

LOGIFORM®

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LOGIFORM®

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**LOGIFORM®**  
Wide range of Lean-Manufacturing product & services provider

LOGIFORM®



한보일렉트(주) HBL INC.

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LOGIFORM®

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본 인쇄물은 저작권법에 의한 2차 저작물로서 디자인의 복제 및 무단 편집 사용시 관련 법규에 의거 처벌 받을 수 있습니다.  
제작권 소유자 정보  
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# COMPANY HISTORY

- JUNE, 2017 > Acquisition of ISO 9001:2015
- SEPTEMBER, 2016 > Reaching to LOGIFORM product users in 30 countries.
- APRIL, 2016 > Establishment of 2nd factory in Vietnam
- DECEMBER, 2012 > Winning an "Export Tower Prize" for breaking the export records of 10 million US Dollars. (KITA)
- NOVEMBER, 2011 > The launch of a corporation named 'LOGIFORM Co. Ltd.' in Vietnam
- MAY, 2011 > Acquisition of [ISO 9001:2008] and [ISO 14001:2004].
- SEPTEMBER, 2010 > Expansion of production line.
- JANUARY, 2009 > Migration of main office and production line to the present domicile.
- DECEMBER, 2007 > Named as one of "Innovative Business Corporates" by Gyeonggi Municipal Government.
- DECEMBER, 2006 > Acquisition of "INNO-BIZ" certificate.
- NOVEMBER, 2006 > Establishment of the R&D Center.
- JULY, 2006 > The official launch of HBL's signature brand "LOGIFORM".
- JUNE, 2004 > Acquisition of [ISO 9001:2000].
- MAY, 2004 > Change of the company name from "Han-Bo Co. Ltd." to "HBL Inc."
- MAY, 2004 > The launch of a European sales & assembly division named "HBLOGIS s.r.o." in Slovakia.
- SEPTEMBER, 1997 > Establishment of "Han-Bo Co. Ltd."

**LOGIFORM®**



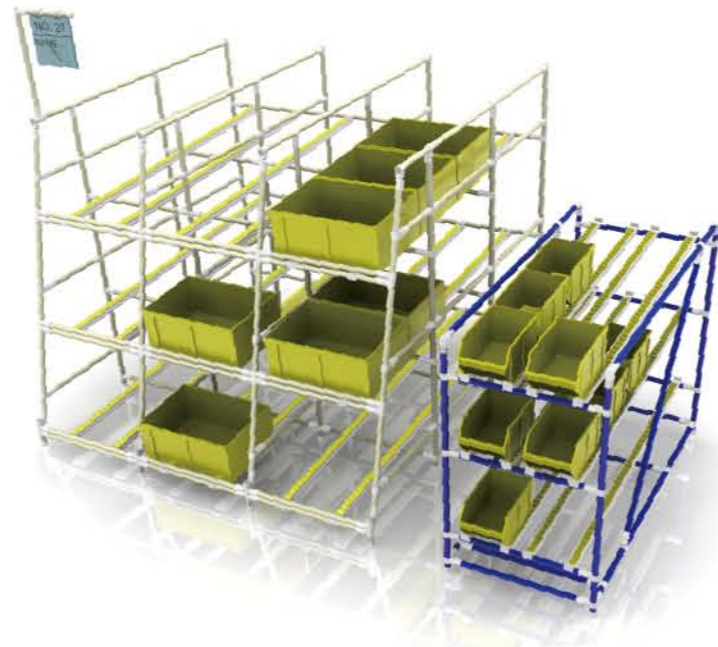
# LOGIFORM ?

Turning your thoughts into reality couldn't be easier. **LOGIFORM** adds momentum to your cost-effective material handling plan.

- I. Easy accessibility : In a few steps you can start to build a customised structure.
- II. Clean and vivid appearance : Logiform pipe enables its exterior surface to retain its appearance.
- III. Modification friendly : Quick implementation of changes is achievable with the minimum of effort.
- IV. Reliability : Build an easy-to-handle mobile structure. It's light-weight and yet robust!
- V. Low budget : You do not need a dedicated facility for the assembly work.
- VI. Simplicity : Turn off your welder. Now you just need to connect one piece of pipe to another.
- VII. Perpetual stream of Kaizen events : Implement your Kaizen ideas in real time with purpose of building structures.

로지폼은 아이디어에서 제작까지의 창조 활동을 실현합니다. 표면을 프라스틱으로 피복한 로지폼 파이프와 풍부한 종류의 조인트에 의하여 다양한 구조체를 손쉽게 제작할 수 있는 특성과 시스템을 갖춘 제품입니다.

- I. 조립이 간단하여 특별한 기술이 없어도 제작이 가능합니다.
- II. 표면이 수지로 코팅 처리되어 청결함이 오래 유지됩니다.
- III. 제작에 실패하여도 수정이 간단합니다.
- IV. 경량 자재이므로 제작 및 제작물의 운반이 용이 합니다.
- V. 제작을 위한 설비가 필요 없습니다.
- VI. 용접할 필요가 없어 안전하며, 현장 맞춤이 간단합니다.
- VII. 지속적인 개선 활동을 추진할 수 있습니다.



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### • TECHNICAL SPECIFICATIONS

### • APPLICATION

# 11

## PIPES

ESD PIPE

STANDARD PIPE

STAINLESS PIPE



### LOGIFORM PIPE

is steel pipe with a synthetic plastic resin coated outer surface.

### LOGIFORM PIPE 는

표면에 합성 플라스틱을 피복한 스틸파이프입니다.

- Highly resistant heat level : Up to max. 100 degrees Celsius / 우수한 내열성 (100℃ 까지 사용 가능, 제한적)
- Highly durable under the oily work environment / 우수한 내유성
- Relatively better chemical resistance / 화학적 안정성
- Less amount of the poisonous substance emitted from the use of the Synthetic resin / 무독성

### 파이프 구조

Synthetic resin  
Adhesive  
Steel pipe



 Packing Unit

- 1 Bar (1본) = 4M
- 1 Bundle (1묶음) = 10 Bars

LP  
LOGIFORM  
PRODUCT  
CODE  
(파이프분류)

- 1100IV  
THICKNESS COLORS  
(파이프두께) (파이프컬러)

# PIPES (LOGIFORM PIPE STANDARD COLORS)

## \* STANDARD PRODUCTION LINE-UP

DESCRIPTION	COLOR			THICKNESS					
				0.7T	0.9T	1.0T	1.1T	1.4T	2.0T
LOGIFORM PIPE	IVORY	(IV)				○		○	○
	WHITE	(WH)				○		○	○
	GRAY	(GR)				○		○	○
	BLUE	(BL)				○		○	○
	BLACK	(BK)				○		○	○
CONDUCTIVE PIPE	BLACK	(BK)				○		○	○
SLIDE PIPE	IVORY	(IV)				○		○	○
STAINLESS PIPE	200			○	○		○		
	300						○		
	400			○	○		○		

## \* OPTIONS

DESCRIPTION	COLOR			THICKNESS			
				1.0T	1.4T	1.5T	2.0T
LOGIFORM PIPE	DEEP GRAY	(EG)		○	○		○
	BLACK	(BK)		○	○		○
	SKY BLUE	(SB)		○	○		○
	DARK BLUE	(DB)		○	○		○
	GREEN	(GN)		○	○		○
	RED	(RD)		○	○		○
	DARK YELLOW	(DY)		○	○		○
	DARK GRAY	(DG)		○	○		○
	BROWN	(BN)		○	○		○
CONDUCTIVE PIPE	BLACK	(BK)		○	○		○
SLIDE PIPE	GRAY	(GR)		○	○		○
ALUMINIUM PIPE	SILVER					○	
ANTISTATIC PIPE	IVORY	(IV)		○	○		○
	GRAY	(GR)		○	○		○
PEARL PIPE	GOLD	(GD)		○	○		○
	SILVER	(SV)		○	○		○

※ Color / Quantity / Lead time / Stock / etc. must be discussed prior to purchase  
 ※ For any other inquiry, please contact us at hbl@hbjoint.com

# LOGIFORM PIPES

**LOGIFORM PIPE**

COLOR OPTION  
 ○ WH ○ BK ○ IV ○ GR ○ BL

PRODUCT CODE	THICKNESS (Steel)	WEIGHT
LP-1100	1t	676g/m
LP-1140	1.4t	930g/m
LP-1200	2t	1,265g/m

▲ EX)LP-1100IV

**CONDUCTIVE PIPE**  
 ⚡ 도전성

Surface Resistance  
 $10^4 \sim 10^6 \Omega$

PRODUCT CODE	THICKNESS (Steel)	WEIGHT
CP-1100	1t	676g/m
CP-1140	1.4t	930g/m
CP-1200	2t	1,265g/m

▲ EX)CP-1100BK

**ANTISTATIC PIPE**  
 ⚡ 대전방지  
 Surface Resistance  
 $10^4 \Omega \sim 10^8 \Omega$

COLOR OPTION  
 ○ IV ○ GR

PRODUCT CODE	THICKNESS (Steel)	WEIGHT
AP-1100	1t	676g/m
AP-1140	1.4t	930g/m
AP-1200	2t	1,265g/m

▲ EX)AP-1100GR

**SLIDE PIPE**

COLOR OPTION  
 ⚡ ESD ○ WH ○ IV ○ GR

PRODUCT CODE	THICKNESS (Steel)	WEIGHT
SL-1100	1t	767g/m
SL-1140	1.4t	1,021g/m
SL-1200	2t	1,356g/m

▲ EX)SL-1100IV

**ALUMINIUM PIPE**

ASP-1120 ASP-1200 ASP-1280 ACP-1120 AJ-3143

PRODUCT CODE	THICKNESS (Steel)	WEIGHT
ASP-1120	1.2t	347g/m
ASP-1200	2.0t	415g/m
ASP-1280	2.8t	476g/m
ACP-1120	1.2t	720g/m
AJ-3143	1.5t	468g/m

**STAINLESS PIPE**

PRODUCT CODE	THICKNESS (Steel)	WEIGHT
ST-1070 Grade classification : 200/400	0.7t	448g/m
ST-1090 Grade classification : 200/400	0.9t	570g/m
ST-1110 Grade classification : 200/300/400	1.1t	708g/m

▲ EX)ST-1070

All pipes are subjected be damaged by any kind of environmental or weather condition. Please try keep the products away from direct sunlight, humidity, high temperature and any kind of extreme environmet.  
 Registance of Stainless pipe against rust: 304 class > 200 class > 400class

※ The specification may be subject to change without any prior notice.



## METAL JOINT INDIVIDUALS

### ESD PIPE ⚡



**ANTISTATIC PIPE** 대전방지  
 · Surface Resistance (표면저항)  
 -  $10^8 \Omega \sim 10^{10} \Omega$   
 · Color Option  
 - Gray / Ivory



**CONDUCTIVE PIPE** 도전성  
 · Surface Resistance (표면저항)  
 -  $10^3 \Omega \sim 10^6 \Omega$   
 · Color Option  
 - Black

### STAINLESS PIPE ⚡ 통전



· Easy to clean  
 - 고풍택, 먼지 미흡착  
 · Highly resistant against oil and chemical substances  
 - 내약품성 내식성임

· Stainless pipes of the grades other than 304 may be vulnerable to rust - 201, 400 계열은 습기가 많은 장소에서 녹이 발생할 수도 있음.

## COMPARISON TABLE OF LOGIFORM PIPE Vs. ABS COATED PIPE

MEDICINE (약품명)	RESULT(결과)		MEDICINE (약품명)	RESULT(결과)	
	Q-PIPE	ABS		Q-PIPE	ABS
WD-20(방청유)	△	△	Malic acid(10%)(사과산)	○	○
Sodium chloride(땀)	○	X	Menthol(소독약)	○	△
Break oil	○	X	Mercury(수은)	○	○
UV(자외선)	△	△	Mercury chloride(염화수은)	○	○
Cutting oil(절삭유)	○	X	Mesityl oxide(불포화케톤)	△	X
Table ware cleaser(식기용)	○	△	Methanol(유기알콜)	○	△
Washable cleaser(세탁용)	○	○	Methylene chloride(M.C)	△	X
Toilet cleaser(화장실용)	○	○	Thynner(신너)	○	X
M.E.K	△	X	Acetone(리무버)	○	X
Ethylene glycol(부동액)	○	○	Paint	○	X
Missoin oil(기어유)	○	X	Animal fat oil(동물성기름)	○	△
Toluene	○	X	Vegetable oil(식물성기름)	○	○

- = Negative - High Chemical Resistance (변화없음 - 내화학성 강함)
- △ = Partially affected but usable - Limiting Chemical Resistance (부분적으로 변화는 있으나 사용가능 - 제한적 내화학성)
- X = ABS resin melted or crack occurred - No chemical resistance (Coating층이 녹거나 Crack발생 - 내화학성 없음)

- ① Type of test : Spread and submerge (테스트 방법 : 침전반용 방식)
- ② Test cycle : Min. 30days (테스트 기간 : 30일 이상)
- ③ Temperature : 20~30 degrees Celsius (사용 온도에 따라 화학성은 상이함, 통상온도 조건 테스트 시행 20~30°C)

○ = PASS, △ = ACCEPTABLE, X = FAIL

# 12 METAL JOINTS

### SURFACE TREATMENT (표면처리)

ITEM	COLOR	TREATMENT
BK	BLACK ■	ELECTRODEPOSITION COATED
SV	SILVER ■	TRIVALENT CHROMIUM PLATED
NI	NICKEL ■	NICKEL PLATED



### CODE NUMBERING (제품코드 기입 예)

Product Code Examples	Code
	MJ-2101BK / METAL JOINT H-1 / BLACK (전착)
	MJ-2101SV / METAL JOINT H-1 / SILVER (Zn 3가아연도금)
	MJ-2101NI / METAL JOINT H-1 / NICKEL (니켈도금)



# METAL JOINT INDIVIDUALS



H-1(MJ-2101BK)  
240pcs/box, 73g/pc



H-1B(MJ-2201BK)  
240pcs/box, 65g/pc



H-2(MJ-2102BK)  
150pcs/box, 98g/pc



H-3(MJ-2103BK)  
70pcs/box, 136g/pc



H-4(MJ-2104BK)  
180pcs/box, 116g/pc



H-5(MJ-2105BK)  
300pcs/box, 44g/pc



H-6(MJ-2106BK)  
300pcs/box, 57g/pc



H-6B(MJ-2206BK)  
300pcs/box, 39g/pc



H-7(MJ-2107BK)  
180pcs/box, 52g/pc



H-7B(MJ-2207BK)  
180pcs/box, 47g/pc



H-8(MJ-2108BK)  
300pcs/box, 48g/pc



H-9(MJ-2109BK)  
100pcs/box, 143g/pc



H-10(MJ-2110BK)  
180pcs/box, 66g/pc



H-11(MJ-2111BK)  
200pcs/box, 67g/pc



H-11B(MJ-2211BK)  
200pcs/box, 67g/pc



H-12(MJ-2112BK)  
200pcs/box, 63g/pc



H-13(MJ-2113BK)  
140pcs/box, 97g/pc



H-14(MJ-2114BK)  
150pcs/box, 81g/pc

# METAL JOINT INDIVIDUALS



H-15A(MJ-2115BK)  
300pcs/box, 43g/pc



H-15B(MJ-2215BK)  
300pcs/box, 38g/pc



H-16(MJ-2116BK)  
300pcs/box, 54g/pc



H-16B(MJ-2216BK)  
300pcs/box, 54g/pc



H-17(MJ-2117BK)  
180pcs/box, 71g/pc



H-18(MJ-2118BK)  
240pcs/box, 69g/pc



H-19(MJ-2119BK)  
250pcs/box, 64g/pc



H-20(MJ-2120BK)  
150pcs/box, 97g/pc



H-21(MJ-2121BK)  
150pcs/box, 104g/pc



H-22(MJ-2122BK)  
180pcs/box, 74.6g/pc



H-23(MJ-2123BK)  
180pcs/box, 75.7g/pc



H-25A(MJ-2125BK)  
300pcs/box, 48g/pc



H-25B(MJ-2225BK)  
220pcs/box, 41g/pc



H-45A(MJ-2145BK)  
140pcs/box, 64g/pc



H-45B(MJ-2245BK)  
140pcs/box, 64g/pc



H-108(MJ-21108BK)  
140pcs/box, 106g/pc



H-162(MJ-21162BK)  
180pcs/box, 108g/pc

METAL JOINT  
INDIVIDUAL

# METAL JOINT SETS



<p><b>HJ-1</b></p>	<p>90° JOINT TO FORM T-INTERSECTION OR CORNER</p> <p>H-1 : 2pcs Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>	<p><b>HJ-1B</b></p>	<p>90° JOINT OPEN TO FORM T-INTERSECTION OR CORNER</p> <p>H-1B : 2pcs Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>
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<p><b>HJ-2</b></p>	<p>INSIDE CORNER JOINT TO FORM 3 WAY PIPE INTERSECTION</p> <p>H-2 : 1pc H-3 : 1pc Bolt(WB-0625) : 2pcs Nut(NU-0600) : 2pcs</p>	<p><b>HJ-3</b></p>	<p>OUTSIDE CORNER JOINT TO FORM 4 WAY PIPE INTERSECTION</p> <p>H-2 : 2pcs H-4 : 1pc Bolt(WB-0625) : 3pcs Nut(NU-0600) : 3pcs</p>
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<p><b>HJ-4</b></p>	<p>EXTENDER SUPPORT JOINT TO FORM CROSS AND 3 WAY PIPE INTERSECTION</p> <p>H-4 : 2pc Bolt(WB-0625) : 2pcs Nut(NU-0600) : 2pcs</p>	<p><b>HJ-5</b></p>	<p>INSIDE CORNER JOINT TO FORM 5 WAY PIPE INTERSECTION</p> <p>H-2 : 4pcs Bolt(WB-0625) : 4pcs Nut(NU-0600) : 4pcs</p>
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<p><b>HJ-6</b></p>	<p>INTERSECT JOINT, DOUBLE LOCK TO FORM CROSS AND 2 WAY PIPE INTERSECTION</p> <p>H-7 : 2pcs Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>	<p><b>HJ-6B</b></p>	<p>INTERSECT JOINT, SINGLE LOCK TO FORM CROSS AND 2 WAY PIPE INTERSECTION</p> <p>H-7B : 2pcs Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>
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# METAL JOINT SETS



<p><b>HJ-7</b></p>	<p>MULTI ANGLE JOINT EXTENSION, TO FORM AN ANGLE INTERSECTION</p> <p>H-5 : 2pcs H-6 : 2pcs Bolt(WB-0625) : 2pcs Nut(NU-0600) : 2pcs</p>	<p><b>HJ-7B</b></p>	<p>MULTI ANGLE JOINT INTERIOR, TO FORM AN ANGLE INTERSECTION</p> <p>H-6 : 2pcs H-6B : 2pcs Bolt(WB-0625) : 3pcs Nut(NU-0600) : 3pcs</p>
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<p><b>HJ-8</b></p>	<p>PARALLEL PIPE JOINT</p> <p>H-8 : 2pcs Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>	<p><b>HJ-9</b></p>	<p>DOUBLE 90° PARALLEL PIPE JOINT TO CONNECT PARALLEL PIPE TO A SINGLE PIPE</p> <p>H-9 : 2pcs Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>
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<p><b>HJ-10</b></p>	<p>90° HINGE JOINT, SLIDING JOINT TO 2 WAY PIPE INTERSECTION</p> <p>H-10 : 2pcs PJ-140A : 1pc Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>	<p><b>HJ-11</b></p>	<p>DOUBLE HINGE JOINT TO CONNECT PARALLEL PIPE</p> <p>H-11 : 2pcs PJ-140A : 2pcs Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>
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<p><b>HJ-11B</b></p>	<p>SINGLE HINGE JOINT TO CONNECT PARALLEL PIPE</p> <p>H-11B : 2pcs PJ-140A : 1pc Bolt(WB-0625) : 1pc Nut(NU-0600) : 1pc</p>
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# METAL JOINT SETS



<p><b>HJ-12</b></p> <p>TWO SIDED MULTI ANGLE JOINT TO FORM 3 WAY PIPE INTERSECTION</p> <p>H-6: 4pcs H-12: 2pcs Bolt(WB-0625): 4pcs Nut(NU-0600): 4pcs</p>	<p><b>HJ-13</b></p> <p>RADIUS JOINT TO FORM A BEND PIPE</p> <p>H-13: 2pcs Bolt(WB-0625): 2pcs Nut(NU-0600): 2pcs</p>
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<p><b>HJ-14</b></p> <p>45° SUPPORT JOINT TO FORM AN ANGLE INTERSECTION</p> <p>H-14: 2pcs Bolt(WB-0625): 1pc Nut(NU-0600): 1pc</p>	<p><b>HJ-15</b></p> <p>MOUNTING CLAMP</p> <p>H-15A: 1pc H-15B: 1pc Bolt(WB-0610): 1pc</p>
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<p><b>HJ-16</b></p> <p>90° FLAT WITH SLOTTED JOINT TO CONNECT PIPE AND THE PLATE</p> <p>H-16: 2pcs</p>	<p><b>HJ-16B</b></p> <p>FLAT SHELF HINGE JOINT</p> <p>H-16B: 2pcs Bolt(TS-0408): 2pcs</p>
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<p><b>HJ-17</b></p> <p>90° JOINT OVERSIZED</p> <p>H-17: 2pcs Bolt(WB-0625): 1pc Nut(NU-0600): 1pc</p>	<p><b>HJ-18</b></p> <p>PIPE EXTENSION JOINT TO CONNECT PIPE TO PIPE</p> <p>H-18: 2pcs Bolt(WB-0625): 1pc Nut(NU-0600): 1pc</p>
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# METAL JOINT SETS



<p><b>HJ-19</b></p> <p>90° JOINT WITH FLAT END TO CONNECT ALUMINUM PROFILE</p> <p>H-19: 2pcs Bolt(WB-0625): 1pc Nut(NU-0600): 1pc</p> <p>프록시알루미늄 고정 BOLT, NUT는 별도 구매 제용됩니다</p>	<p><b>HJ-20</b></p> <p>EXTENDER SUPPORT SWIVEL JOINT TO FORM INTERSECTION</p> <p>H-20: 2pcs PJ-140A: 1pc Bolt(WB-0625): 2pc Nut(NU-0600): 2pc</p>
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<p><b>HJ-21</b></p> <p>EXTENDER SUPPORT OVERSIZED JOINT TO FORM T INTERSECTION</p> <p>H-21: 2pcs Bolt(WB-0625): 2pcs Nut(NU-0600): 2pcs</p>	<p><b>HJ-22</b></p> <p>90° INTERCHANGEABLE JOINT (28mm/28.6mm) FOR CORNER OR T-INTERSECTION</p> <p>H-22: 2pc Bolt(WB-0625): 1pc Nut(NU-0600): 1pc</p>
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<p><b>HJ-23</b></p> <p>90° INTERCHANGEABLE JOINT (28mm/28.6mm) FOR CORNER OR T-INTERSECTION</p> <p>H-23: 2pc Bolt(WB-0625): 1pc Nut(NU-0600): 1pc</p>	<p><b>HJ-25</b></p> <p>SINGLE HINGE JOINT TO CONNECT PARALLEL PIPE</p> <p>H-25A: 1pc H-25B: 1pc PJ-140A: 1pc Bolt(WB-0610): 1pc</p>
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<p><b>HJ-45</b></p> <p>45° SUPPORT JOINT TO FORM AN ANGLE INTERSECTION</p> <p>H-45A: 1pc H-45B: 1pc Bolt(WB-0625): 1pc Nut(NU-0600): 1pc</p>	<p><b>HJ-108</b></p> <p>108° JOINT TO FORM AN ANGLE TO BEND PIPE</p> <p>H-108: 2pcs Bolt(WB-0625): 2pcs Nut(NU-0600): 2pcs</p>
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<p><b>HJ-162</b></p> <p>162° JOINT TO FORM AN ANGLE CONNECT TO PIPE</p> <p>H-162: 2pcs Bolt(WB-0625): 2pcs Nut(NU-0600): 2pcs</p>
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METAL JOINT SET

