downward force was applied evenly on a shelf at room temperature and at a rate of 3kg/min.

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.



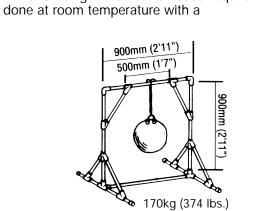
Plastic Joints

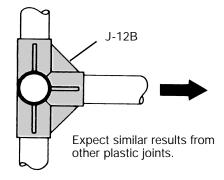
Adhesive Strength for Standard 28mm Pipes & Plastic Joints Plastic joint J-12B was set aside for one week after bonding with Creform Adhesive. It resisted a maximum pulling force of 800kg (1,762 lbs.)

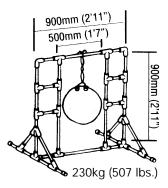
Experimental Conditions

900mm (2'11")

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.

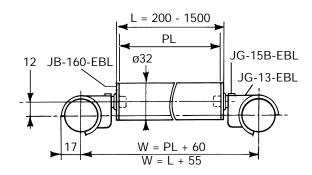






Special plastic joints are used to assemble Creform roller pipes

Roller Conveyors using HBG- or HBGA- 32mm Pipe



900mm (2'11")

🗞 110kg (242 lbs.)

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.

Roller	Length	Max. Loading		
mm	Inch	kg	lbs.	
200	8"	20	44	
300	1'0"	14	30	
400	1'4"	13	28	
500	1'8"	11	24	
600	2'0"	10.5	23	
700	2'4"	10	22	
800	2'8"	8.5	18	
900	2'11"	7.5	16	
1000	3'3"	7	15	
1200	3'11"	6	13	
1500	4'11"	5.5	12	

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.





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



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





D. Use Creform Adhesive in a well ventilated area.



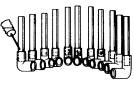
Creform Adhesive — FOR BEST RESULTS

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.



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



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



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





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.



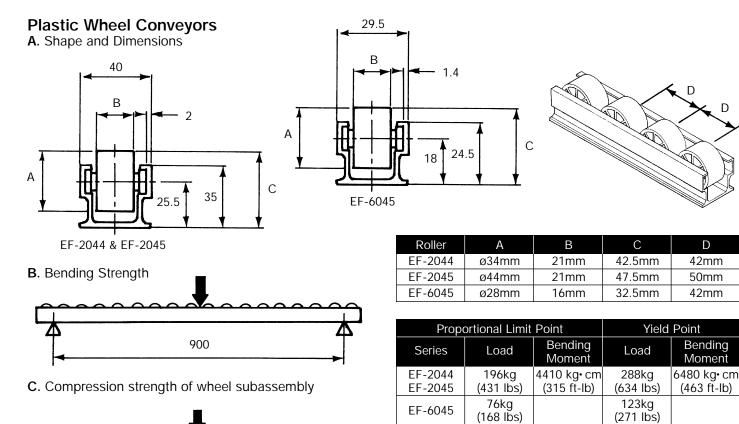


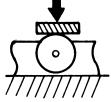
C. Apply adhesive uniformly along the area to be bonded. Because the adhesive melts the pipe coating and plastic joints, make sure it is not forced out along the sides.



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.







Proportional Limit Load					
EF-2044 EF-2045 EF-6045					
113kg (249 lbs)	122kg (269 lbs)	97kg (214 lbs)			

Angle recommended for consistent and controlled flow:

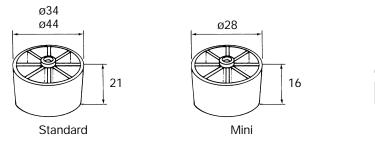
- EF-2044/45 series 3 to 3-1/2 degrees
- EF-6045 series 4 to 4-1/2 degrees

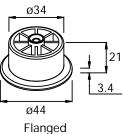
A selection of conveyor mounts is available for each series. See conveyor accessories section of catalog for availability.

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.

