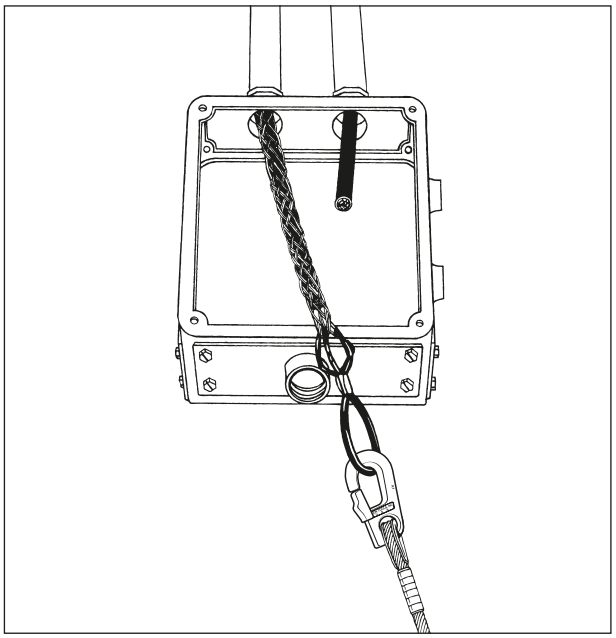
Introduction – Wire-Mesh Grips

Klein mesh pulling-grips are used for pulling overhead or underground cable, for stringing service or communication lines into buildings, for pulling wire through conduit, and for general underground construction.

Klein grips may be used for pulling bare or insulated wires, and wire rope. They install quickly and easily, and are designed to pass readily through ducts, conduit, blocks, and sheaves.

Klein grips are reusable and do not damage the cable because pulling tension remains uniform along the length of the grip. The mesh will fit either a single cable, or a bundle of cables.

Klein pulling grips are woven of galvanized steel – strong and long lasting.



General Application Information

KPJ junior-duty series is used for small-job requirements where pulling tensions are low. Typical uses are to connect insulated building wire bundles to pulling tape, and pull through conduit.

KPL light duty grips are economical for applications such as industrial plant wiring and rewiring jobs, and in underground electrical construction where pulling tensions are low.

KSRK light-duty slack-pulling grips are split mesh, single-weave design with rod closure for quick installation. Application areas similar to KSSK series, except mesh lengths are shorter and are for lower pulling loads.

KPM medium-duty grips are flexible and easily handled, ideal for use where the exceptional strength of heavy-duty grips is not required.

KSCK medium-duty slack-pulling grips with closed double-weave mesh are used for final placement of underground cable where cable end is available, or for removing cable. Standard lengths are used in restricted space for short pulls. Where space is not restricted, longer lengths are used for higher pulling loads.

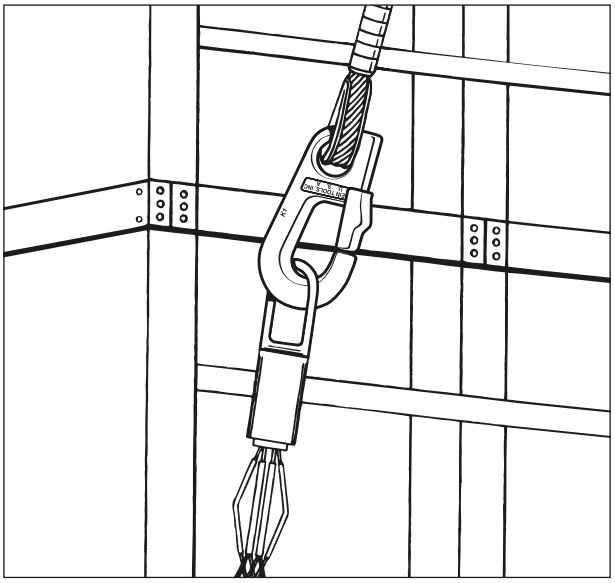
KSSK medium-duty slack-pulling grip applications are similar to the KSCK series except they are used where cable end is not available. Double-weave split mesh has lace closure.

KP heavy-duty grip series are recommended for underground installations.

KPS heavy-duty grip series are also recommended for underground installations. An additional feature of the KPS includes “rotating eye” to allow twists in the cable to spin out during slack periods.