# 13

## PLASTIC JOINTS

PLASTIC JOINTS



## PLASTIC JOINTS


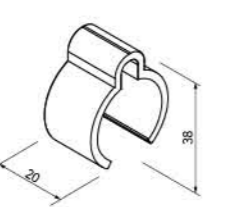


<p>PJ-104C (IV)</p>	<p>PLASTIC JOINT TOP FLAT TYPE</p> <p>150pcs/box, 47g/pc</p>	<p>PJ-104D (IV)</p>	<p>PLASTIC JOINT 3 WAY TYPE</p> <p>150pcs/box, 45.51g/pc</p>
<p>PJ-105 (IV)</p>	<p>PLASTIC JOINT L TYPE</p> <p>220pcs/box, 33.10g/pc</p>	<p>PJ-118 (IV)</p>	<p>PLASTIC JOINT 2 WAY TYPE</p> <p>250pcs/box, 28.92g/pc</p>
<p>PJ-159 (IV, BK)</p>	<p>PLASTIC JOINT HOOK</p> <p>250pcs/box, 19.32g/pc</p> <p>IV BK</p>	<p>PJ-138C (IV, GR, BK)</p>	<p>TAPERED EDGE</p> <p>2,000pcs/box, 3.29g/pc</p> <p>IV GR BK</p>
<p>PJ-113 (IV, BK)</p>	<p>PLASTIC JOINT PIPE CLAMP</p> <p>600pcs/box, 12.7g/pc</p> <p>IV BK</p>	<p>PJ-113B(IV, BK)</p>	<p>PLATE SUPPORT BRACKET</p> <p>600pcs/box, 12.7g/pc</p> <p>IV BK</p>
<p>PJ-138S (IV, GR, BK)</p>	<p>HORIZONTAL HOLDER</p> <p>2,000pcs/box, 4.25g/pc</p> <p>IV GR BK</p>	<p>PJ-146 (IV, GR, BK)</p>	<p>PLASTIC HINGE</p> <p>600pcs/box, 11.05g/pc</p> <p>IV GR BK</p>




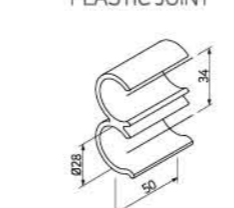
PLASTIC JOINTS


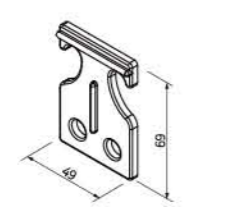
## PLASTIC JOINTS

<p>PJ-110S (IV, BK, GR)</p>  <p>For Stainless Pipe</p>	<p>PIPE INNER CAP</p>  <p>2,000pcs/box, 3.61g/pc</p>	<p>PJ-110C (IV, BK, GR)</p>  <p>For Logiform Pipe</p>	<p>PIPE INNER CAP</p>  <p>2,500pcs/box, 3.08g/pc</p>
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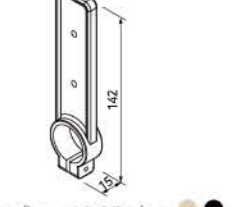
<p>PJ-149 (IV, BK, GR)</p> 	<p>PIPE OUTER CAP</p>  <p>1,500pcs/box, 5.09g/pc</p>	<p>PJ-141 (IV, BK, GR)</p> 	<p>PLASTIC SLEEVE for HJ-10/11/20</p>  <p>2,000pcs/box, 3.75g/pc</p>
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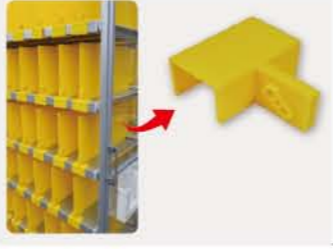
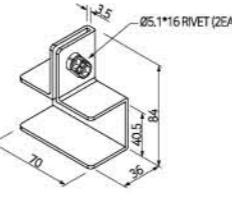

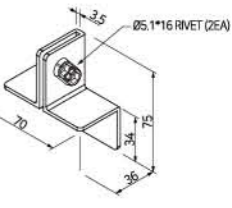
<p>PJ-138B (IV, BK, GR)</p> 	<p>NAME PLATE HANGER</p>  <p>1,500pcs/box, 4.36g/pc</p>	<p>PJ-140A (WH, BK)</p> 	<p>PLASTIC JOINT SLEEVE for HJ-10/11/20</p>  <p>850pcs/box, 5.98g/pc</p>
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<p>PJ-140S (WH, BK)</p> 	<p>PLASTIC JOINT SLEEVE for HJ-10/11/20</p>  <p>400pcs/box, 11.39g/pc</p>	<p>PJ-109 (IV, BK)</p> 	<p>PLASTIC JOINT</p>  <p>300pcs/box, 22.43g/pc</p>
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<p>PJ-180 (WH)</p> 	<p>BAND-HOOK</p>  <p>1,000pcs/box, 12.69g/pc</p>
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## PLASTIC JOINTS

<p>PJ-199 (IV, GR)</p> 	<p>PLASTIC DIVIDER</p>  <p>1,000pcs/box, 6.11g/pc</p>	<p>PJ-202 (IV, BK)</p> 	<p>PLASTIC DIVIDER</p>  <p>400pcs/box, 18.25g/pc</p>
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<p>PG-2870A</p> 	<p>PANEL GUIDE (U TYPE)</p>  <p>180pcs/box, 23.39g/pc</p>	<p>PG-2870B</p> 	<p>PANEL GUIDE (L TYPE)</p>  <p>300pcs/box, 17.5g/pc</p>
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<p>PH-5001A</p> 	<p>TOOL HOLDER - A 공구걸이캡</p>  <p>160pcs/box, 40.28g/pc</p>	<p>PH-5001B</p> 	<p>TOOL HOLDER - B 공구걸이캡</p>  <p>160pcs/box, 38.24g/pc</p>
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<p>HG-0165A</p> 	<p>HANDLE GUIDE</p>  <p>HG-0165A (Elastomer) : Yellow 300pcs/box, 30.33g/pc</p>	<p>HG-0165B</p> 	<p>HANDLE GUIDE</p>  <p>HG-0165B (Abs) : Blue 300pcs/box, 34.28g/pc</p>
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<p>UG-0165</p> 	<p>URETHANE HANDLE GUIDE</p>  <p>300pcs/box, 43.83g/pc</p>	<p>BMR-01A</p> 	<p>SIDE FLAT BUMPER</p>  <p>430pcs/box, 76g/pc</p>
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<p>BMR-02A</p> 	<p>RIGHT ANGLE BUMPER</p>  <p>350pcs/box, 80g/pc</p>
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# 4

## ROLLER TRACK (PLACONS)

35 SERIES

40 SERIES

60 SERIES

73 SERIES

80 SERIES

100 SERIES

\* Series Refers to the Outer Width in Millimeter



ROLLER TRACKS(PLACONS) STANDARD LENGTH / 4M									
SERIES	PRODUCT CODE	FRAME TYPE	ROLLER SIZE	ROLLER PITCH	PIN	PIN LENGTH	PRODUCT WEIGHT		
35 SERIES	PL - 351F_GM (OLD NO : PL - 3514GR)	STEEL	Ø28	33	Ø3	32.5mm	884g/m		
	PL - 351G_GM (OLD NO : PL - 3544GR)		Ø40	33			814g/m		
	PL - 351M_GM (OLD NO : PL - 3554GR)		Ø27	16.5			886g/m		
40 SERIES	PL - 401F_WM (OLD NO : PL - 4014WH)	STEEL	Ø30	35.72	Ø4	36.5mm	1,125g/m		
	PL - 401F_YM (OLD NO : PL - 4014YL)						1,248g/m		
	PL - 401F_EM (OLD NO : PL - 4014ED)						1,180g/m		
	PL - 401G_WM (OLD NO : PL - 4044WH)						Ø46	53.58	1,102g/m
	PL - 401R_WL (OLD NO : PL - 4034WH)						Ø33	35.72	1,416g/m
	PL - 402F_WM (OLD NO : PL - 4024WH)	ALUMINIUM	Ø27.5	35.72	Ø3	33.8mm	656g/m		
	PL - 402F_YM (OLD NO : PL - 4024YL)						656g/m		
PL - 402F_EM (OLD NO : PL - 4024ED)	656g/m								
60 SERIES	PL - 601F_WM (OLD NO : PL - 6014WH)	STEEL	Ø30	37.0	Ø3.8	58mm	1,250g/m		
	PL - 601F_EM (OLD NO : PL - 6014ED)	1,298g/m							
	PL - 601F_WS (OLD NO : PL - 6014WS)	STEEL-SMALL	Ø16	18.5			1,293g/m		
	PL - 601F_ES (OLD NO : PL - 6014ES)	1,353g/m							
73 SERIES	PL - 731F_WL (OLD NO : PL - 7314WH)	STEEL	Ø34	40.0	Ø4.95	69mm	1,943g/m		
	PL - 731F_EL (OLD NO : PL - 7314ED)						1,910g/m		
	PL - 731F_TL (OLD NO : PL - 7314TP)						2,110g/m		
	PL - 731F_WS (OLD NO : PL - 7314WS)	STEEL-SMALL	Ø18	20.0			1,910g/m		
	PL - 731F_TS (OLD NO : PL - 7314TS)						2,150g/m		
	PL - 732F_EL (OLD NO : PL - 7324ED)						ALUMINIUM	Ø34	40.0
	PL - 732F_WL (OLD NO : PL - 7324WH)	1,445g/m							
	PL - 732F_TL (OLD NO : PL - 7324TP)	1,647g/m							
	PL - 732F_TS (OLD NO : PL - 7324TS)	ALUMINIUM SMALL	Ø18	20.0		1,757g/m			
	PL - 732F_WS (OLD NO : PL - 7324WS)					1,757g/m			
80 SERIES	PL - 801F_WL	STEEL	Ø35	37	Ø4.95	76mm	2,186g/m		
	PL - 801F_WX		Ø40	43			2,316g/m		
	PL - 801M_WL		Ø33	43			2,370g/m		
100 SERIES	PL - 1003F_TS (OLD NO : PL - G100TS)	ALUMINIUM SMALL	Ø18	20.0	Ø4	96mm	2,810g/m		
	PL - 1002F_TS (OLD NO : PL - P100TS)						2,370g/m		

ROLLER TRACKS

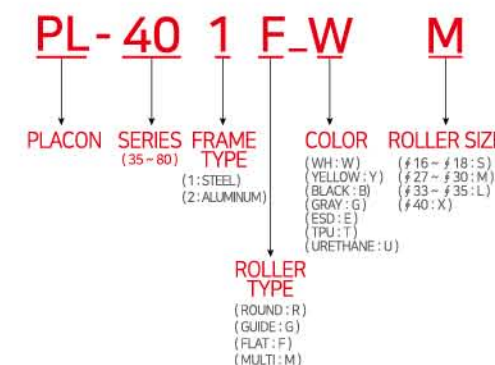
### CLASSIFICATION OF ROLLER

①	WH	WHITE	
②	YL	YELLOW	
③	BK	BLACK	
④	ED	ESD	10 <sup>3</sup> Ω~10 <sup>6</sup> Ω
⑤	GR	GUIDE ROLLER	

⑧	TP	TPU(ESD)	10 <sup>6</sup> Ω~10 <sup>11</sup> Ω
⑨	WS	WHITE SMALL	BLACK
⑩	ES	ESD SMALL	10 <sup>3</sup> Ω~10 <sup>6</sup> Ω
⑪	TS	TPU(ESD) SMALL	10 <sup>6</sup> Ω~10 <sup>11</sup> Ω
⑫	WR	WHITE ROUND	

※ The specification may be subject to change without any prior notice.

### CODE



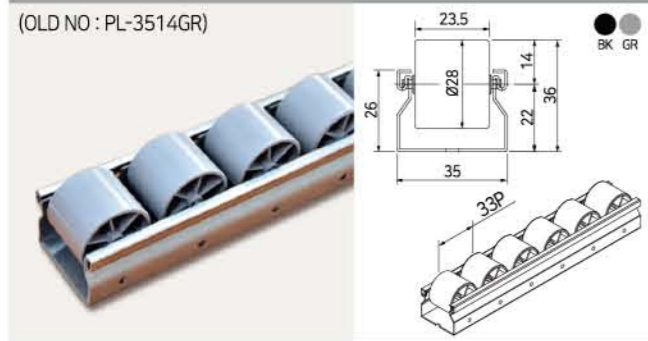
### Packing Unit

- 1 Bar (1본) = 4M
- 1 Bundle (1묶음) = 35 SERIES = 10 Bars  
40 SERIES = 10 Bars  
60 SERIES = 30Φ: 6 Bars / 16Φ: 8 Bars  
73 SERIES = 5 Bars  
80 SERIES = 80(일반) = Φ35 / Φ40 = 5 Bars  
80(Multi) = 4Bars

## 35 SERIES (STEEL)

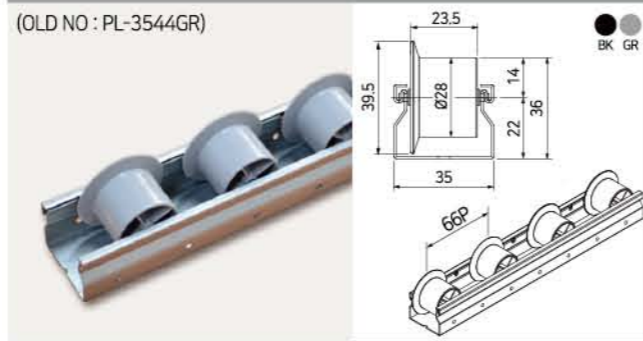
PL-351F\_GM

(OLD NO : PL-3514GR)



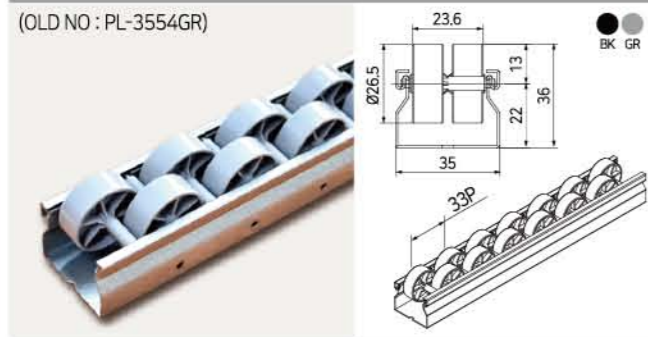
PL-351G\_GM

(OLD NO : PL-3544GR)



PL-351M\_GM

(OLD NO : PL-3554GR)

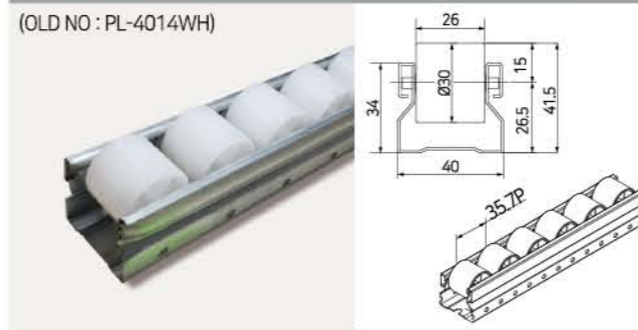


## 40 SERIES (STEEL)

PL-401F\_WM

(OLD NO : PL-4014WH)

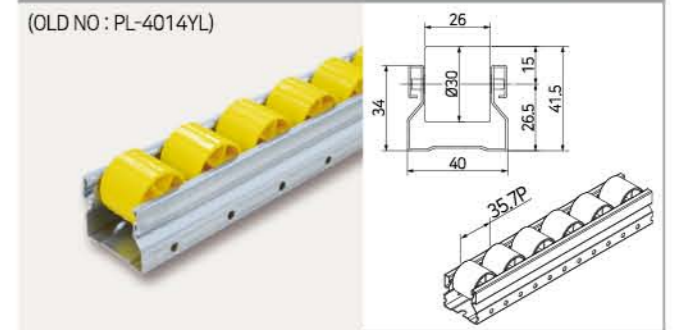
WHITE



PL-401F\_YM

(OLD NO : PL-4014YL)

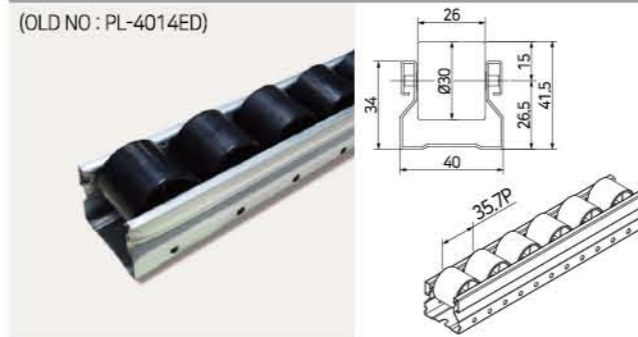
YELLOW



PL-401F\_EM

(OLD NO : PL-4014ED)

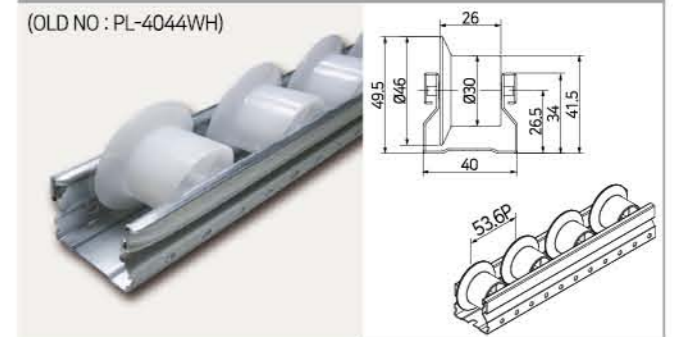
ESD



PL-401G\_WM

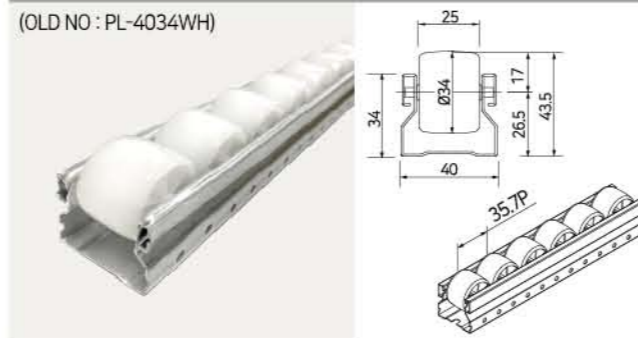
(OLD NO : PL-4044WH)

GUIDE ROLLER



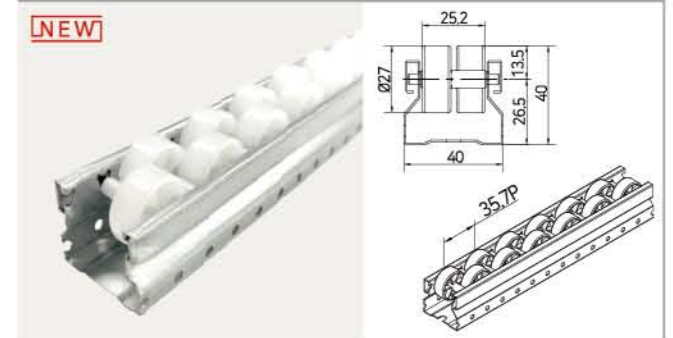
PL-401R\_WL

(OLD NO : PL-4034WH)



PL-401M\_WM

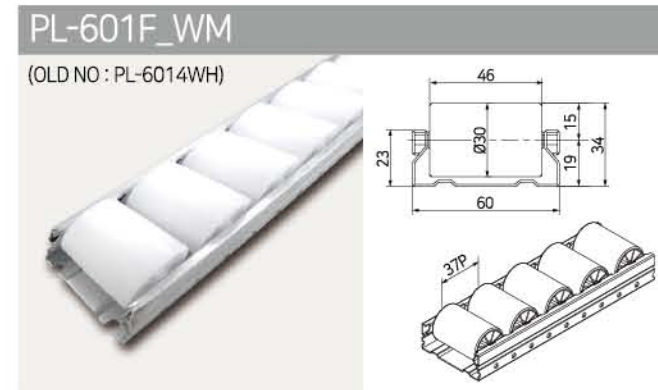
NEW



ROLLER TRACKS



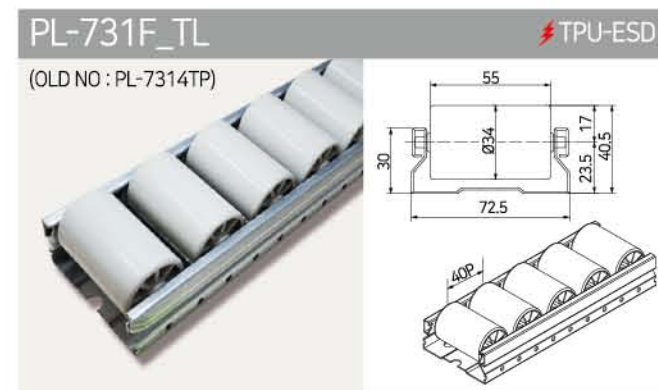
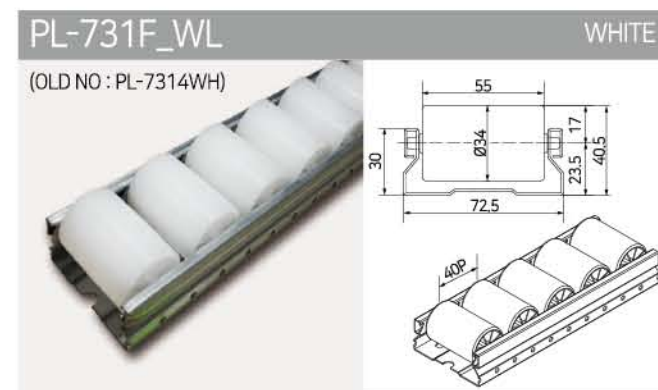
## 60 SERIES (STEEL)