H-9

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



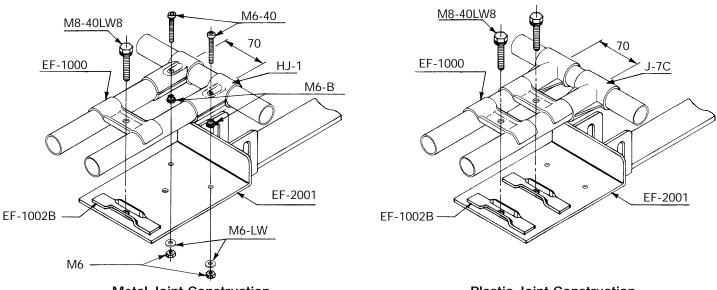


SECTION H

Narrow

How to Assemble Hitches

Make your carts towable with the addition of a Creform hitch. Installation details provided below.

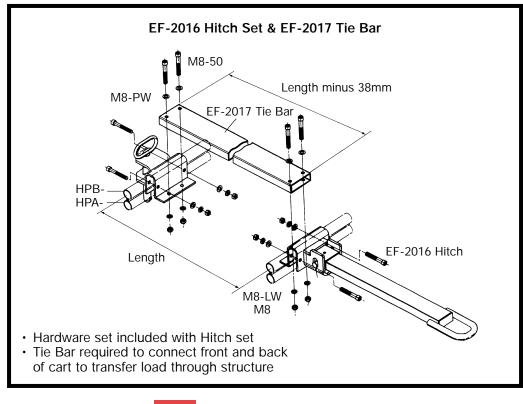


EF-2001SET Quick Release Hitch

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

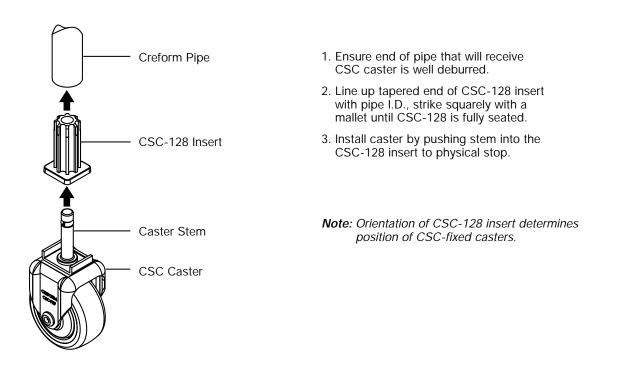
Structure Metal Plastic

Built with	Joints	Joints				
Hardware Part No.	Qty.	Qty.				
EF-1000	2	4				
EF-1002B	2	4				
M8-40LW8	2	4				
M6-40	4	n/a				
M6-B	4	n/a				
M6-LW	4	n/a				
M6	4	n/a				
FE-2001SET comes complete						

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

How to install CSC Casters

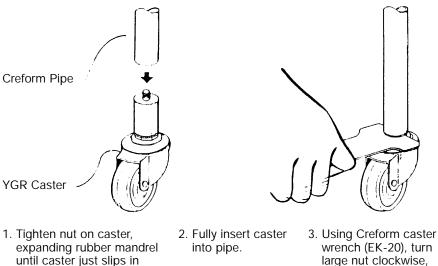
CSC casters are designed to fit I.D. of ø28 pipe.



How to install YGR Casters

end of pipe.

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





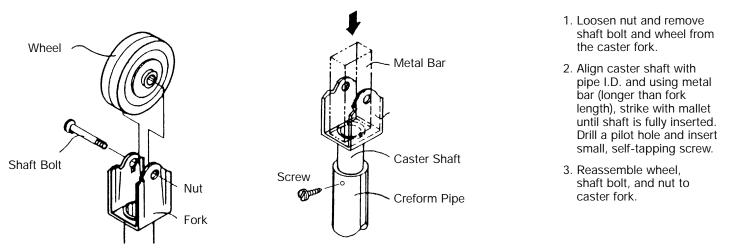
SECTION H

Part Number EK-20 Caster Wrench

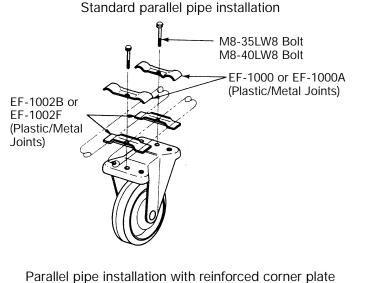
 Using Creform caster wrench (EK-20), turn large nut clockwise, expanding rubber mandrel until caster is secure.