## 60 SERIES (STEEL) - SMALL ROLLER



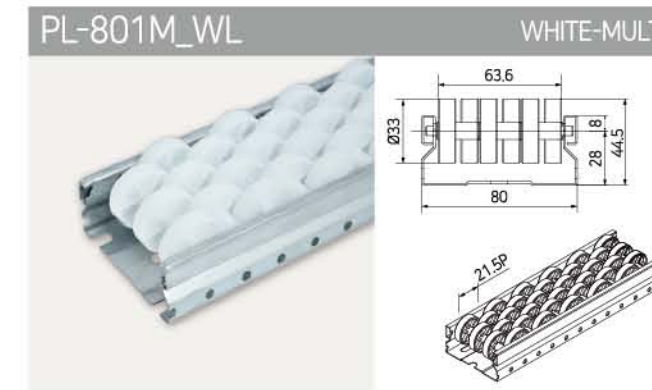
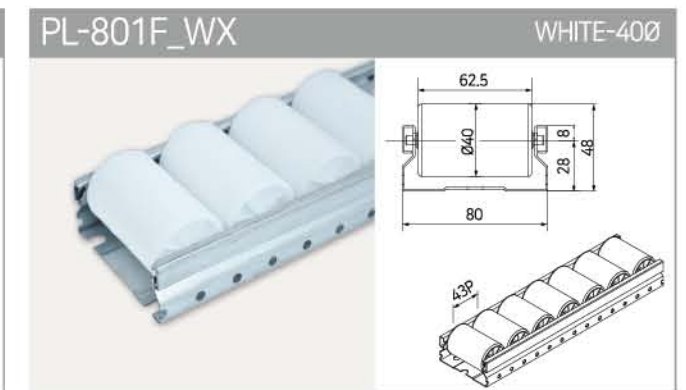
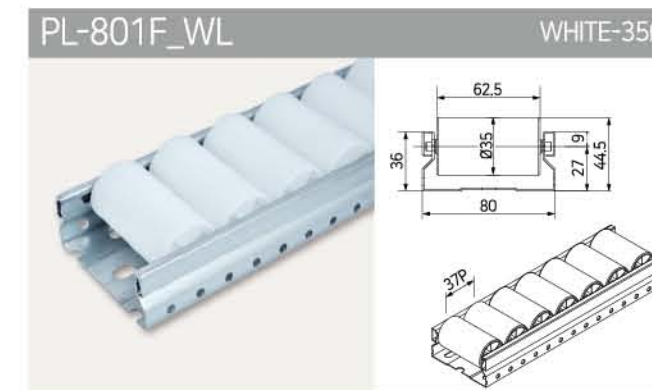
## 73 SERIES (STEEL)



## 73 SERIES (STEEL)

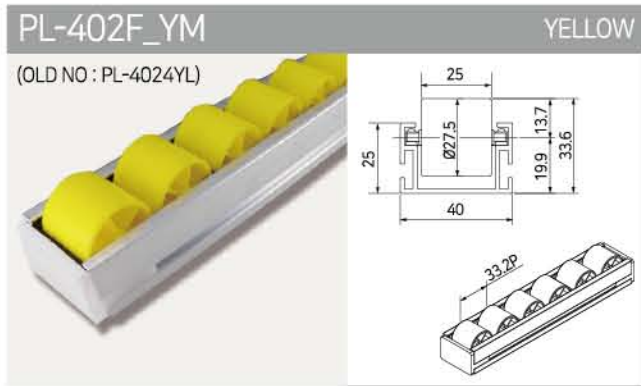
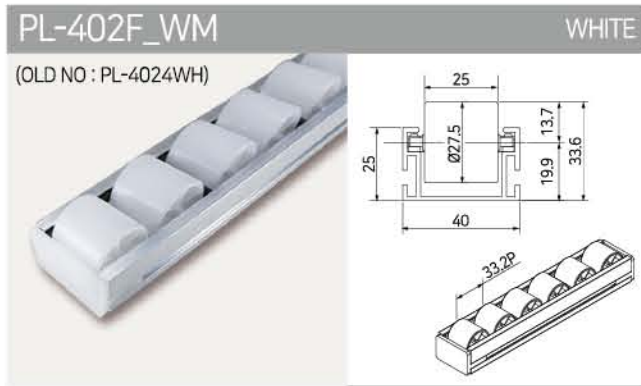


## 80 SERIES (STEEL)

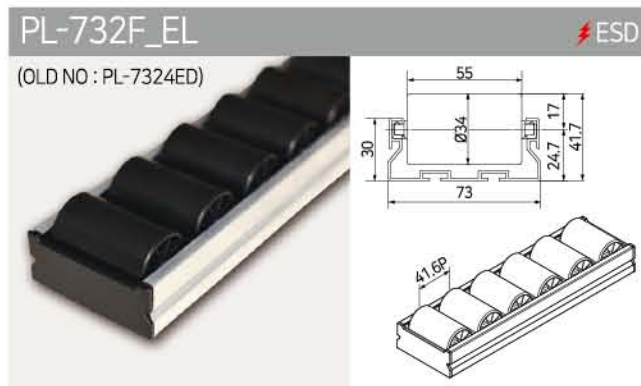


ROLLER TRACKS

## 40 SERIES (ALUMINIUM FRAME)



## 73 SERIES (ALUMINIUM FRAME)



## 73 SERIES (ALUMINIUM FRAME) - SMALL ROLLER



## 100 SERIES (ALUMINIUM FRAME)

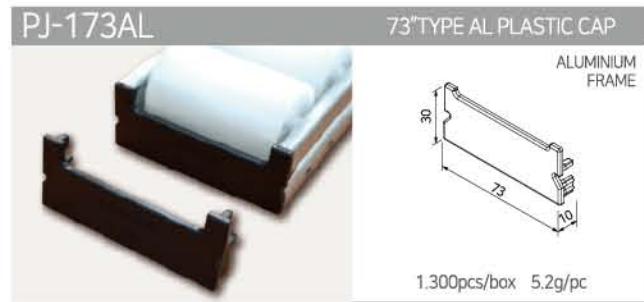
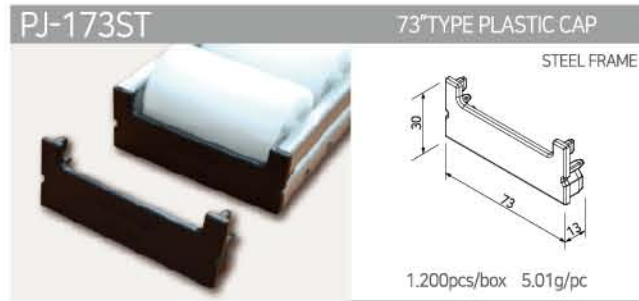
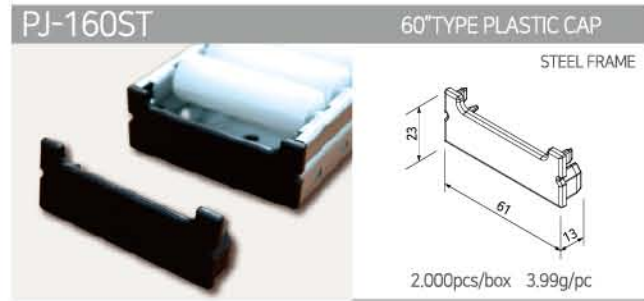
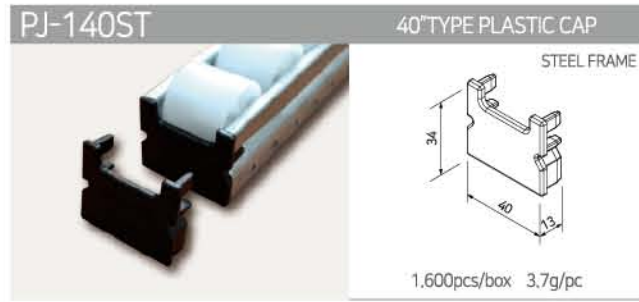
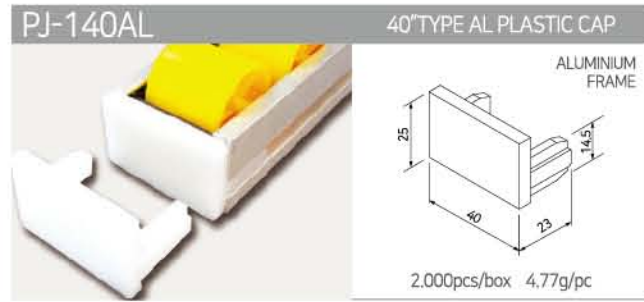


※Please contact our sales office with reference to the additional options available.

ROLLER TRACKS



## ROLLER TRACK(PLACONS) CAPS



※Please contact our sales office with reference to the additional options available.

# 15

## ROLLER TRACK CONNECTORS (PLACON MOUNTS)

35 SERIES

40 SERIES

60 SERIES

73 SERIES

80 SERIES

\* Series Refers to the Outer Width in Millimeter

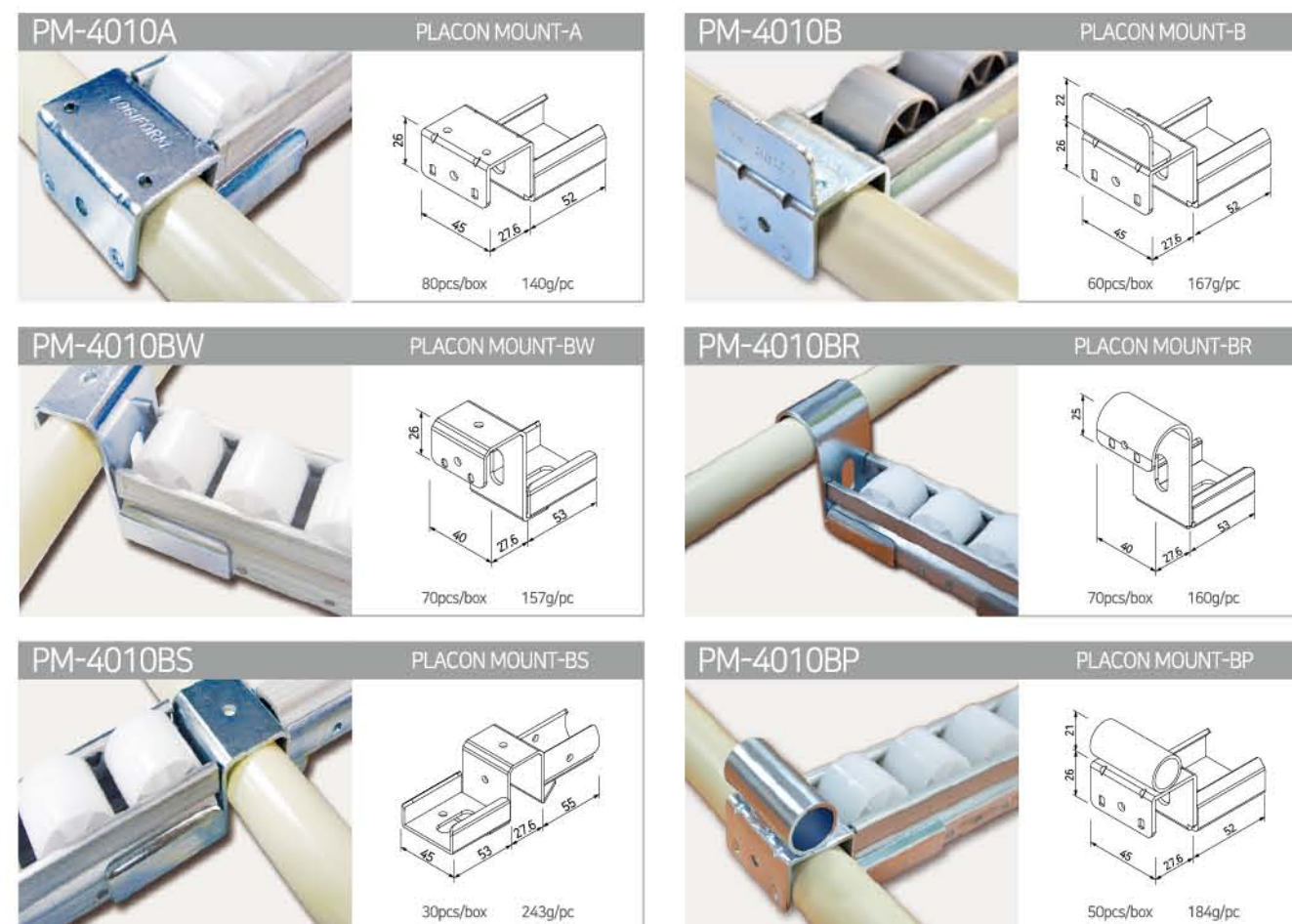




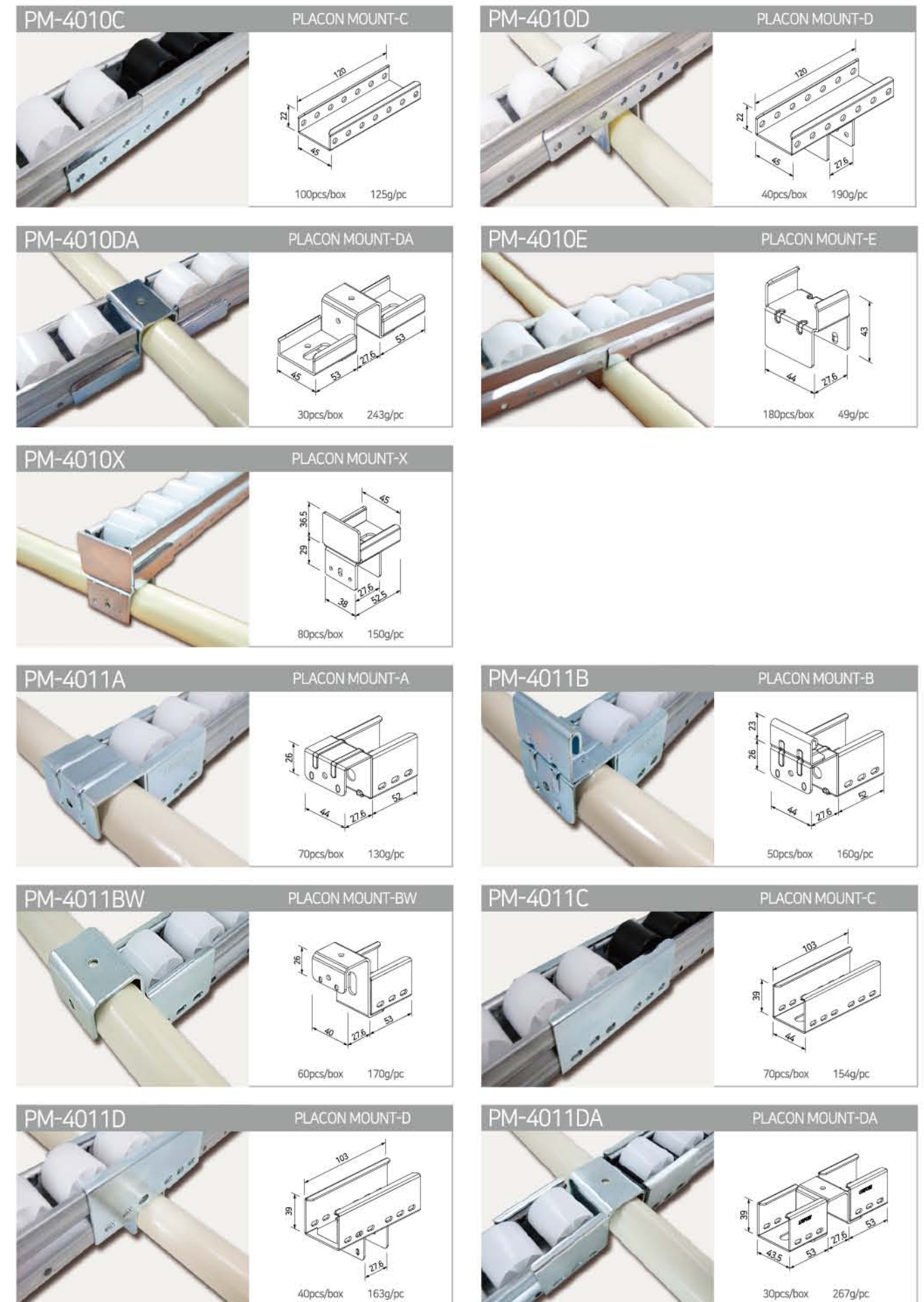
## ROLLER TRACK CONNECTORS(MOUNTS), 35 SERIES



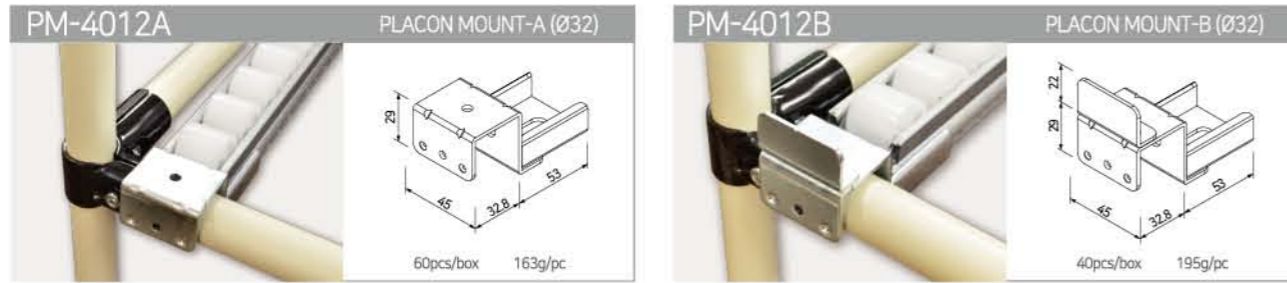
## ROLLER TRACK CONNECTORS(MOUNTS), 40 SERIES



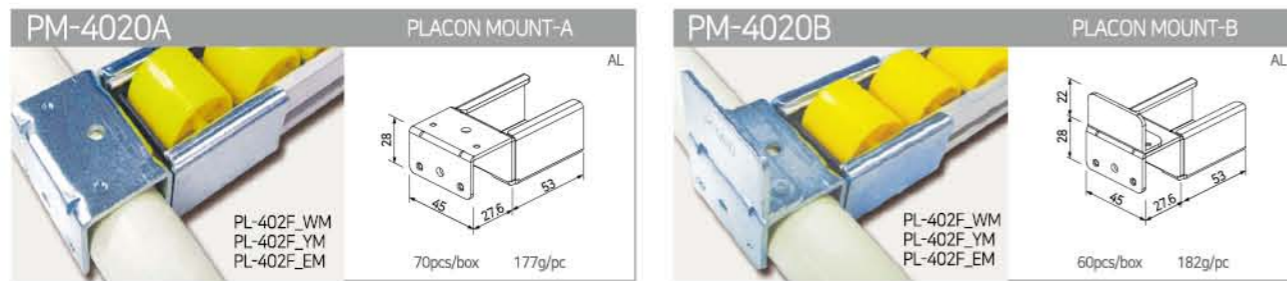
## ROLLER TRACK CONNECTORS(MOUNTS), 40 SERIES



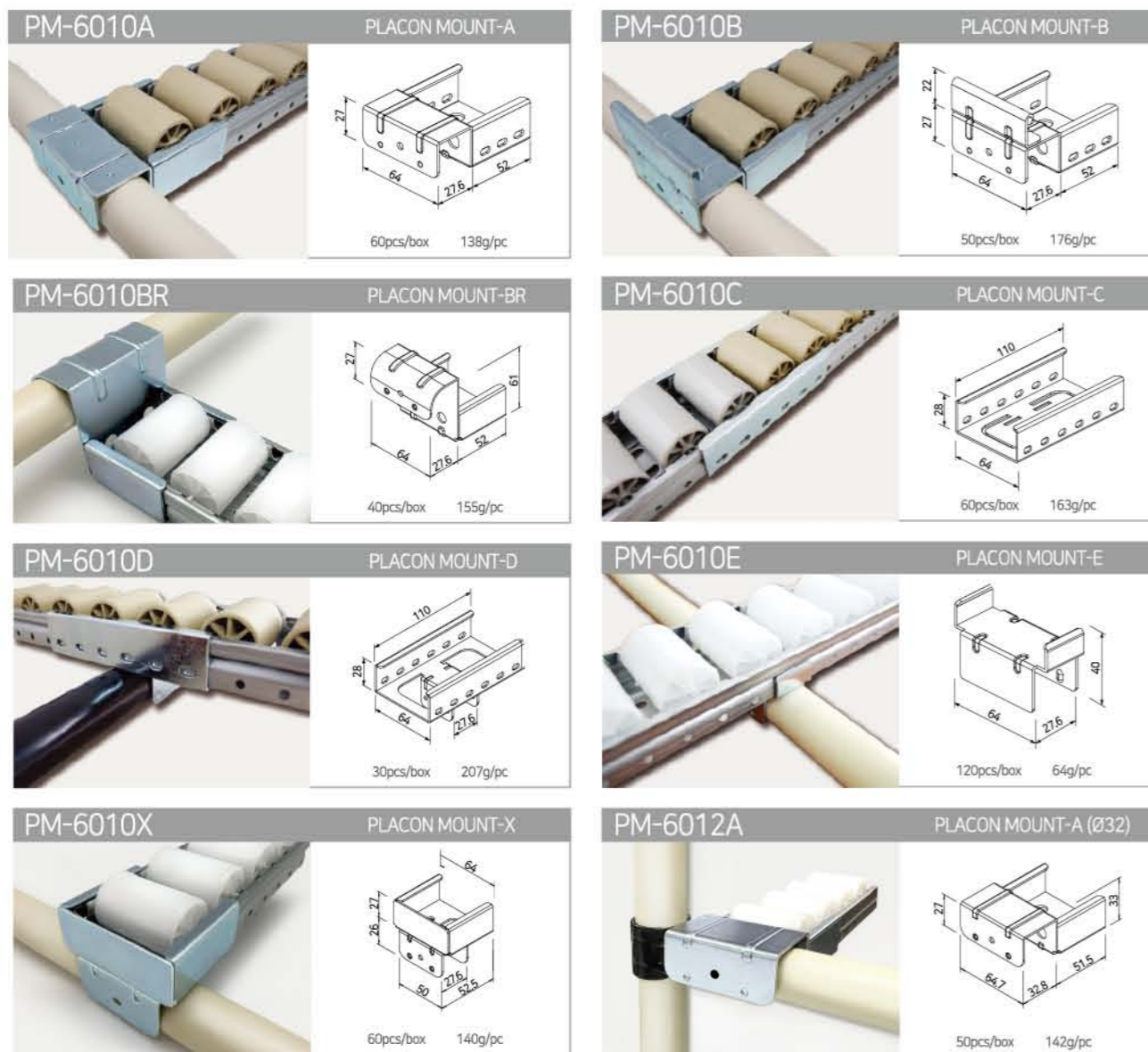
## ROLLER TRACK CONNECTORS(MOUNTS), 40 SERIES



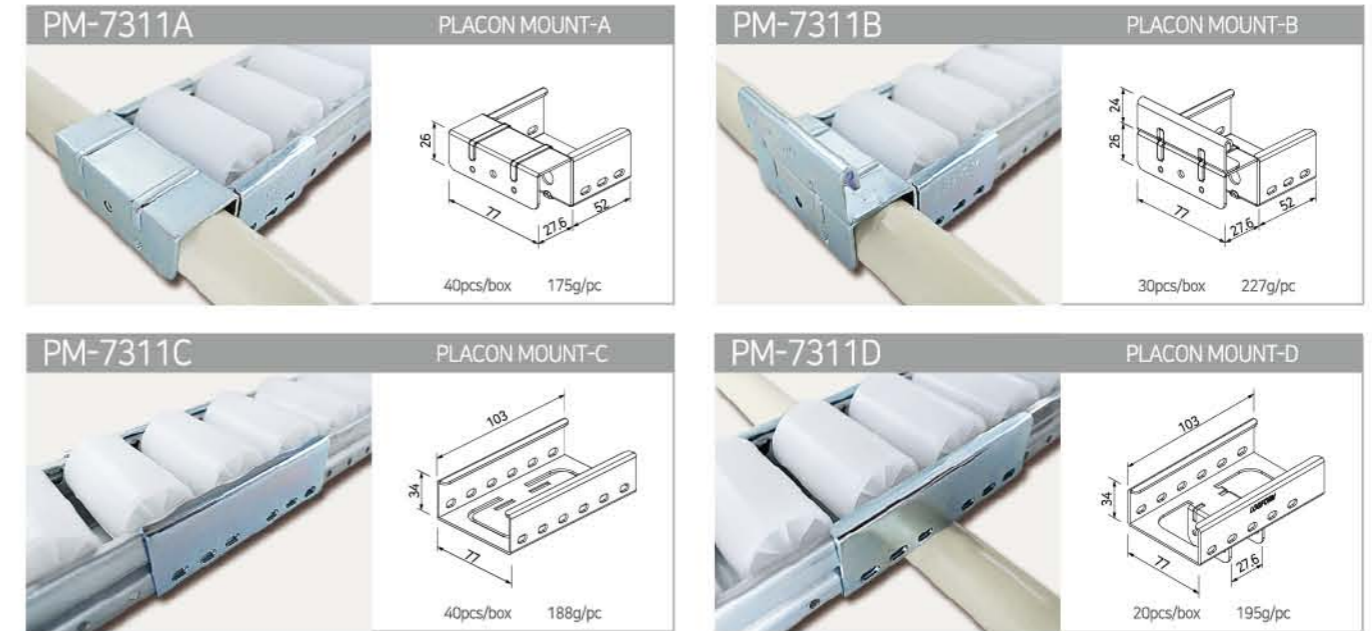
## ROLLER TRACK CONNECTORS(MOUNTS), 40 SERIES (FOR ALUMINIUM FRAME)



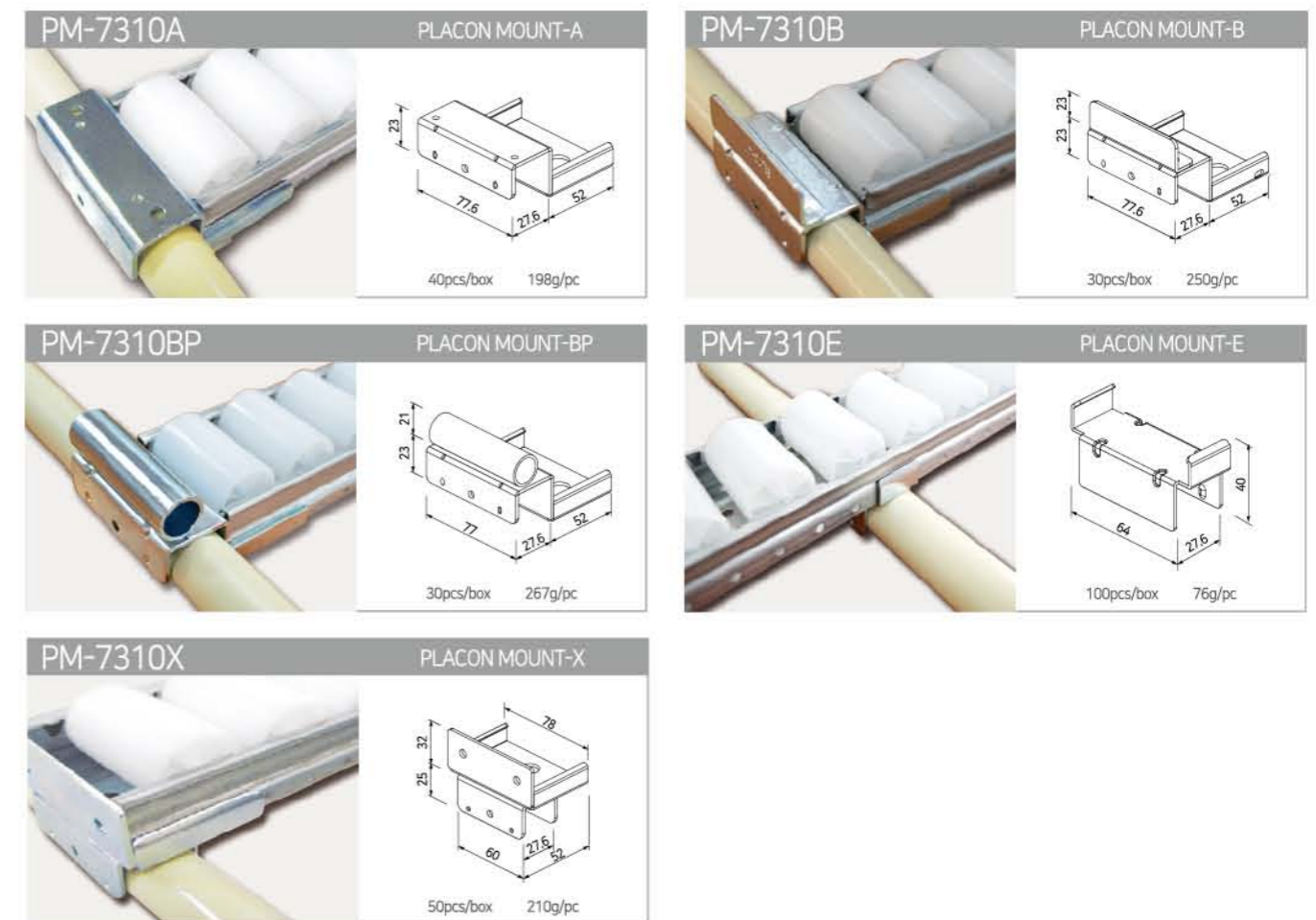
## ROLLER TRACK CONNECTORS(MOUNTS), 60 SERIES



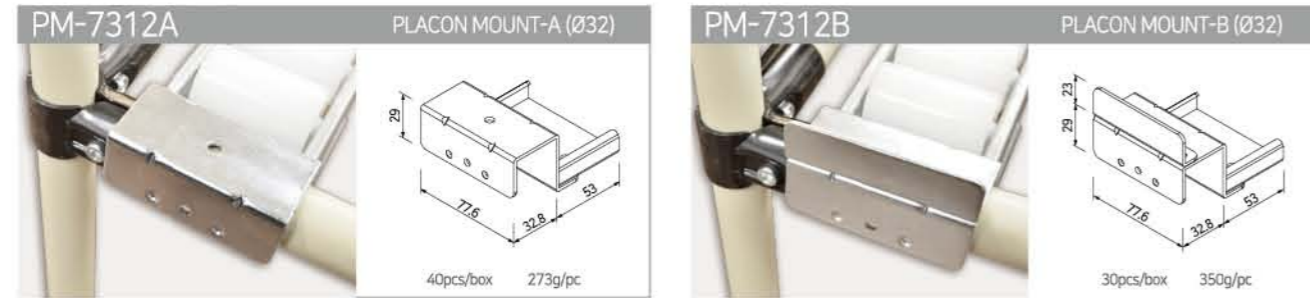
## ROLLER TRACK CONNECTORS(MOUNTS), 73 SERIES (FOR ALUMINIUM / STEEL FRAME)



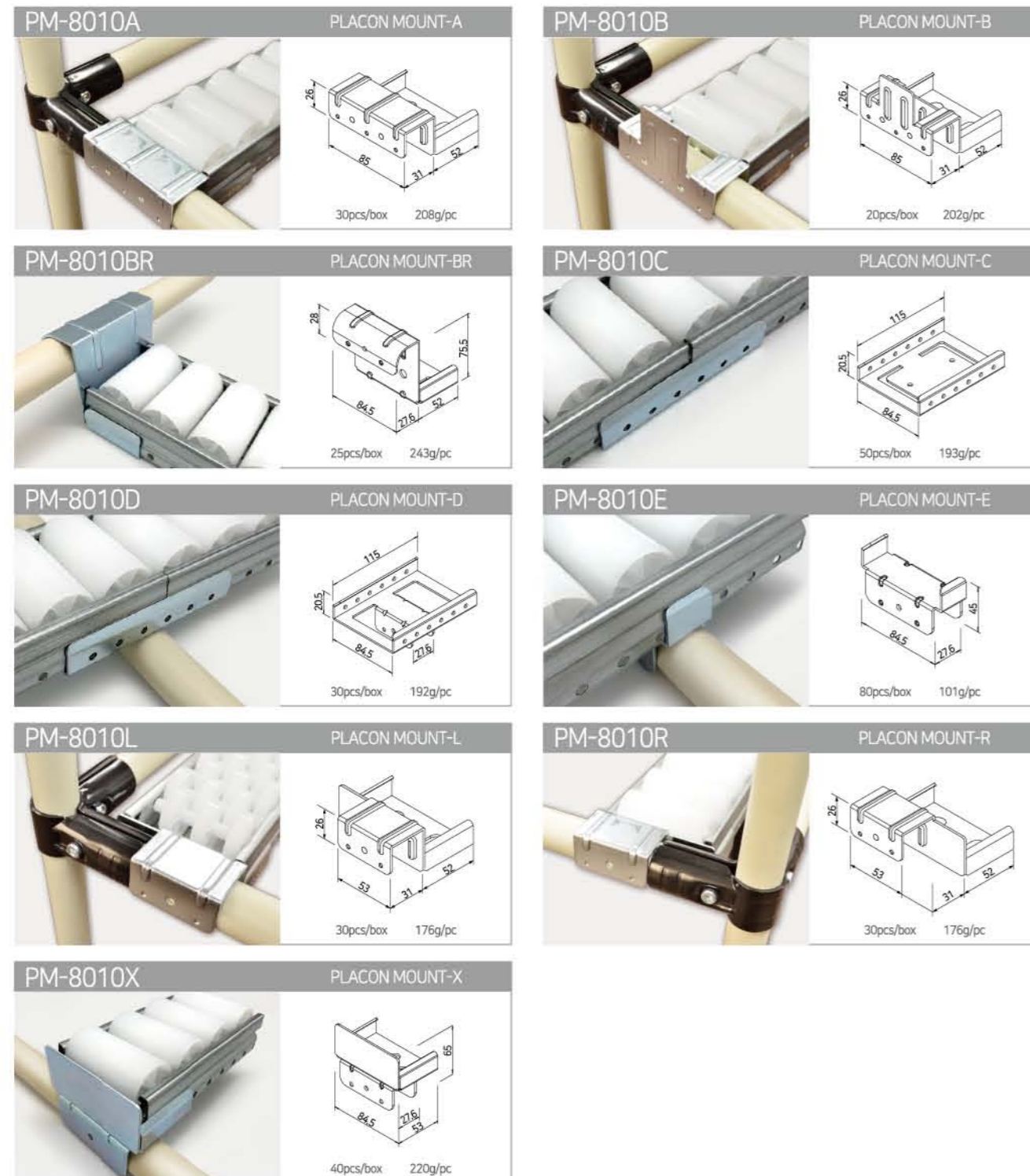
## PLACON MOUNTS, 73 SERIES



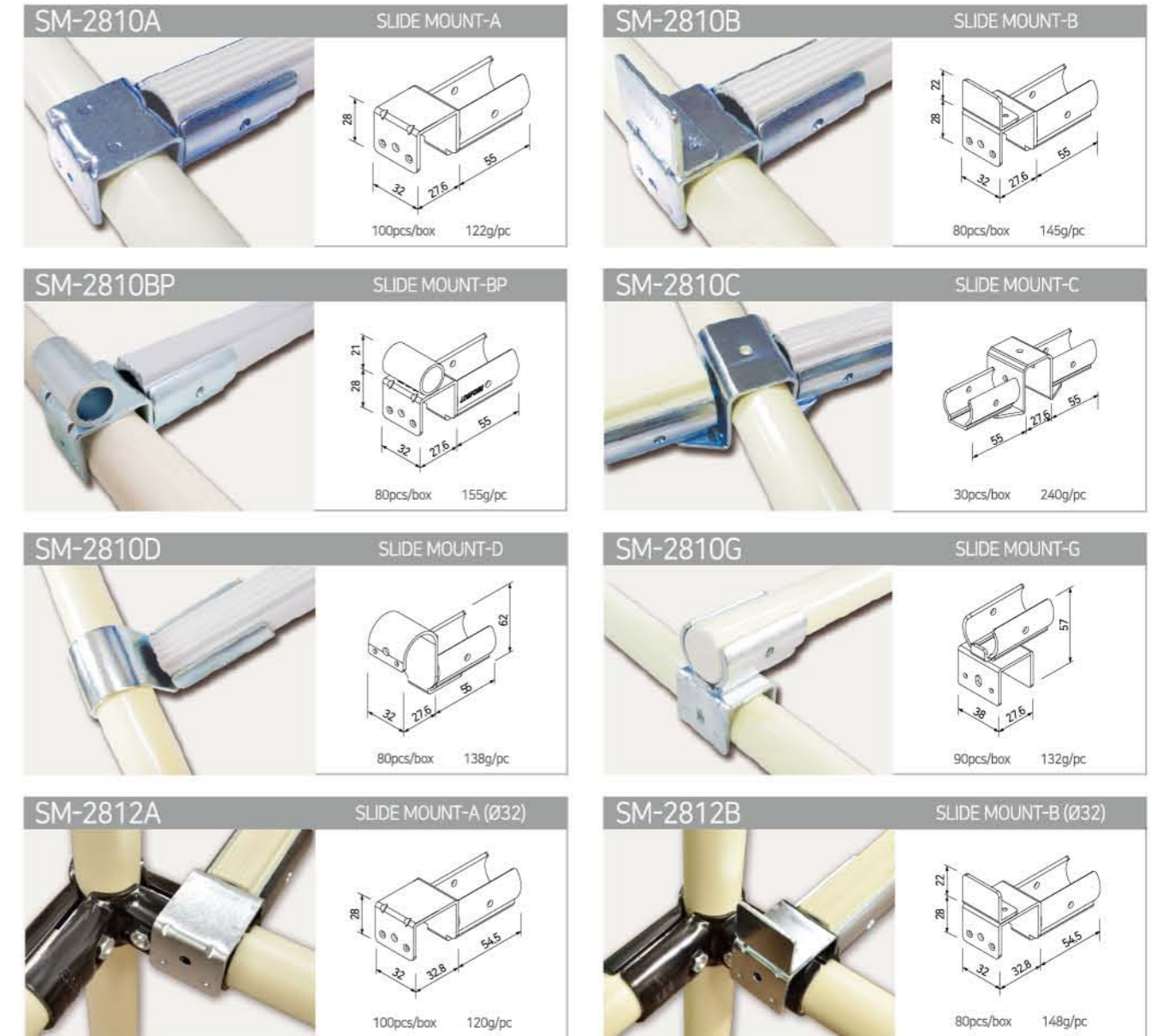
## ROLLER TRACK CONNECTORS(MOUNTS), 73 SERIES



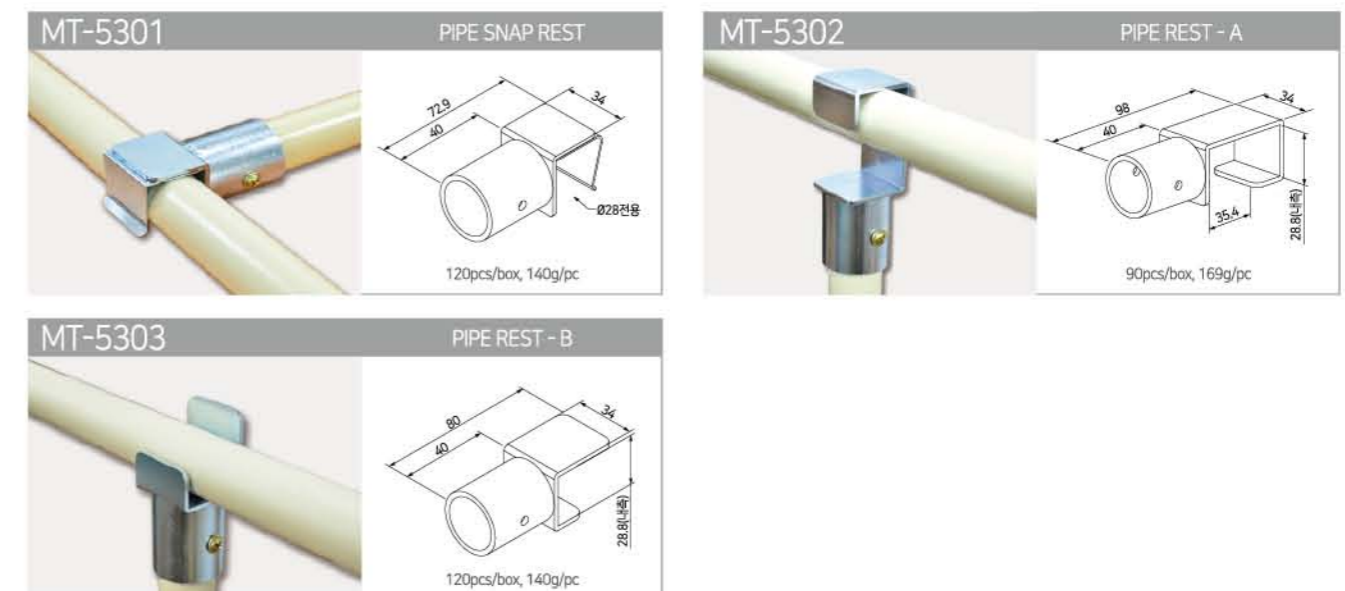
## ROLLER TRACK CONNECTORS(MOUNTS), 80 SERIES



## SLIDE PIPE MOUNTS



## ACCESSORIES



# 16

## ACCESSORIES

- ADJUSTERS
- INSERT NUTS
- ACCESSORIES FOR PROFILE
- FASTENERS & TOOLS
- NAME PLATES
- PLASTIC ANGLES & COVERS
- GUIDE RAILS
- BOARDS & SHEETS
- PROTECTION HOSES



## ACCESSORIES - INSERT NUT & LEVELER



**IN-1000AM** INSERT NUT (ALUMINUM PIPE)

**NEW**

PIPE 규격 : LP-1200 / Full use of Aluminum Pipe

300pcs/box 16g/pc

**IN-1000LM** EASY INSERT NUT (COATING PIPE)

**NEW**

PIPE 규격 : LP-1100 / LP-1140

300pcs/box 16g/pc

**IN-1000SM** EASY INSERT NUT (STAINLESS PIPE)

**NEW**

PIPE 규격 : ST-1070 / ST-1090 / ST-1110

300pcs/box 16g/pc

**EASY RIVETED TYPE LEVELER**

**NEW**

PRODUCT CODE	THREAD SIZE (inch,mm)	BASE DIAMETER B	LENGTH A	QTY / UNIT WEIGHT
AD-3510MPM (PLASTIC)	M10	Φ35	50	150pcs/box, 48.2g/pc
AD-3510MRM (RUBBER)	M10	Φ35	50	150pcs/box, 48.2g/pc
AD-3510MSM (METAL)	M10	Φ35	50	150pcs/box, 48.2g/pc

**STANDARD METAL LEVELER (M10)**

PRODUCT CODE	THREAD SIZE (inch,mm)	BASE DIAMETER B	LENGTH A	QTY / UNIT WEIGHT
AD-3010MPS (PLASTIC)	M10	Φ30	30	400pcs/box, 32g/pc
AD-3010MPM (PLASTIC)	M10	Φ30	50	400pcs/box, 31g/pc

**STANDARD METAL LEVELER (RUBBER TYPE)**

PRODUCT CODE	THREAD SIZE (inch,mm)	BASE DIAMETER B	LENGTH A	QTY / UNIT WEIGHT
AD-3012IRM (RUBBER)	1/2"	Φ32	50	150pcs/box, 84g/pc
AD-5012IRM (RUBBER)	1/2"	Φ50	50	120pcs/box, 108g/pc
AD-3012IRME (RUBBER)	1/2"	Φ32	50	150pcs/box, 84g/pc
AD-5012IRME (RUBBER)	1/2"	Φ50	50	120pcs/box, 108g/pc
AD-3010MRM (RUBBER)	M10	Φ32	50	150pcs/box, 70g/pc
AD-5010MRM (RUBBER)	M10	Φ50	50	120pcs/box, 94g/pc

**CODE**

**AD - 30 12 I M S P R S M L X**

ADJUSTER    CAP SIZE (30 & 50)    THREAD DIAMETER (나사산 사이즈)    1/2" : 12    M10 : 10    M12 : 12


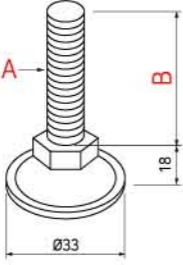
THREAD MEASURE (나사산호칭)    inch : I    mm : M


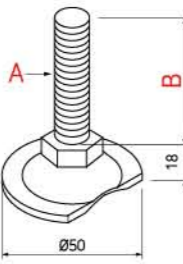
BASE TYPE (타입)    STEEL : S    PLASTIC : P    RUBBER : R

THREAD LENGTH    볼트길이    30mm : S    50mm : M    100mm : L    150mm : X

ACCESSORIES


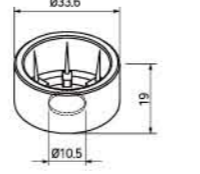
## ACCESSORIES - LEVELER


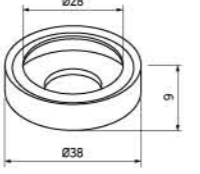
STANDARD METAL LEVELER		PRODUCT CODE	THREAD SIZE (Inch,mm)	BASE DIAMETER	LENGTH B	QTY / UNIT WEIGHT
		AD-3012 ISM (OLD NO : AD-3012SS)	1/2"	Φ33	50	150pcs/box, 80g/pc
		AD-3012 ISL (OLD NO : AD-3012SL)			100	100pcs/box, 110g/pc
		AD-3012 ISX (OLD NO : AD-3012SX)			150	50pcs/box, 164g/pc
		AD-3010 MSM	M10		50	150pcs/box, 66g/pc
		AD-3012 MSM	M12		50	150pcs/box, 75g/pc
		AD-3012 MSL	M12		100	100pcs/box, 105g/pc

STANDARD METAL LEVELER		PRODUCT CODE	THREAD SIZE (Inch,mm)	BASE DIAMETER	LENGTH B	QTY / UNIT WEIGHT
		AD-5012 ISM (OLD NO : AD-5012LS)	1/2"	Φ50	50	150pcs/box, 95g/pc
		AD-5012 ISL (OLD NO : AD-5012LL)			100	80pcs/box, 138g/pc
		AD-5012 ISX (OLD NO : AD-5012LX)			150	50pcs/box, 180g/pc
		AD-5010 MSM	M10		50	150pcs/box, 81g/pc
		AD-5012 MSM	M12		50	150pcs/box, 90g/pc
		AD-5012 MSL	M12		100	80pcs/box, 133g/pc


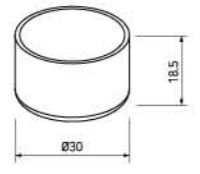
## ACCESSORIES - CAPS

CN-3010MS	STEEL CAP NUT M10
	
	400pcs/box 24g/pc

CN-3010MP	PLASTIC CAP NUT M10
	
	300pcs/box 14g/pc


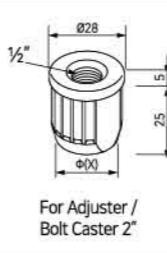

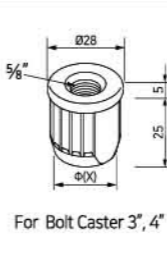
AC-3828RB	ADJUSTER RUBBER CAP
	
	400pcs/box 8g/pc

AC-3829RB	RUBBER FOOT CAP
	
	500pcs/box 26g/pc

SC-3028SV	STEEL CAP
	
	400pcs/box 22g/pc


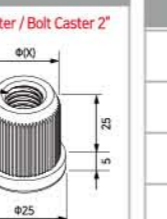


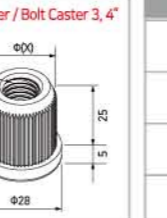
## INSERT NUTS - ALUMINIUM


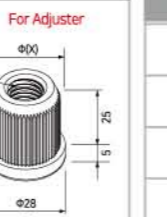
IMAGE	DIMENSION	PRODUCT CODE	THICKNESS (PIPE두께)	PIPES	MODEL	Q'ty / BOX	UNIT WEIGHT	Φ(X)
		IN-1210LA	t1.0	FOR LOGIFORM PIPE	LP-1100	300	21.3g	23.6
		IN-1220LA	t2.0		LP-1200		18g	21.6
		IN-1207SA	t0.7	FOR STAINLESS PIPE	ST-1070		23.5g	26.4
		IN-1209SA	t0.9		ST-1090		25.2g	26
		IN-1211SA	t1.1		ST-1110		23.7g	25.6
		IN-1211SA	t1.1		ST-1110		23.7g	25.6
		IN-5810LA	t1.0	FOR LOGIFORM PIPE	LP-1100	300	18g	23.6
		IN-5820LA	t2.0		LP-1200		16.1g	21.6
		IN-5807SA	t0.7	FOR STAINLESS PIPE	ST-1070		21g	26.4
		IN-5809SA	t0.9		ST-1090		22.3g	26
		IN-5811SA	t1.1		ST-1110		21.9g	25.6
		IN-5811SA	t1.1		ST-1110		21.9g	25.6


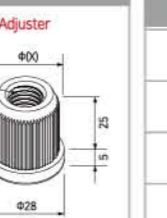
※ Please contact HBL's sales representative for an up-to-date product information.