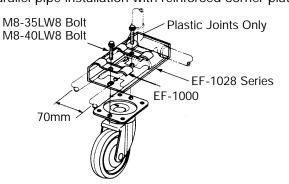
How to install YKR Casters

YKR caster is a press fit, tapped into the end of pipe and secured with a self-tapping screw.

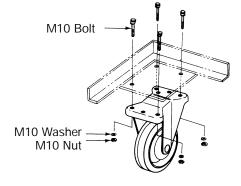


How to attach YJ/YK and TJ/TK Casters



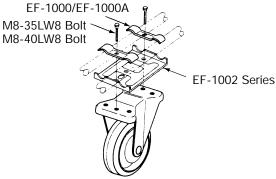


For custom made cart base corners.



Note: TJ-130SU caster must be installed using the M8-35LW8 bolt. Use of a longer bolt will result in interference.

Parallel pipe installation with reinforced base plate

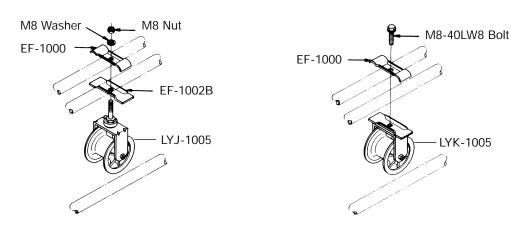


How to attach LYJ and LYK Casters

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

LYK-1005 Fixed





PICK THE RIGHT PARTS IN SEQUENCE USING CREFORM®S PICK-TO-LIGHT SYSTEM

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. 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



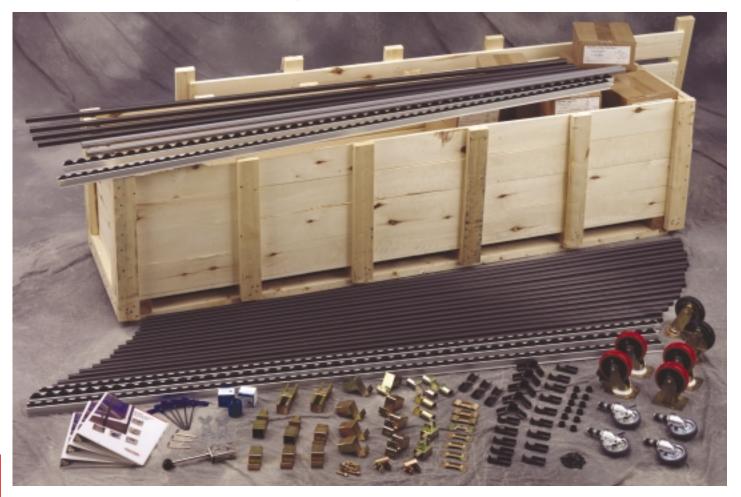
Easily adaptable to new or existing Creform racking or workstations, the Creform Pick-To-Light System can tell an operator which part to pick as well as the quantity. All sequenced to the line. And it also can tell the operator when a wrong part is picked. toggle confirmation, lights with photo sensors, light curtains and LED display. The system is capable of communicating with internal LAN systems for inventory control.

SECTION

CREFORM STARTER KIT

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 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,



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

specific to a particular application.

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 HOW TO ORDER

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.

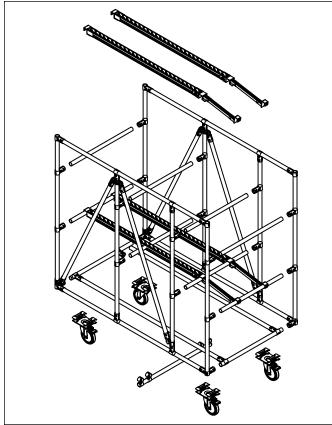
See Creform Starter Kit on page I-2.

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.



Assemble remaining support pipes. Tighten all bolts and nuts.



Attach casters and tighten all bolts and nuts.



SECTION

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	w	ww.creform.com		Wixom, MI Office PH: 248-926-2555 FAX: 248-926-2565
Date:		Reference #:		
Name:		Title/Section:		
Company:	Phone#: ()	Fax#: ()
Address			Email [.]	

Quantity	Part Number	Description	Length (If Applicable)	Color

Photocopy this blank form and save original.

SECTION