## INSERT NUTS - STEEL

INSERT NUT (1/2")		PRODUCT CODE	THICKNESS (PIPE두께)	PIPES	MODEL	Q'ty / BOX	UNIT WEIGHT	Φ(X)
		IN-1210L	t1.0	FOR LOGIFORM PIPE	LP-1100	300	20g	23.6
		IN-1220L	t2.0		LP-1200		16g	21.6
		IN-1207S	t0.7	FOR STAINLESS PIPE	ST-1070		20g	26.4
		IN-1211S	t1.1		ST-1110		20g	25.6

INSERT NUT (5/8")		PRODUCT CODE	THICKNESS (PIPE두께)	PIPES	MODEL	Q'ty / BOX	UNIT WEIGHT	Φ(X)
		IN-5810L	t1.0	FOR LOGIFORM PIPE	LP-1100	300	62g	23.6
		IN-5820L	t2.0		LP-1200		77g	21.6
		IN-5807S	t0.7	FOR STAINLESS PIPE	ST-1070		72g	26.4
		IN-5811S	t1.1		ST-1110		72g	25.6

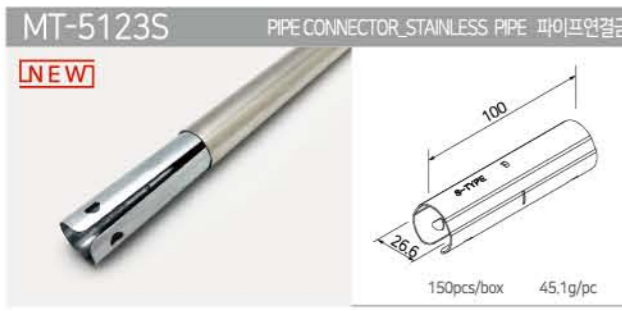
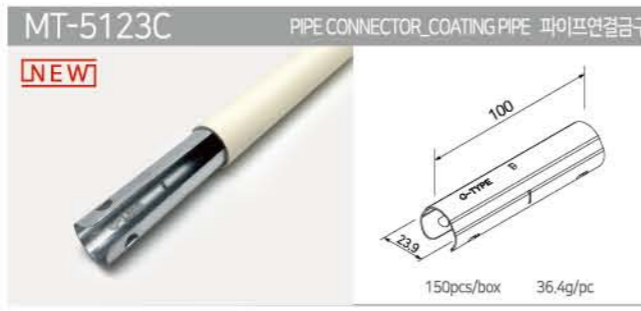
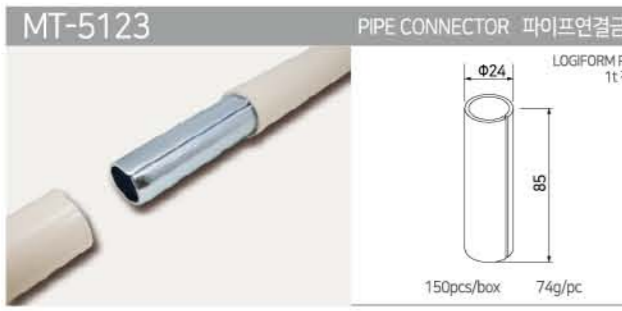
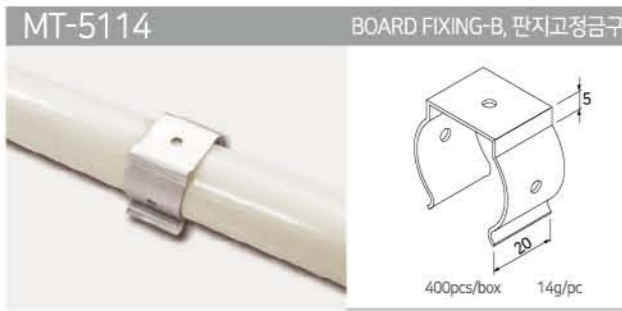
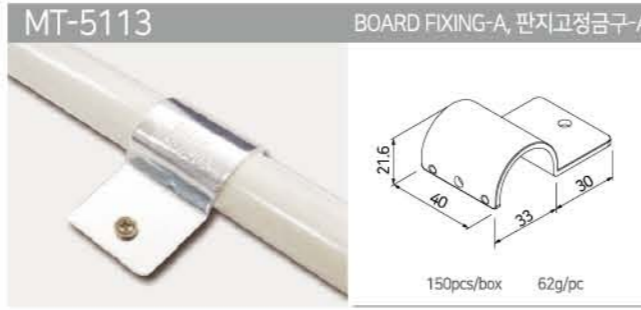
INSERT NUT (10mm)		PRODUCT CODE	THICKNESS (PIPE두께)	PIPES	MODEL	Q'ty / BOX	UNIT WEIGHT	Φ(X)
		IN-1010LM	t1.0	FOR LOGIFORM PIPE	LP-1100	300	72g	23.6
		IN-1020LM	t2.0		LP-1200		62g	21.6
		IN-1007SM	t0.7	FOR STAINLESS PIPE	ST-1070		86g	26.4
		IN-1011SM	t1.1		ST-1110		76g	25.6

INSERT NUT (12mm)		PRODUCT CODE	THICKNESS (PIPE두께)	PIPES	MODEL	Q'ty / BOX	UNIT WEIGHT	Φ(X)
		IN-1210LM	t1.0	FOR LOGIFORM PIPE	LP-1100	300	72g	23.6
		IN-1220LM	t2.0		LP-1200		62g	21.6
		IN-1207SM	t0.7	FOR STAINLESS PIPE	ST-1070		86g	26.4
		IN-1211SM	t1.1		ST-1110		76g	25.6

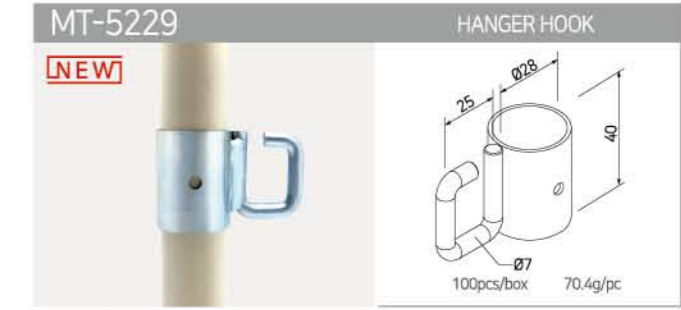
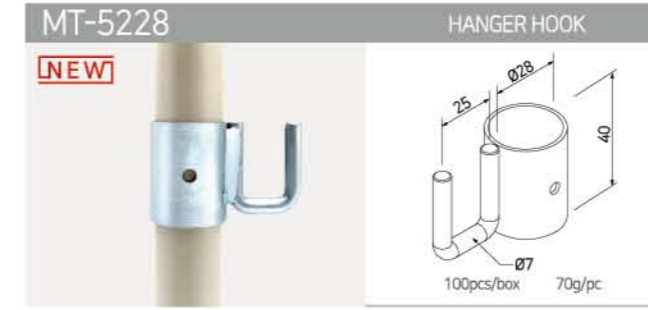
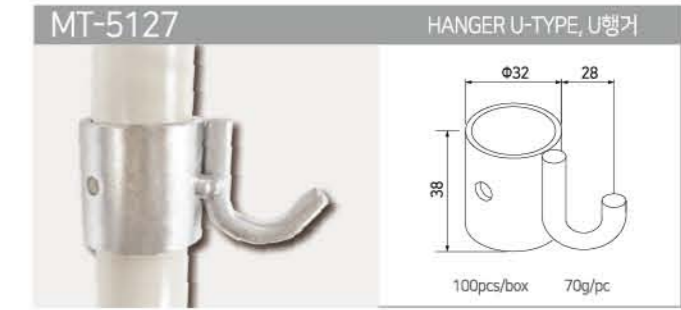
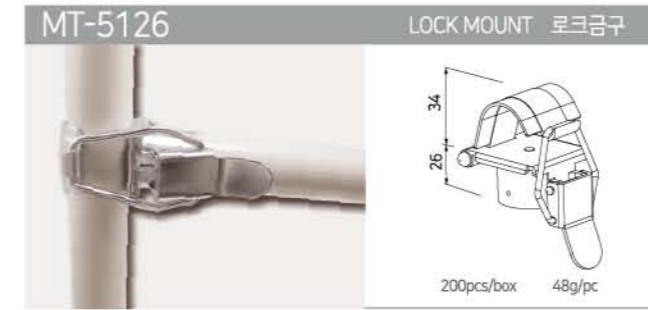
※ Please contact HBL's sales representative for an up-to-date product information.




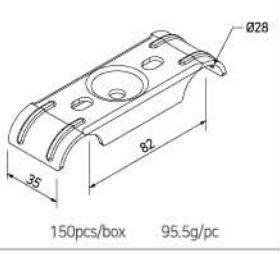
## ACCESSORIES


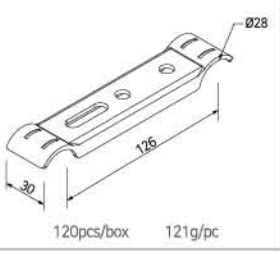



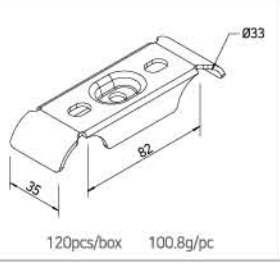
## ACCESSORIES


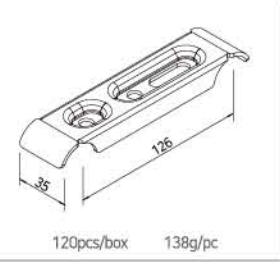



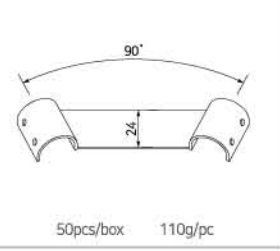
# ACCESSORIES


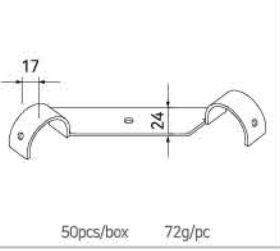
**MT-5109** CASTER STRAP 캐스터지자금구  

  
 150pcs/box 95.5g/pc


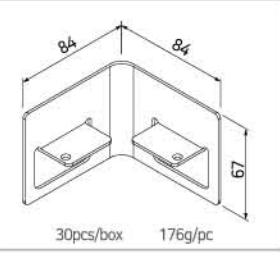
**MT-5109W** CASTER STRAP-W, 캐스터지자금구-W  

  
 120pcs/box 121g/pc


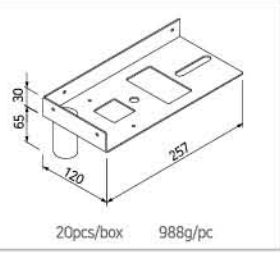
**MT-5209** CASTER STRAP  

  
 120pcs/box 100.8g/pc


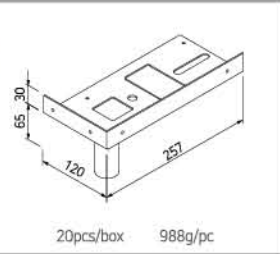
**MT-5109L** CASTER STRAP-L, 캐스터지자금구-L  

  
 120pcs/box 138g/pc

**MT-5116** BOARD BRACKET-A, 판지고정코너금구-A  

  
 50pcs/box 110g/pc

**MT-5117** BOARD BRACKET-B, 판지고정코너금구-B  

  
 50pcs/box 72g/pc

**MT-5118** CORNER GUARD 코너금구  

  
 30pcs/box 176g/pc

**MT-5138L** CORNER PLATE-L, 손잡이보강금구-좌  

  
 20pcs/box 988g/pc


**MT-5138R** CORNER PLATE-R, 손잡이보강금구-우  

  
 20pcs/box 988g/pc

**MT-5139L** CORNER PLATE-L, 캐스터 코너 금구-좌  

  
 12pcs/box 1,268g/pc

**MT-5139R** CORNER PLATE-R, 캐스터 코너 금구-우  

  
 12pcs/box 1,268g/pc

**CG-0150BK** CORNER GUIDE, 캐스터 코너 금구-우  

  
 40pcs/box 192.21g/pc

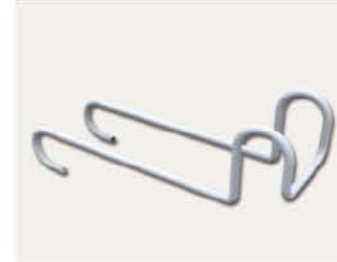
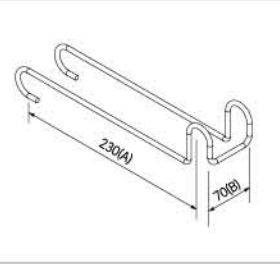
# ACCESSORIES

**MT-5130A** HANDLE FIXING-A, 손잡이 고정금구-A  


  
 600pcs/box 22g/pc

**MT-5130B** HANDLE FIXING-B, 손잡이 고정금구-B  


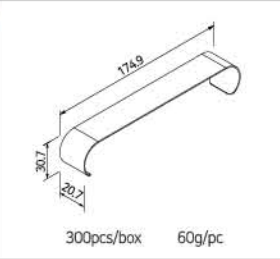
  
 600pcs/box 22g/pc


**WG-0230** WIRE GUIDE  

  
 230(A) 70(B)

CODE	A	B
WG-0230 190g/pc	230	
WG-0330 240g/pc	330	70
WG-0430 280g/pc	430	


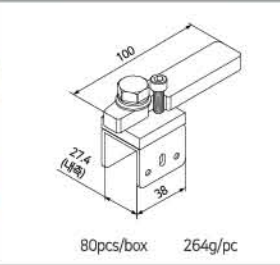



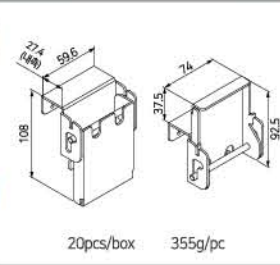
# MIDDLE STOPPERS

**MS-4018SV** 40" MIDDLE STOPPER  

  
 300pcs/box 60g/pc

**MS-7318SV** 73" MIDDLE STOPPER  

  
 100pcs/box 126g/pc

# BOX STOPPERS

**MT-5320** BOX STOPPER-A  

  
 80pcs/box 264g/pc

**MT-5321** BOX STOPPER-B  

  
 20pcs/box 355g/pc

**PJ-1401BK** PLACON REVERSE BRAKE  

  
 1,300pcs/box 12g/pc

# ACCESSORIES

**MT-5140A** TRACTION ARM-A 500, 견인고리-A500  
※ Zinc Plated  
2,750g/pc

**MT-5141A** TRACTION ARM-A 600, 견인고리-A600  
※ Zinc Plated  
2,980g/pc

**MT-5142B** TRACTION ARM-B 500, 견인고리-B  
※ Zinc Plated  
2,180g/pc

**MT-5143A/B** TRACTION HOOK-A / B  
※ Zinc Plated  
780g/pc

**MT-5149A** TRACTION ARM  
※ Zinc Plated  
2,120g/pc

**MT-5149B** TRACTION HOOK  
1,070g/pc

**MT-5144A** TRACTION ARM-A 견인고리-A  
※ Painted  
3,200g/pc

**MT-5145A** TRACTION HOOK-A 견인고리-A  
※ Painted  
1,750g/pc

**MT-5144B** TRACTION ARM-B 견인고리-B  
※ Non-Painted, For Welding  
HTUNDAI TYPE  
3,500g/pc

**MT-5145B** TRACTION HOOK-B 견인고리-B  
※ Non-Painted, For Welding  
1,200g/pc

**MT-5144C** TRACTION ARM-C, 견인고리-C  
※ Non-Painted, For Welding  
KIA TYPE  
3,500g/pc

**MT-5145C** TRACTION HOOK-C, 견인고리-C  
※ Non-Painted, For Welding  
4,600g/pc

# ACCESSORIES

**MT-5119** OVERLAP CAP 중복캡  
20pcs/box, 226g/pc

**MT-5119S** SQUARE CAP 사각종발이  
50pcs/box, 400g/pc

**MT-5119W** SQUARE CAP 사각종발이  
※ Non-Painted, For Welding  
35pcs/box, 330g/pc

**MT-5121** STANCHION MOUNT 바닥고정금구  
40pcs/box, 178g/pc

**MT-5100** FORKLIFT HOOK 지게차포크 이탈방지 금구  
25pcs/box, 908g/pc

**MT-5311** CASTER FIXING HOLDER  
120pcs/box, 70g/pc

**MT-5148 (4" / 5" / 6")** FLOOR LOCK  
4" - 1,152g/pc, 30pcs/Box  
5" - 1,206g/pc, 20pcs/Box  
6" - 2,802g/pc, 8pcs/Box

**MT-5151** SLIDE MODULATOR  
10pcs/box, 1,268g/pc

**MT-5143** GAS SPRING  
-10/15/20/30/50kg  
-Road : 143mm  
-Length : 377mm  
100pcs/box, 245g/pc

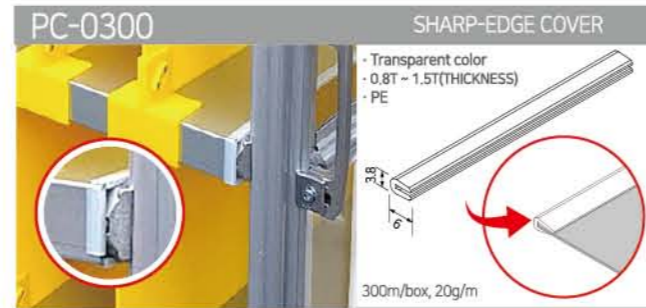
**MT-5211** ZN PLATING ANGLE 아연안글  
(3m Standard)  
3m/bar, 2,250g/bar

**MT-5147** SLIDE RAIL 슬라이드레일  
BALL BEARING  
SLIDE SIZE : 350-600mm(50mm)간격  
654g/pc

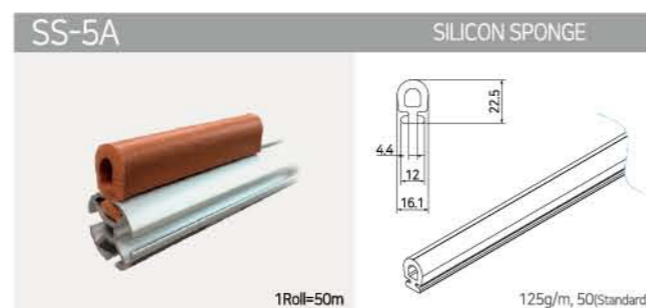
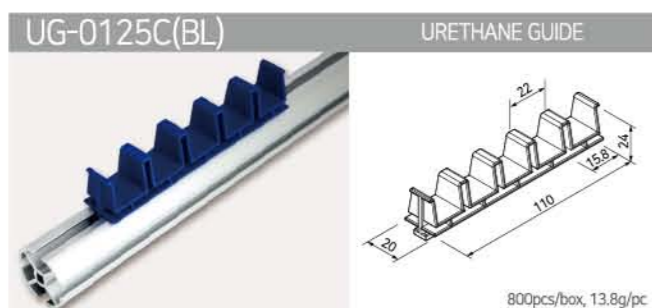
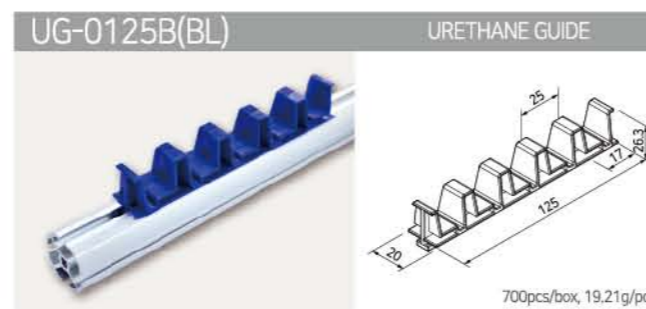
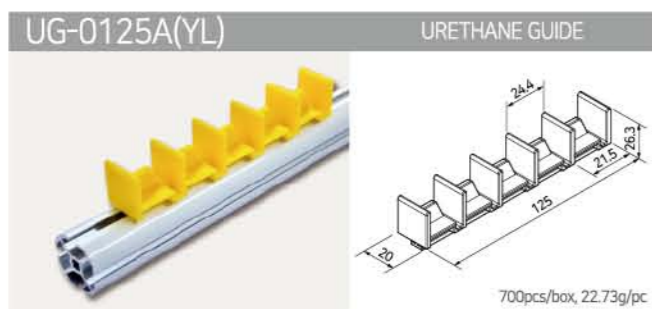
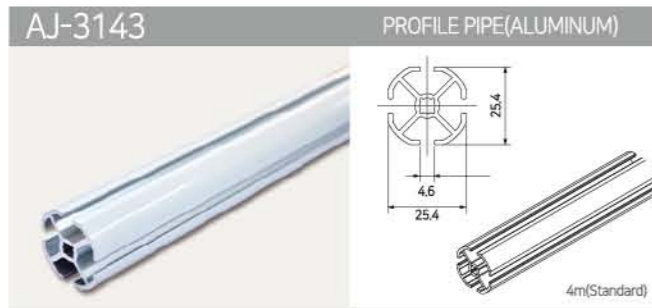
ACCESSORIES



## ACCESSORIES



## ACCESSORIES FOR PROFILE



## FASTENERS & TOOLS

BOLTS	BK / SV / NI			
ITEM SPECIFICATION	WRENCH BOLT M6 * 10 / 20 / 25	BOLT M8 * 20 / 25 / 30 / 35 / 40	BOLT M8 * 45 / 50 / 60 / 70	BOLT M10 * 20 / 25
PRODUCT CODE	WB-0610 / 0620 / 0625	BT-0820/0825/0830/0835/0840	BT-0845/0850/0860/0870	BT-1020 / 1025

BOLTS NUTS			BK / SV / NI	
ITEM SPECIFICATION	BOLT M12 * 20 / 25	BOLT 1 / 2 * 50	T NUT M6	NYLON NUT M8 / M10 / M12
PRODUCT CODE	BT-1220 / 1225	BT-1250	NU-0600	NN-0800 / 1000 / 1200

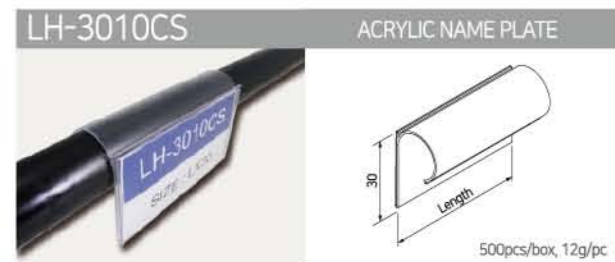
SCREWS						
ITEM SPECIFICATION	ROUND SCREW #8*19/25/32	FLAT SCREW #8*19/25/32	TAPPING SCREW M4*8L	ROUND SCREW M3.5*16L	WIDE SCREW #10*20/25	NUT 1/2
PRODUCT CODE	SR-0819/0825/0832	SF-0819/0825/0832	TS-0408	TS-3516	SW-1020/SW-1025	NU-1200

WRENCH BITS				
ITEM SPECIFICATION	WRENCH BIT 5X70mm / 5X100mm	L-WRENCH BIT 5X165mm	DRIVER BIT 65mm/110mm	SPANNER 19mm/22mm
PRODUCT CODE	TL-4001 / TL-4002	TL-4003	TL-4004/4005	TL-4000

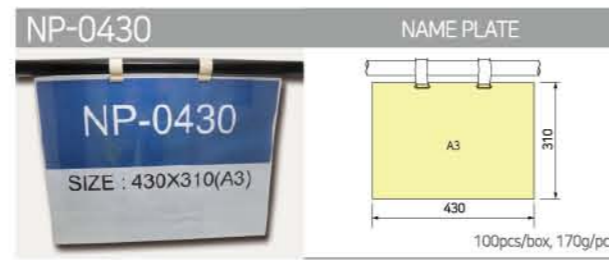
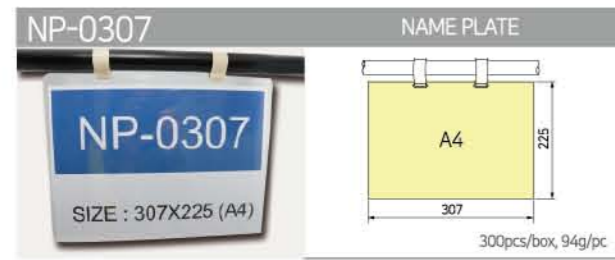
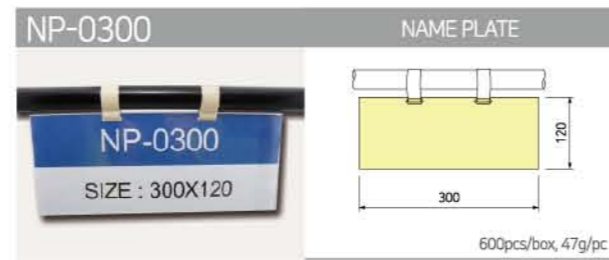
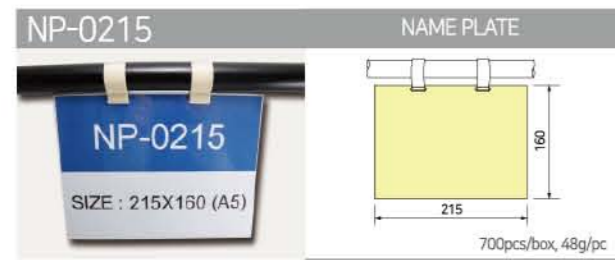
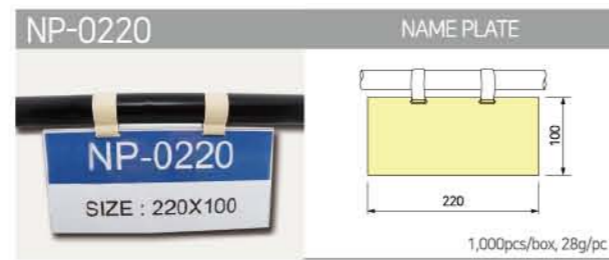
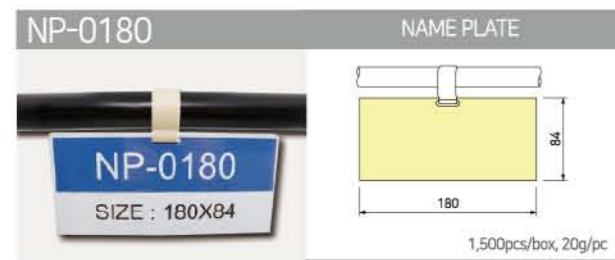
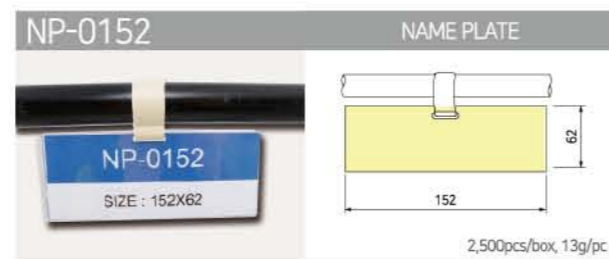
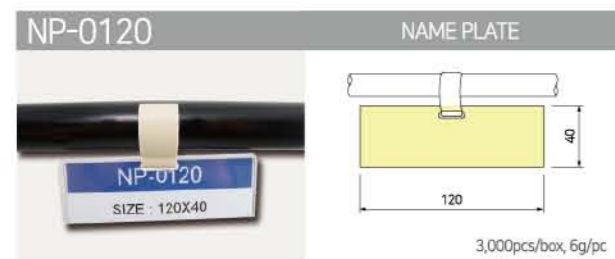
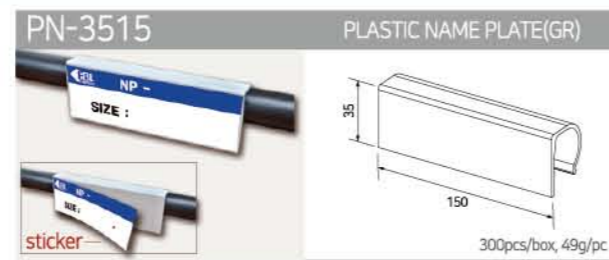
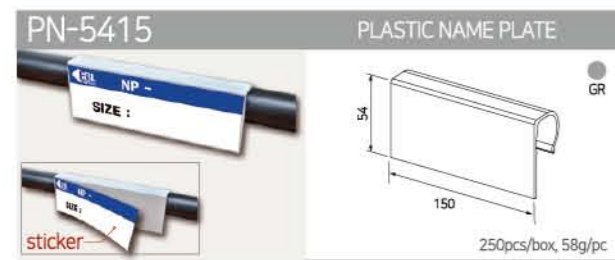
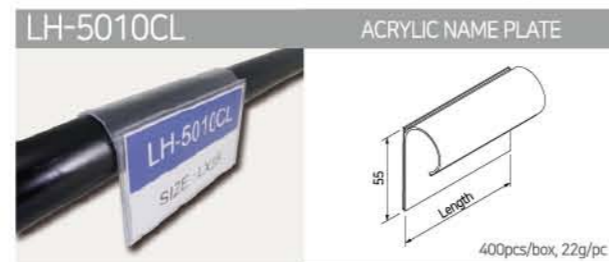
TOOLS				
ITEM SPECIFICATION	RUBBER HAMMER -	DEBURRING CUTTER -	METRIC TAPE MEASURE 5m	ELECTRICITY IMPACT TOOL SET
PRODUCT CODE	TL-4006	TL-4007	TL-4008	TL-4011

## NAME PLATES

Product Code	Width	Length	Weight	Quantity
LH-3010CS	30mm	100	12g	500
LH-3015CS		150	18g	350
LH-3020CS		200	24g	300
LH-3030CS		300	36g	150



Product Code	Width	Length	Weight	Quantity
LH-5010CL	55mm	100	22g	400
LH-5015CL		150	33g	200
LH-5020CL		200	44g	200
LH-5030CL		300	66g	100



## PLASTIC ANGLES & COVERS

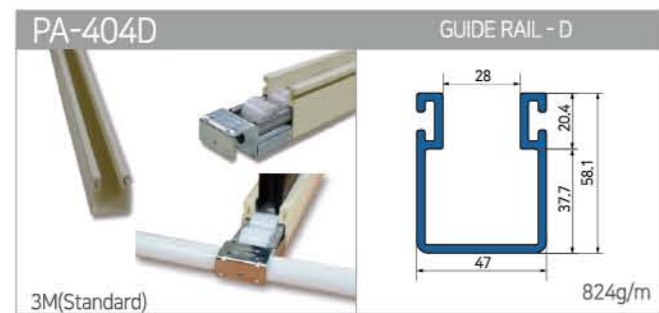
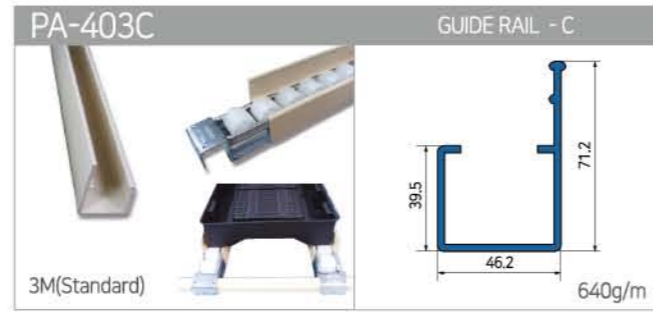
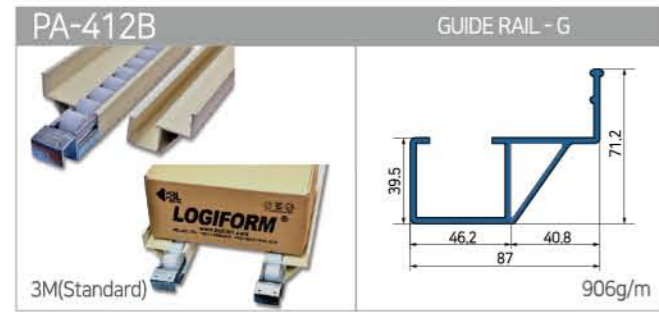
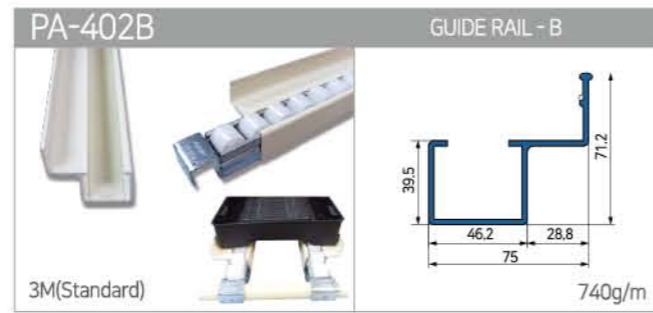
TYPE	SIZE(3M)	PRODUCT CODE	A	B	C	WEIGHT
L TYPE		PA-2350T3	30	50	T3	340g/m
		PA-2890T3	80	90		723g/m
		PA-2550T4	50	50		586g/m
		PA-2575T4	50	75		706g/m
		PA-2510T4	50	100	T4	833g/m
		PA-2515T4	50	150		1,180g/m
T TYPE		PA-3510T4	50	100	T4	793g/m
		PA-31550T4	150	50	T4	1,121g/m
		PA-3160T4	100	60	T4	1,106g/m
PIPE COVER		PA-4028A (OLD NO : PA-4028T3) IV, GR, BK	-	-	T3	223g/m
PIPE FLAT COVER (Color : IV, GR, BK)		PA-4028B (IV, GR, BK)	-	-	T2.5	280g/m
CABLE DUCT		① CD-3000T	-	-	-	158g/m
		② CD-3000B	-	-	-	282g/m

## SHEET GUIDES

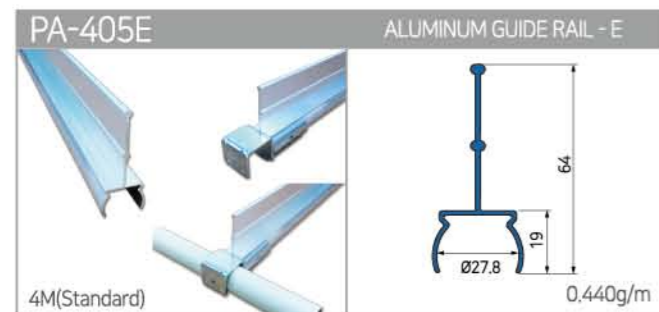
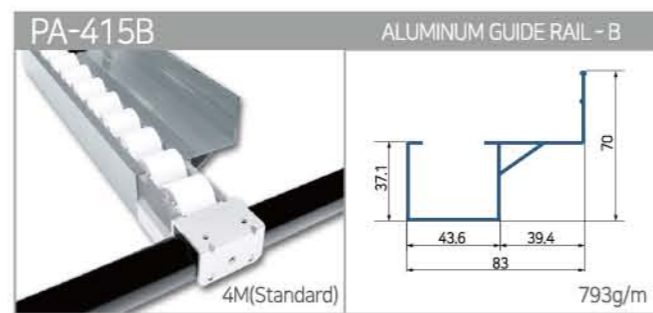
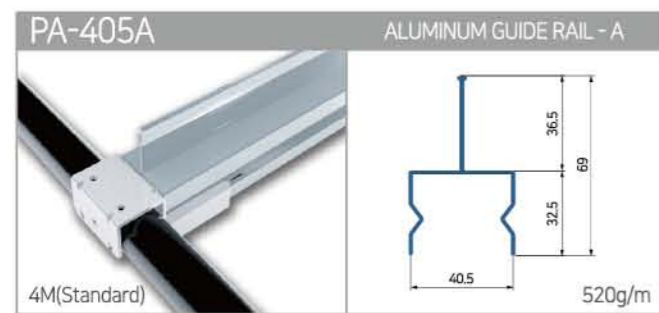
Product Code	SHEET GUIDE	Weight
SC-0528A	SHEET GUIDE - A	364g/m
SC-0528B	SHEET GUIDE - B	683g/m
SC-0528C	SHEET GUIDE - C	473g/m

ACCESSORIES

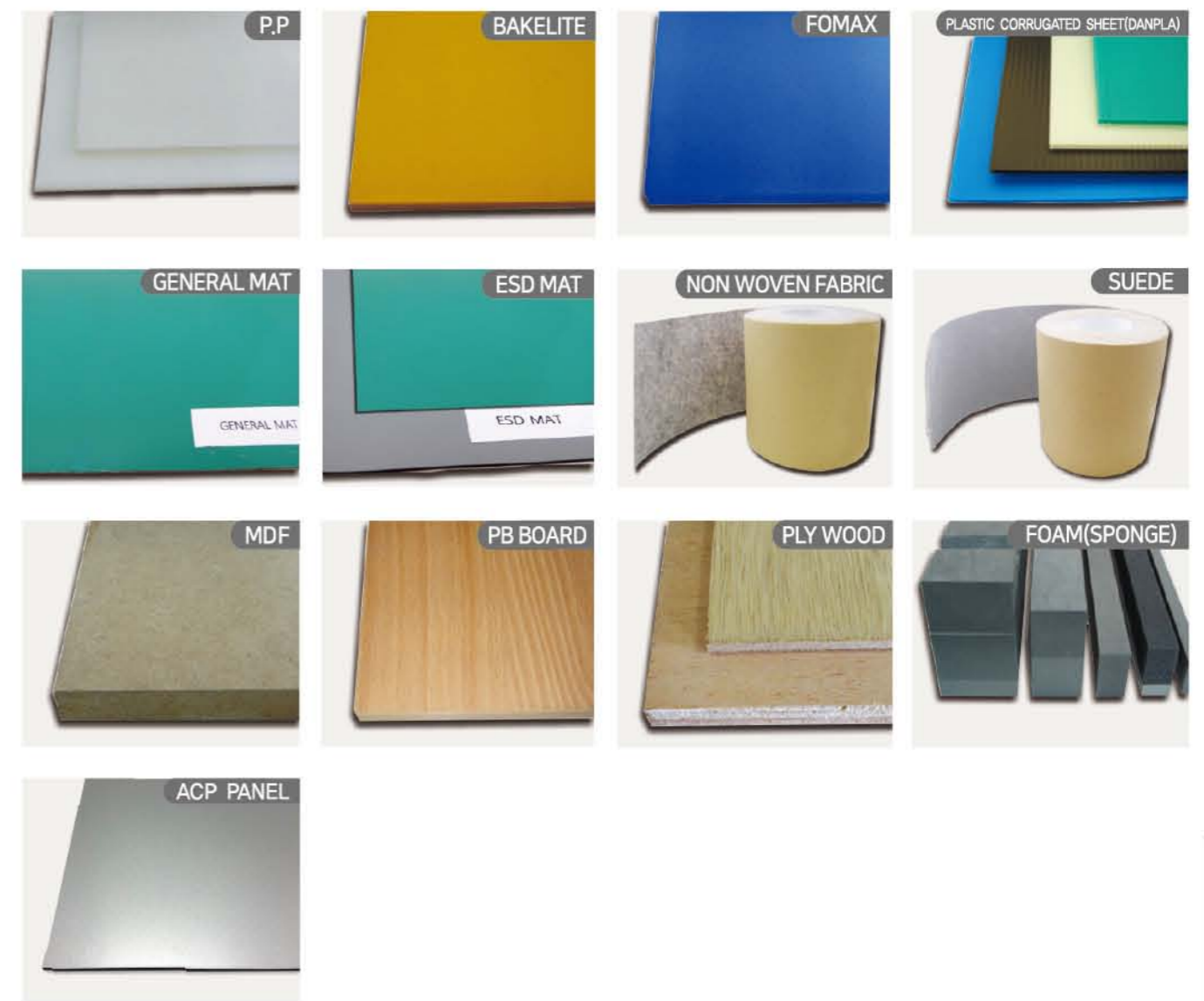
## GUIDE RAILS



## ALUMINUM GUIDE RAILS



## BOARDS & SHEETS



ACCESSORIES

## PROTECTION HOSES

CLASSIFICATION				
ITEM	Yarned Thread Hose 편사호스	Transparent Hose 투명호스	Atilon Hose 아티론 호스	Foam Hose (9T/19T) 발포고무 호스
PRODUCT CODE	TH-0001	TH-0002	TH-0003	TH-0005
SPECIFICATION	45m/roll(PVC)	45m/roll(PVC)	4m/pc(ATILON)	2m/pc(RUBBER/SOFT)

※ Please contact our sales office with reference to the additional options available.

## SPECIFICATIONS

ITEM		SIZE	THICKNESS	COLOR	CHARACTERISTICS(특성)	PRODUCT CODE	
BOARDS (판지)	PLASTIC	PP BOARD (PP)	1200*2400	t5, t7	WHITE	Chemical Resistance Oil Resistance (내유성)	PP-051224 PP-071224
		Poly Vinyl Acetate (PVC)	1200*2400	t5, t7	IVORY GRAY	Smooth Skin (매끈한 외피) Flame-retardant (난연성) Insulation (절연성)	PV-051224 PV-071224
		Plastic Corrugated Sheet (DANPLA)	1500*2000	t5, t9	IVORY, GREEN, BLACK, BLUE	Light weight (경량) Various colors (다양한색상)	DP-051520 DP-091520
		Fomax (포맥스)	1200*2400	t5, t8	GRAY/ BLUE WHITE	Light weight (경량) Easy to produce (가공용이)	FM-051224 FM-081224
		Bakelite (백크라이트)	1000*2000 1200*2400	t5, t8	BROWN, BLACK	High strength (고강도) Fine Insulation (미세한 절연치)	BK-051010 BK-081010
		Poly carbonate (PC)	1200*2400	t3, t5	TRANSPARENT (투명) BLUE	Easy to produce (가공용이) High strength (고강도)	PC-031224 PC-051224
		Acryl (아크릴)	1000*2000 1200*2400	t3, t5, t8	YELLOW		AC-051020 AC-081020
	WOOD	Medium Density Fiberboard (MDF)	1200*2400	t9, t12, t15			MD-091224 MD-121224
		Particle Board (PB)	1200*2400	t15, t30		Coated wood (가구용 코팅 목재)	PB-151224 PB-301224
		Ply Wood (합판)	1200*2400	t9, t12, t15		Easy to produce (가공용이) High strength (고강도)	PW-091224 PW-121224
ALUMINUM	Acp Panel (복합판넬)	1200*2400	4t	ALUMINUM		Acp-041224	
MATS (매트)	MAT	ESD Mat (정전MAT)	W600*10M	t2	GREEN	Adhesive / Plain (판재상부 부착용)	EM-060010 EM-090010
			W1200*10M		GREEN GRAY		EM-100010 EM-120010
		General Mat (일반MAT)	W1200*30M	GREEN	GM-120030		
PROTECTION OF GOODS (제품보호제)	FABRIC	Non Woven Fabric (부직포)	W1500*100M		GRAY	Anti-scratch (스크래치 방지)	NW-150100
		Suede (스웨이드)	W25*20M				SD-W02520
			W55*20M W100,120,150,200,250				SD-W05520
			W1400*10M				SD-W14010

※ Please contact our sales office with reference to the additional options available.

# 17

## CASTERS

LIGHT DUTY CASTERS

MEDIUM DUTY CASTERS

CUSHION CASTERS

HIGH POLYURETHANE CASTER80 SERIES

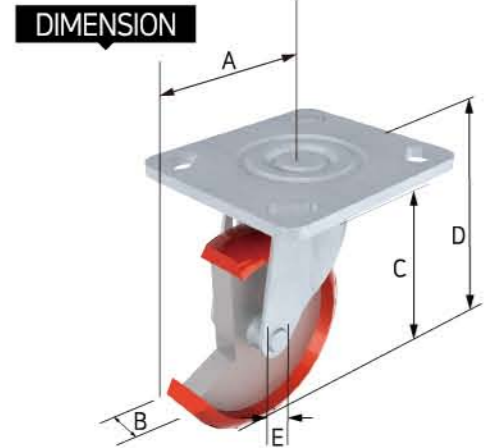
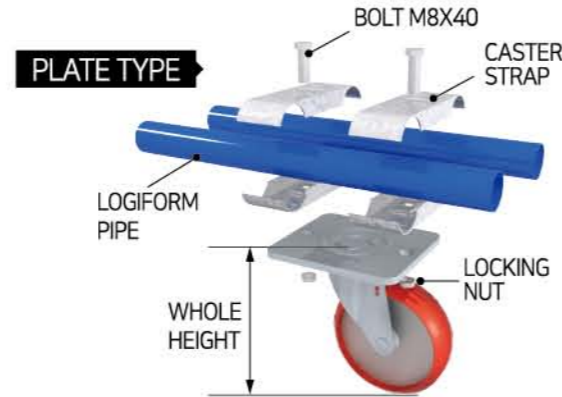
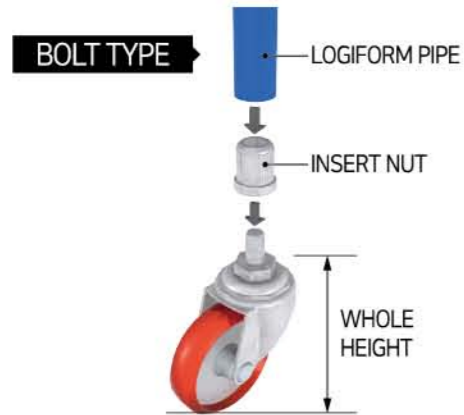
BALL CASTER

GRIP RING TYPE CASTERS

INSERTS FOR GRIP RING TYPE CASTER



## SPECIFICATIONS



A	B	C	D	E
SWIVEL	WIDTH	DIAMETER	HEIGHT	OFFSET

### “하중에 따른 캐스터 선정 방법”

$$S = (W+A)/(n-1) \quad (S: \text{Safe load(kgf)}, W: \text{Weight of mobile structure(kg)}, A: \text{Weight of load(kg)}, n: \text{Number of caster(pc)})$$

- This calculation is subject to use on flat floor.
- Be aware that bumpy road can affect load capacity.
- You must follow recommended load capacity.

$$S = (W+A)/(n-1) \quad (S: \text{안전 허용 하중(kgf)}, W: \text{운송 장비 중량(kg)}, A: \text{추가 적재 하중(kg)}, n: \text{부착된 캐스터 수량(pc)})$$

- 본 계산식은 일반적인 평탄한 노면상태에서 사용하는 것을 전제로 합니다.
- 캐스터에 충격을 줄 수 있는 요철과 문턱등 사용조건에서는 허용하중이 급격하게 감소하므로 사용을 제한해야 합니다.
- 안전 허용 하중에 적합하지 않은 캐스터를 사용하면 제품 결함 및 신체상 상해의 원인이 될 수 있습니다.

## LIGHT DUTY CASTERS (BOLT TYPE)

IMAGE	PRODUCT CODE	OPTION	inch(mm)	SIZE "A" inch	inch(mm)	mm	mm	kg(max)	WHEEL	BEARING	PRODUCT WEIGHT kg	QTY/BOX
	CT-702S	SWIVEL	2"	1/2"	20	44	72	35	PLY	Plain	0.16	160
	CT-702B	SWIVEL-BRK									0.16	
	CT-703S	SWIVEL	3"	5/8"	32	73	108	100	PLY	Ball	0.69	32
	CT-704S		4"	5/8"	32	89	133	105	PLY	Ball	0.79	24
	CT-703B	SWIVEL-BRK	3"	5/8"	32	73	108	100	PLY	Ball	0.75	32
	CT-704B		4"	5/8"	32	89	133	105	PLY	Ball	0.89	24

WHEEL = PLY : Polyurethane Tread / Plastic Center Wheels  
BEARING = PLAIN / BALL : Wheel Bearing Type

## LIGHT DUTY CASTERS (PLATE TYPE)




IMAGE	PRODUCT CODE	OPTION	inch(mm)	inch(mm)	mm	mm	kg(max)	mm	mm	WHEEL	BEARING	PRODUCT WEIGHT kg	QTY/BOX
	CT-713RL	RIGID	3"	32	x	104	100	95x64	76 to 73x45	PLY	Ball	0.54	32
	CT-714RL		4"	32		129	105					0.83	24
	CT-715RL		5"	32		156	115					0.74	20
	CT-713SL	SWIVEL	3"	32	73	104	100	95x64	76 to 73x45	PLY	Ball	0.83	32
	CT-714SL		4"	32	89	129	105					0.94	24
	CT-715SL		5"	32	101	156	115					1.03	20
	CT-713BL	SWIVEL-BRK	3"	32	73	104	100	95x64	76 to 73x45	PLY	Ball	0.88	32
	CT-714BL		4"	32	89	129	105					1.03	24
	CT-715BL		5"	32	101	156	115					1.12	20

\* Please contact our sales office with reference to the additional options available.

WHEEL = PLY : Polyurethane Tread / Plastic Center Wheels  
BEARING = BALL : Wheel Bearing Type











## LIGHT DUTY CASTERS (ESD TYPE)

IMAGE	PRODUCT CODE	OPTION	 inch(mm)	 inch(mm)	 mm	 mm	 kg(max)	 mm	 mm	WHEEL	BEARING	PRODUCT WEIGHT (kg)	QTY/BOX
	CT-713RE	RIGID	3"	32		104	56	95X64	76 to 73x45	SR(ESD)	Ball	0.58	32
	CT-714RE		4"	32	X	129	75					0.88	24
	CT-715RE		5"	32		156	80					1.17	20
	CT-713SE	SWIVEL	3"	32	73	104	56	95X64	76 to 73x45	SR(ESD)	Ball	0.87	32
	CT-714SE		4"	32	89	129	75					1.05	24
	CT-715SE		5"	32	101	156	80					1.24	20
	CT-713BE	SWIVEL-BRK	3"	32	73	104	56	95X64	76 to 73x45	SR(ESD)	Ball	0.93	32
	CT-714BE		4"	32	89	129	75					1.32	24
	CT-715BE		5"	32	101	156	80					1.72	20











WHEEL = SR : Soft Rubber Wheels  
BEARING = BALL : Wheel Bearing Type

## MEDIUM DUTY CASTERS-LOW(PLATE TYPE)

IMAGE	PRODUCT CODE	OPTION	 inch(mm)	 inch(mm)	 mm	 mm	 kg(max)	 mm	 mm	WHEEL	BEARING	PRODUCT WEIGHT (kg)	QTY/BOX
	CT-714RH	RIGID	4"	38		137	200	114x102	92~76x76~66	PU	ROLLER #001	1.72	10
	CT-715RH		5"	40	X	165	250					2.15	10
	CT-716RH		6"	44		190	270					2.63	8
	CT-714SH	SWIVEL	4"	38	82	137	200	114x102	92~76x76~66	PU	ROLLER #001	1.85	10
	CT-715SH		5"	40	90	165	250					2.58	10
	CT-716SH		6"	44	108	190	270					2.94	8
	CT-714BH	SWIVEL-BRK	4"	38	82	137	200	114x102	92~76x76~66	PU	ROLLER #001	1.85	10
	CT-715BH		5"	40	90	165	250					2.77	10
	CT-716BH		6"	44	108	190	270					3.14	8











WHEEL = PU : Polyurethane  
BEARING ROLLER - #001 : 40 ↓, #003 : 40 ↑  
※Please contact our sales office with reference to the additional options available

## MEDIUM DUTY CASTERS-HIGH (PLATE TYPE)

IMAGE	PRODUCT CODE	OPTION	 inch(mm)	 inch(mm)	 mm	 mm	 kg(max)	 mm	 mm	WHEEL	BEARING	PRODUCT WEIGHT (kg)	QTY/BOX
	CT-714RW	RIGID	4"	48		141	320	114 x 102	92~76x76~66	PU	Ball	1.89	10
	CT-715RW		5"	48	X	165	340					2.09	10
	CT-716RW		6"	48		190	360					2.58	8
	CT-714SW	SWIVEL	4"	48	76	141	320	114 x 102	92~76x76~66	PU	Ball	2.27	10
	CT-715SW		5"	48	90	165	340					2.51	10
	CT-716SW		6"	48	108	190	360					3.1	8
	CT-714BW	SWIVEL-BRK	4"	48	76	141	320	114 x 102	92~76x76~66	PU	Ball	2.42	8
	CT-715BW		5"	48	90	165	340					2.66	8
	CT-716BW		6"	48	108	190	360					3.21	6




WHEEL = PU : Polyurethane

## CUSHION CASTERS (PLATE TYPE)

IMAGE	PRODUCT CODE	OPTION	 inch(mm)	 inch(mm)	 mm	 mm	 kg(max)	 mm	 mm	WHEEL	BEARING	PRODUCT WEIGHT (kg)	QTY/BOX
	CT-726RC (PC)	RIGID										5.146	
	CT-726SC (PC)	SWIVEL	6"	48	128	203	360kg	160*115	129*72.5	Poly Urethane	Ball	5.876	4ea/box
	CT-726BC (PC)	SWIVEL-BRK										5.46	




※Please contact our sales office with reference to the additional options available

## BALL CASTER

IMAGE	PRODUCT CODE	OPTION	 inch(mm)	 kg(max)	PRODUCT WEIGHT (kg)
	BC-701S	SWIVEL	1"	20	135.7g

※Please contact our sales office with reference to the additional options available

## GRIP RING TYPE CASTERS

IMAGE	PRODUCT CODE	OPTION	 inch(mm)	 inch(mm)	 mm	 mm	 kg(max)	THREADED SPECIFICATION	WHEEL	BEARING	PRODUCT WEIGHT (kg)	QTY/BOX
	CT-703RR	RIGID	4"	48		141	320	Ø11x38mm	PU	Ball	1.89	10
			5"	48	X	165	340		PU	Ball	2.09	10
			6"	48		190	360		PU	Ball	2.58	8
	CT-703SR	SWIVEL	4"	48	76	141	320	Ø11x38mm	PU	Ball	2.27	10
			5"	48	90	165	340		PU	Ball	2.51	10
			6"	48	108	190	360		PU	Ball	3.1	8
	CT-703BR	SWIVEL-BRK	4"	48	76	141	320	Ø11x38mm	PU	Ball	2.42	8
			5"	48	90	165	340		PU	Ball	2.66	8
			6"	48	108	190	360		PU	Ball	3.21	6

WHEEL = PU : Polyurethane

## INSERTS FOR GRIP RING TYPE CASTER



## MANUAL FOR CASTER

Before using caster, please read this manual carefully to use it properly. And keep it at suitable place for your referring whenever you have questions and it needs repairing

※ Wholesaler of the product and/or supplier of assembled device should keep this manual in mind to explain its specifications in detail to customers and end users,

**Warning:** Before using caster-assembled device, both assembler and end user should read this manual very carefully to avoid unforeseen accidents and dangers. The safety cautions should be strictly respected and followed.

### <TABLE> WARNINGS AND CAUTIONS

	Assemble caster at right angle vertically		No contamination from chemical materials		Sharp tools should not be used
	No overload allowed.		Be careful to prevent dangers on foot		Keep speed limit (4km/h)
	Use it on proper ground condition only		Parallel assembling to moving direction		Limit longer and continuous moving
	No excessive ambient temperature influence		No physical shock to caster and inadvertent falling		
	No moving while braking		No additional load influence from sides		

USERS SHOULD STRICTLY FOLLOW WARNING AND CAUTION SIGNS.

### CAUTIONS

IT SHOULD BE ASSEMBLED ON PRE-DESIGNED POSITION IN PRECISE AND SAFE MANNER.

- ① The suitable base board and base position to be assembled should have enough strength to stand load.
- ② Connecting work to base board should not give bad influence on caster moving.
- ③ Revolving caster should be assembled at right angle of axis vertically.
- ④ Fixed caster should be assembled in parallel with moving direction. In case assembling revolving caster only, it should be assembled in same manner.
- ⑤ For assorted assembling of revolving and fixed caster, please refer to specifications of caster to find right and suitable assortment from supplier catalog.

\*DO NOT CHANGE COMPONENTS FROM CASTER SPECIFICATIONS.

### CASTER SPECIFICATIONS FOR PARTICULAR CONDITIONS

For use at corrosive, outdoor environments or seashore, specially designed casters should be used.

Caster operating temperature range is FROM 5°C TO 30°C.

Under excessive temperature beyond above range, its allowed load may lower than the specification.

In this case, specially made casters should be used.

### REGULAR INSPECTION

Casters should be inspected and tested regularly on following points..

Feed grease on axis and revolving parts as well and remove foreign materials from caster.

Fasten loosened connecting parts to base board..

Check caster to find its proper workability in order to replace improper components immediately.



# MANUAL FOR CASTER

## ATTENTION

Wholesalers should keep the content of the Manual in mind. And if necessary, request supplier for proper information about the product so as to give right information to assemblers and customers. It is a duty of assemblers to give particular attention to the Manual and request supplier for proper information in order to pass it to end users.

## OPERATING CONDITIONS

### GROUND SURFACE CONDITION

Generally, it is recommended to use HARD TYPE WHEELS on SOFT GROUND SURFACE, while SOFT TYPE WHEELS on HARD SURFACE. / However, it is advisable to use HIGH ELASTIC SOFT WHEELS to minimize noise and vibration, also to protect ground surface. But, HARD TYPE WHEELS should be used when working load is very heavy with much resistance while moving. / To keep controllability of brake, we should compare coefficient of friction of wheel to that of ground surface. In case, ground surface coefficient of friction is smaller than that of wheels, slippery happens on slope ground even with braking.

## (COMPARISON OF CASTER COEFFICIENT OF FRICTION)

### CORROSIVE ENVIRONMENT

Under corrosive environments such as restaurants or outdoor, seashore, castor lifetime is reduced due to corrosion and loss of grease from revolving components. / Our products with steel components are ZINC galvanized and CHROME PLATED etc. / However, for severe and extreme environmental conditions, stainless anti-rust casters with water resistance grease should be used.

### AMBIENT TEMPERATURE

Under higher temperature where places with oven or steaming machine, or under lower temperature where equipped with refrigerators, caster strength is drastically reduced while grease on revolving parts is not properly working. / Under aforementioned environment, suitable wheels and grease as well should be selected through discussion between supplier and end users.

### OILS AND CHEMICAL MATERIALS

Lifetime of wheels and body is very much reduced by oils and chemical materials. / It is recommended to select suitable wheels and body to resist such adverse influences.

### CAUTIONS WHILE SCRAPPING

For scrapping caster, disassemble wheel from body to dispose respectively according to relevant laws and regulations. / If disposing them with general wastes without disassembling, it makes soil contamination and pollution consequently.

### CHECK REGULAR POINTS

Following checkpoints should be inspected regularly at least at 3 month interval. / CHECK CASTER REVOLVING FUNCTION. / CHECK CASTER BRAKING WORKABILITY. / REMOVE FOREIGN MATERIALS FROM CASTER COMPONENTS. / CHECK WHEEL WORKABILITY. / CHECK GREASE ON REVOLVING PARTS

## WHEEL PERFORMANCE

A : Favorable, B : Usable, C : Unusable

Classification	Material	Oil resistance	Acid resistance	tolerant Alkaline	Ozone resistance	Rebound resilience
SR Tread(ESD)	Solid Rubber(ESD)	C	C	B	C	B
P,U Tread	PolyUrethane	A	C	A	A	B

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# 캐스터 취급 설명서

사용 전에 본 취급설명서를 잘 읽으신 후 바르게 사용해 주십시오. 읽으신 후에는 소중히 보관해 주시고 취급상 의문사항이나 결함이 생겼을 경우에 유용하게 활용하여 주십시오. ※ 중간 판매자와 완성품 업자는 본 취급설명서의 전체 내용을 숙지하여 판매 시에 전달교육을 실시해야 합니다.

경고 - 캐스터를 부착하고 사용하기 전에, 부착자와 사용자는 우발적인 사고 및 위험과 재해를 피하기 위하여 본 취급설명서에 기재된 안전 수칙과 제품 정보를 주의 깊게 읽으시기 바라며, 이러한 안전 수칙은 반드시 준수되어야 합니다

### <표> 경고 및 주의 사항

	캐스터 축에 대한 수직 부착		화학약품 접촉 금지		예리한 이물질 접촉금지
	초과하중 금지		발 상해 위험		속도제한(4km/h)
	부적당한 바닥 사용제한		이동방향에 대한 직선 부착		연속이동제한(2시간이내)
	특수 온도 금지		충격 낙하 금지		
	브레이크 작동 후 이동금지		측면하중 작용금지		

▶ 사용자는 경고 및 주의기호를 준수하여야 합니다.

## 주의 사항

- 미리 설계된 위치에 정확하고 안전하게 부착되어야 합니다.
- 부착 되어지는 위치는 충분한 강도와 재질을 가져야 합니다.
- 부착 작업 때문에 캐스터와 바퀴가 해로운 영향을 받아서는 안됩니다.
- 회전형 캐스터는 회전축이 수직으로 되도록 부착해야 합니다.
- 고정 캐스터는 바퀴축이 이동방향에 대하여 직선이 되도록 부착해야 합니다. 만일에 회전형 캐스터만 부착할 경우에도 같은 방법으로 사용해야 합니다.
- 회전형 캐스터와 고정형 캐스터를 공동으로 부착한다면 제조자가 카다로그에 수록된 제품규격에 맞도록 사용해야 합니다.
- 캐스터 완제품 사양에서 조립품과 구성부품을 변경하거나 개조하지 말아야 합니다.

### A. 특수한 사용환경에 따른 캐스터 사양

제품에 부식이 발생할 수 있는 실외 환경이나 바닷가에서 사용할 때에는 특수하게 제작된 캐스터를 사용해야 합니다. 5℃ 이하와 30℃ 이상인 온도에서 사용할 때에는 온도의 하한치와 상한치를 벗어나는 영향으로 허용하중이 감소하기 때문에 특수하게 제작된 캐스터를 사용해야 합니다.

### C. 준수사항

중간 판매자는 이 취급설명서에 주의하여야 하며 필요에 따라 공급자로부터 제품 정보를 요구하고 완성품 업자에게 전달하여야 할 의무가 있습니다. 완성품 업자들은 이 취급설명서에 주의하여야 하며 필요에 따라 제품 정보를 요구하고 사용자에게 전달하여야 할 의무가 있습니다.

### E. 부식환경

사용 환경이 식당이나 실외, 바닷가 등 수분 또는 염분이 많이 발생하는 환경에서는 몸체의 부식과 회전 부분의 그리스 유실 등으로 수명이 감소합니다. 당사 제품은 철강부품을 아연도금과 크롬도금 등으로 표면처리하여 제조하고 있습니다. 그러나 특히 기후환경에서는 스테인리스강으로 제조된 녹 방지 캐스터와 내수 성능을 가지고 있는 그리스로 제조된 캐스터로 특수 제작을 해야 합니다.

### G. 기름과 화학약품

기름이나 화학약품에 노출되어 사용하는 환경이라면, 바퀴와 몸체가 쉽게 노화되어 수명이 감소합니다. 이와 같은 기름과 화학약품에 중분하게 견딜 수 있는 바퀴와 몸체를 선정해야 합니다.

### I. 정기 점검 사항

- 캐스터의 정기점검은 아래와 같은 사항들을 최소 3개월 단위로 점검해야 합니다.
- 캐스터의 회전 기능을 점검 합니다.
- 캐스터의 브레이크 작동상태를 점검합니다.
- 캐스터에 묻은 이물질을 제거합니다.
- 바퀴의 구름 성능을 점검합니다.
- 캐스터의 회전 부분의 그리스 상태를 점검합니다.

본 취급설명서의 내용을 당사의 허가 없이 무단 전재, 복사, 유포해서는 안됩니다.

### B. 제품점검

캐스터는 사용조건에 따라서 규칙적으로 아래 사항들을 점검해야 합니다. 축과 회전부위에 다시 그리스를 공급하고 이물질을 제거 합니다. 분리가 가능한 연결장치들을 다시 조여야 합니다. 캐스터의 기능을 점검하여 기능장애를 일으키는 제품과 부품은 즉시 교체하여야 합니다.

### D. 사용환경

노면 환경 - 일반적으로 연질의 노면인 경우에는 경질의 바퀴를, 경질의 바닥인 경우에는 연질의 바퀴를 사용하는 것이 좋습니다. 그러나 사용 장비에 진동과 소음을 줄이고 바닥을 보호하기 위해서 고단성의 연질 바퀴를 사용하는 것이 좋습니다. 단, 사용하중이 무겁기 때문에 기동할 때에 저항력이 많이 발생하여 장비의 움직이기가 어렵다면 경질의 바퀴를 사용해야 합니다. 브레이크의 제동력을 유지하기 위해서 노면의 바퀴와 마찰계수를 비교하여야 합니다. 만약 노면의 마찰계수가 바퀴의 마찰계수보다 작을 경우에는 브레이크를 작동하여도 경사지에서 바퀴가 미끄러지는 현상이 발생합니다. (바퀴의 마찰계수 비교)

### F. 온도환경

오븐과 스팀살얼이 높은 온도나 냉동실의 낮은 온도인 환경에서 사용한다면, 특수온도의 영향으로 바퀴의 강도가 급격하게 감소되고 회전부분에 도포된 그리스가 기능을 할 수 없게 됩니다. 이와 같은 특수 온도 환경에서는 당사의 사전에 협의하여 적절한 바퀴와 그리스를 선정해야 합니다.

### H. 폐기시의 주의사항

캐스터를 폐기할 경우에는 본체와 바퀴를 분리한 후 폐기를 관리법에 따라 폐기하십시오. 일반 쓰레기와 같이 버리면 환경오염 등 공해를 유발하게 됩니다.

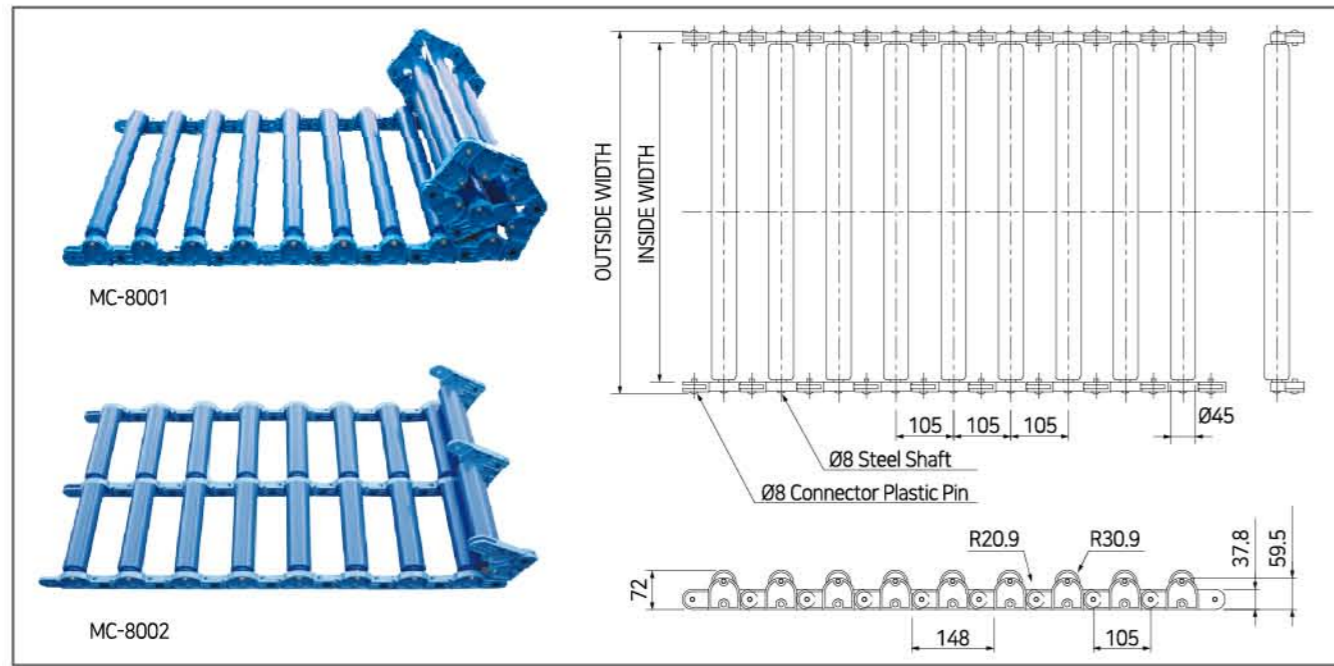
### J. 바퀴성능 A : 양호, B : 사용가능, C : 사용불가능

품명	재질	내유성	내산성	내알칼리성	내오존성	반발탄성
SR Tread(ESD)	Solid Rubber(ESD)	C	C	B	C	B
PU Tread	PolyUrethane	A	C	A	A	B





# MAT CONVEYORS



PRODUCT CODE	LOAD (kg/m)	WIDTH(mm)		HEIGHT	PITCH (mm)	WEIGHT (kg/m)
		INSIDE	OUTSIDE(mm)			
MC-8001(single)	200	455	497	75	105	5.4
MC-8002(double)	400	455	497	75	105	6.8

MAT COMAT CONVEYOR SERIES are made with durable industrial ABS resin rollers.  
 MAT CONVEYOR SERIES are lighter than steel roller conveyors. They are ideally suited for rapid deployment and for temporary handling requirement.  
 MAT CONVEYOR SERIES are extremely portable due to the light weight and easily folded and unfolded anywhere they are needed.  
 MAT CONVEYOR SERIES can be produced as per your requirements by specifying the length and width.

매트 컨베이어 시리즈는 견고한 ABS엔지니어링 수지로 만들어 졌습니다.  
 매트 컨베이어 시리즈는 철재 컨베이어보다 아주 가벼우며, 별도의 장비가 없더라도 긴급한 운반이나 임시 운반에 아주 이상적입니다.  
 매트 컨베이어 시리즈는 휴대하기 좋으며 쉽게 어떠한 장소에서도 연결 및 분리 할 수 있습니다.  
 매트 컨베이어 시리즈는 당신이 원하는 대로 만들 수 있으며, 폭과 길이를 마음대로 조절할 수 있습니다.

# WORK FLOW - TECHNICAL SPECIFICATIONS 07

In order to manufacture and deliver transport trolleys, workstations and flow racks as per requirements, it is necessary to follow the sequence of operations listed below.  
 Pipe와 Joint를 사용하여 대차, 적치대, 슬라이딩랙 등을 제작하는 경우, 그 목적 및 구상대로 제작하려면 다음의 순서와 체크가 필요합니다.



# CALCULATING PIPE LENGTHS

How to calculate the length of a pipe is illustrated below. The following points have to be taken into consideration, the length of pipe to be inserted into the joint and the distance between joint centers. Based on this information the length of the pipe can be calculated.

구조물의 파이프의 길이 계산방법은 조인트와 파이프 삽입공간을 고려하여 아래의 그림과 공식에 따라 계산합니다. 기준은 중심과 중심까지의 길이이고 이 기준으로 파이프의 길이를 계산합니다.

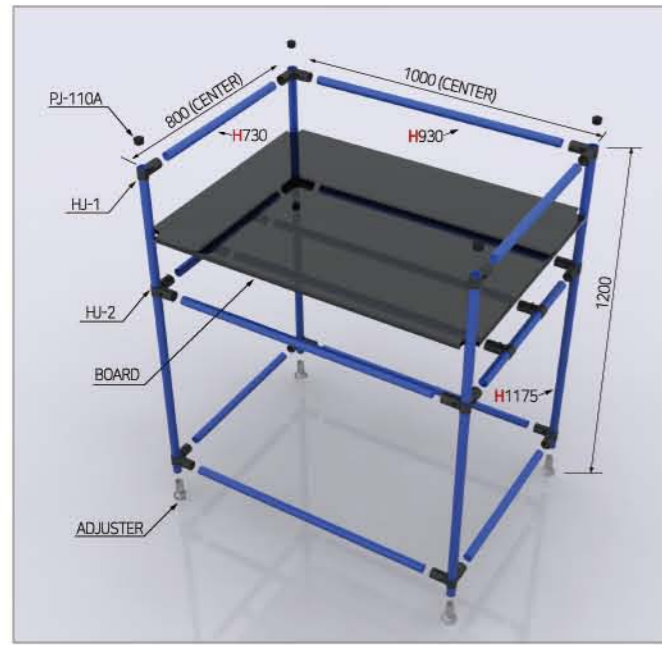


Calculation	800	- Length between the both centers	- 중심에서 중심까지의 길이
Method for Horizontal Pipes	-70	- Total length between each end of the Pipe and each center of joint(35mm×2)	- 파이프 끝에서 조인트 중심까지의 길이
	730	- The practical length of the pipe to be cutter	- 파이프 절단 길이

Calculation	530	- Length between the both centers	- 바닥에서 상측 중심까지 길이
Method for Vertical Pipes	-25	- Length between the end of pipe and the end of adjust	- 아저스터 높이 (부싱포함)
	16.5	- Length between the center and the surface of joint	- 파이프 중심에서 조인트 상부
	522	- The practical length of the pipe to be cutted	- 파이프 절단 길이



## STRUCTURE BREKDOWN



**01** The drawing shown indicates the pipe length and the arrangement of the selected joints.

**02** Size of the structure :  
800(Width)×1000(Length)×1200(Height)  
("H" represents the actual length of pipe)

## STRENGTH

### Pipe & Joints

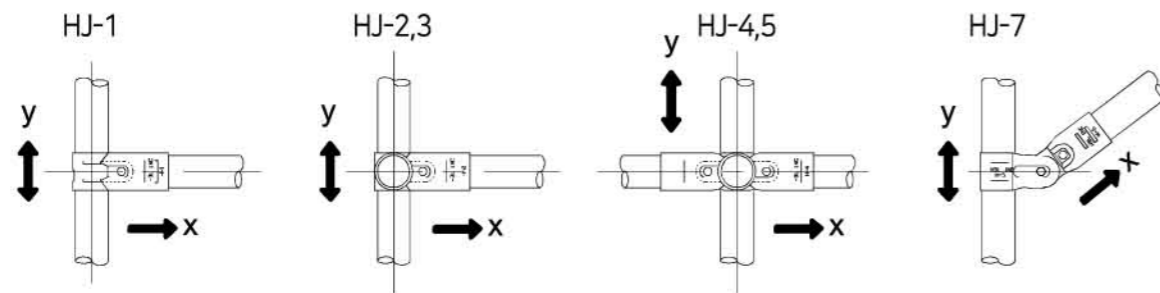
Like other material such as steel, aluminium and steel pipe, the strength of a LOGIFORM structure depends on the design and manufacturing techniques used. When producing structures using LOGIFORM pipes it is critical that the correct design and material selection has been undertaken to ensure the construction of safe equipment that mee all designed requirements.

파이프 & 조인트는 다른 재료(스틸, 스테인레스, 알루미늄)등과 같은 파이프와 조인트의 연결법에 의해서 강도가 달라집니다. 파이프 & 조인트로 구조물을 제작하는 경우 그 구조물의 사용 목적에 맞는 적절한 강도를 얻을 수 있도록 설계하고 안정성을 고려 하여야 합니다

### Maximum resist strength of Joints

Maximum resist strength of LOGIFORM pipe attached with metal joints.

메탈 조인트를 로지폼 파이프에 연결하여 수직 및 수평에 인장하중을 가한 경우



Direction	COATED PIPES	STAINLESS PIPES
X	75kg	75kg
Y	85kg	85kg

· Test Condition (시험조건)  
· Test Speed (인장속도) : 5mm/min  
· Temperature (온도) : 23°C

· 상기 기술된 데이터는 제한적 테스트 환경 내에서 얻은 참조 값이므로 절대 기준을 의미하지 않습니다.  
· Above data was extracted in restrictive environment. It may be affected by any kind of environment facts.

## MAXIMUM LOADING CAPACITY FOR PIPES (CONCENTRATED LOAD TEST)

TYPE	LENGTH	
	1,000mm	최대하중(Kgf)
LP-1070 (LOGIFORM 0,7T)		122
LP-1100 (LOGIFORM 1,0T)		165
LP-1140 (LOGIFORM 1,4T)		220
LP-1200 (LOGIFORM 2,0T)		207
SL-1100 (SLIDE PIPE 1,0T)		169
ST-1070 (SUS 201 0,7T)		89
ST-1090 (SUS 201 0,9T)		126
ST-1100 (SUS 201 1,0T)		170
ST-1110 (SUS 201 1,1T)		185
ST-1120 (SUS 201 1,2T)		214
ST-1200 (SUS 201 2,0T)		343
ST-1070 (SUS 430 0,7T)		77
ST-1090 (SUS 430 0,9T)		109
ST-1110 (SUS 430 1,1T)		133
ASP-1120 (ALUMINUM 1,2T)		74,4
ASP-1200 (ALUMINUM 2,0T)		119,4
ASP-1280 (ALUMINUM 2,8T)		149,2



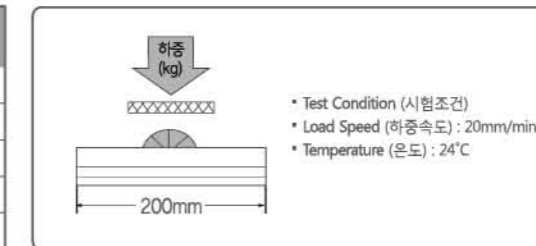
· Bending(테스트 명) : 굽힘시험(3점)  
· Load Range(하중범위) : 0~2,000Kg  
· Speed(속도) : 20mm/min  
· Temperature(온도) : 24°C

· Above data was extracted in restrictive environment. It may be affected by any kind of environment facts.  
· 상기 기술된 데이터는 제한적 테스트 환경 내에서 얻은 참조 값이므로 절대 기준을 의미하지 않습니다.

## ROLLER YIELD STRENGTH TEST

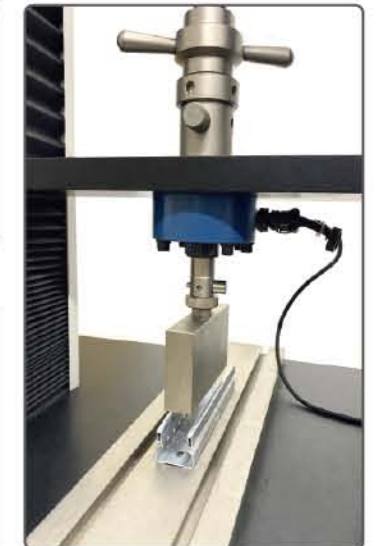
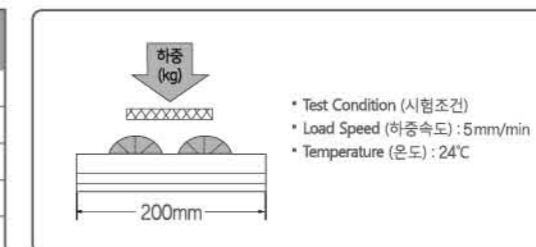
### 1 ROLLER TEST

TYPE	Φ	LENGTH	LOAD (단위:Kgf)
35	28	200	60
40	30		110
60	30		210
73	34		205
80	40		210



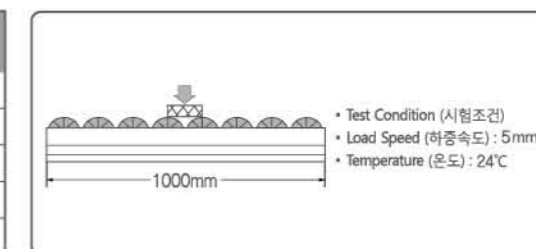
### 2 ROLLER TEST

TYPE	Φ	LENGTH	LOAD (단위:Kgf)
35	28	200	115
40	30		190
60	30		270
73	34		285
80	40		315



### BENDING STRENGTH FOR ROLLER TRACK

MODEL	LOAD (단위:Kgf)
35 Series	81,4
40 Series	142
60 Series	77,4
73 Series	168,2
80 Series	227,4



· Recommended Temperature for the use of LOGIFORM Products : -10 ~ 80°C

· Above data was extracted in restrictive environment. It may be affected by any kind of environment facts.  
· 상기 기술된 데이터는 제한적 테스트 환경 내에서 얻은 참조 값이므로 절대 기준을 의미하지 않습니다.

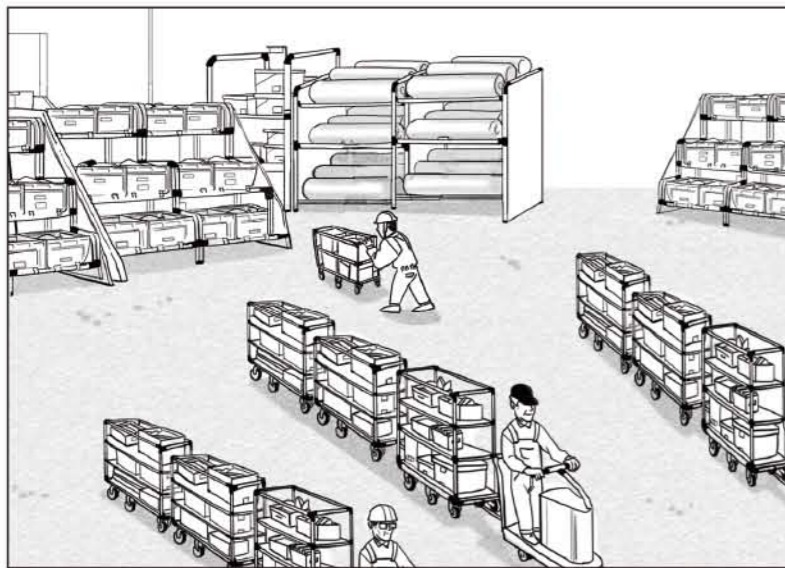
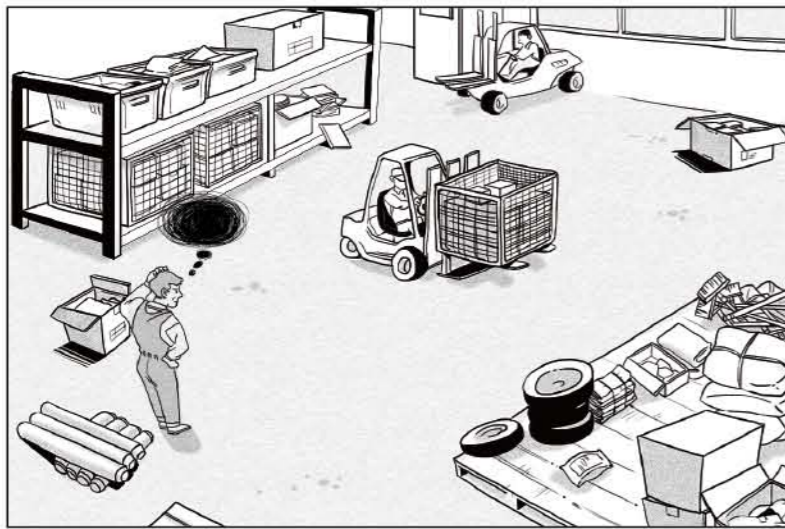
# APPLICATION 08

AUTOMOTIVE INDUSTRY, ELECTRONIC INDUSTRY, OTHER INDUSTRY



- a) Applicable to any form of organization at an affordable cost
- b) Easy to assemble and easy to modify if required
- c) Eliminates waste in working behavior and prevents safety issues due design
- d) Applicable to FIFO (first in first out) allowing for the full control of inventory
- e) Work efficiency is improved thanks to the production of a purpose built working environment
- f) Control of inventory improved thanks to visual management of material.
- g) Reduced storage space required thanks to improved material management and storage space optimization.

## How to minimize production waste???



**LOGIFORM !**  
is another name of  
the efficient Lean-Manufacturing!!!



# APPLICATION( I )



## APPLICATION(II)



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## APPLICATION(III)



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## APPLICATION(IV)



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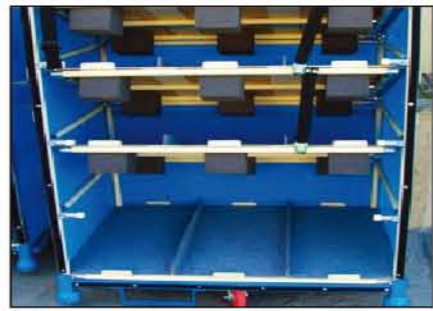
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## APPLICATION(V)



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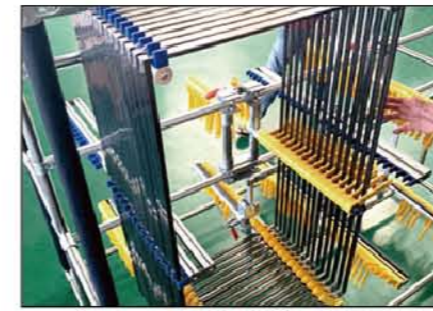
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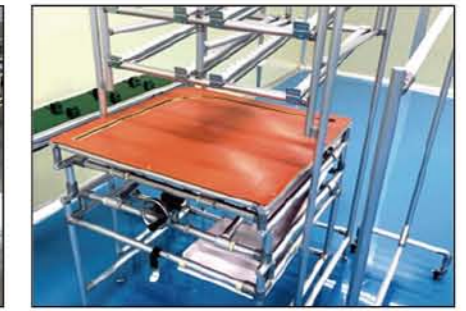
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## APPLICATION(VI)



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## APPLICATION(VII)



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## APPLICATION(VIII)



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## APPLICATION(IX)



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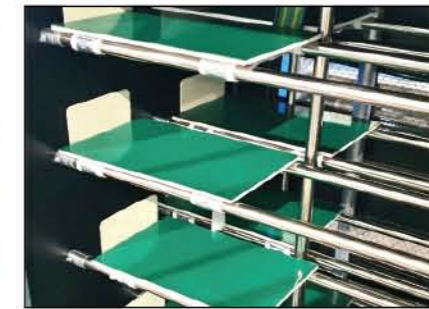
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## APPLICATION(X)



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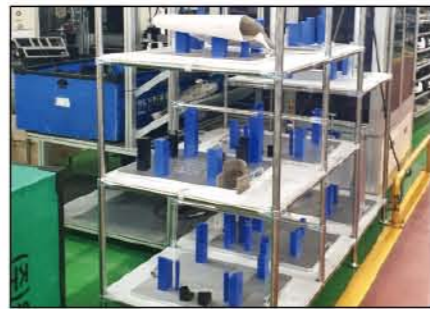
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## APPLICATION\_AL(XI)



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## HBL'S PRODUCTION FACILITIES



## 사용상의 주의사항

1. Use of product for any other purposes than transporting and storing goods is strictly not allowed. This may cause an unexpected accident
2. Modifying the original form of product other than cutting pipe or placon is not allowed
3. Engaging the product with an excessive level of shock may result in an inappropriate operation
4. Avoid the product or the structure to serve an overloaded duty.
5. The actual dimension of a product may not be exactly identical to the corresponding information indicated in this catalogue.
6. Stop operating the structure or product immediately if it is deemed improperly working.
7. Some or all of LOGIFORM parts and components may be compatible with products manufactured by third party. However, it is not recommended to mix our products with others when assembling a structure for safety reason.
8. An improper way of load may result in product damage and/or any engaging operators with any likely accident
9. Avoid engaging the structure with any emergency start, brake or drift for safety reason.
10. Exposure to a direct sunlight may create deformation or damage to the product.
11. A lifespan of product is subject to change depending on the condition of use

1. 제품의 운반 및 보관 이외의 용도로 사용하지 마십시오.
2. 제품에 변형을 가하지 마십시오  
제품의 물성 및 사고의 원인이 될 수 있습니다.
3. 과도한 충격을 가하지 마십시오.
4. 허용하중을 초과시 제품파손의 원인이 될 수 있습니다.
5. 제품의 규격을 표시 치수와 다소 차이가 있을 수 있습니다.
6. 제품에 이상이 있을 경우에는 즉시 사용을 중지 하십시오.
7. 타사의 제품과의 혼용을 권장하지 않습니다.
8. 적재 불량일 경우 제품 및 사고의 원인이 될 수 있습니다.
9. 급 출발, 급 정지, 급 핸들링등은 제품 파손 및 사고의 원인이 될 수 있습니다.
10. 직사광선을 피해 주십시오. 제품 변형의 원인이 될 수 있습니다.
11. 사용환경에 따라 제품수명에 차이가 발생 할 수 있습니다.

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