Prefix Letter Code

KPJ	Pulling, Junior-Duty, Closed-Mesh, Single-Weave, Light Duty, Flexible Eye
KPL	Pulling, Closed-Mesh, Single-Weave, Flexible Eye
KSRK	Slack-Pulling, Light-Duty, Split-Mesh, Single-Weave, Rod Closure, Offset Flexible Eye
KPM	Pulling, Medium-Duty, Closed-Mesh, Double-Weave, Flexible Eye
KSCK	Slack-Pulling, Meduim Duty, Closed-Mesh, Double-Weave, Offset Flexible Eye
KSSK	Slack-Pulling, Meduim Duty, Split-Mesh, Double-Weave, Lace Closure, Offset Flexible Eye
KP	Pulling, Heavy-Duty, Closed-Mesh, Double-Weave, Flexible Eye
KPS	Pulling, Heavy-Duty, with Rotating Eye, Closed-Mesh, Double-Weave



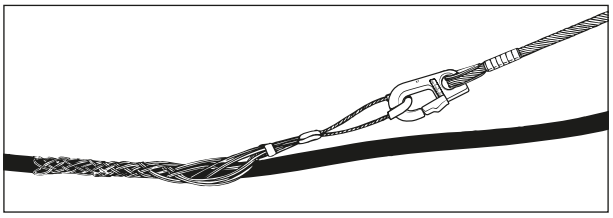
Catalog Number Explanation

KPS	—	050	—	2
Grip Type* and Mesh		Cat. No.** Size Code		Final Digit, if any, refers to mesh length range or actual dimension.

* See Prefix Letter Code explanation.
** On Junior-duty grips, initial digit “0” is omitted in Cat. No.

Example:

Cat. No. KPS-050-2 is a heavy-duty pulling grip with a rotating eye, for use with cable diameters from .50" to .61", with medium-length mesh.



All dimensions are in inches and (millimeters).

See Wire-Mesh Grip Warnings on page 277.

Introduction – Wire-Mesh Grips

How to select proper grip eye and mesh type

There are three basic styles of pulling grips, together with a choice of wire mesh types and lengths to meet a wide variety of pulling requirements.

1. Flexible Eye: Closed Mesh

KPJ/KPL/KPM/KP
This pulling-grip eye allows maximum flexibility to follow the line of pull, and is used when the end of the cable is available. Mesh selection depends on the weight of the material being pulled. Closed-mesh, single weave, flexible-eye grips are offered in lengths for junior-duty and light-duty use; closed-mesh, double-weave, flexible-eye grips are offered for medium-duty and heavy-duty use.

2. Rotating Eye: Closed Mesh

KPS
Recommended for heavier pulling jobs and underground wiring, this pulling grip eye is furnished on double-weave mesh grips in a wide range of lengths. The rotating eye compensates for pulling torque, relieving strain on the cable. **Rotating-eye grips should not be used on rope or as a swivel.**

3. Offset Flexible Eye: Split and Closed Mesh

KSRK/KSCK/KSSK
These slack-pulling grips come in three styles:

KSRK single-weave split-mesh with rod closure (light duty, where cable end is not available),

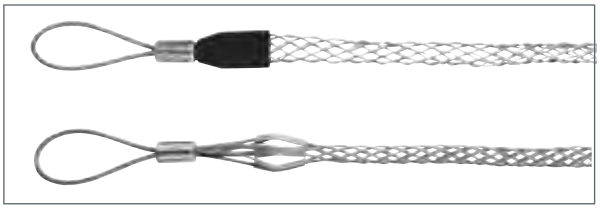
KSCK double-weave closed-mesh (for medium duty, where the end of the cable is available),

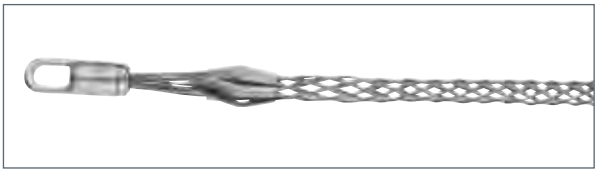
KSSK double-weave split-mesh with lace closure (medium duty, where cable end is not available).

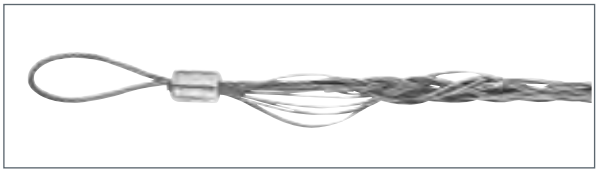
Design Strength

Applications and conditions of use for Klein mesh pulling grips vary so widely that it is impossible to set any meaningful standard for "breaking strength."

With wire-mesh pulling grips, the holding power achieved is directly related to the length of mesh. The longer the mesh, the firmer the grip on the cable. For smaller-diameter cable, or where the weight to be pulled is less, short mesh grips will serve the purpose.







How grips are attached to cable

Closed-mesh grips
Closed-mesh grips simply slip over the cable where the cable end is accessible.

Split-mesh grips
Split-mesh grips are used when the end of the cable is not available. The grip is folded around the cable, and secured with a wire lace or steel rod (supplied with the grip) as follows:

1. Split mesh with lace closure
Start at the lead end of the grip, threading the lace through the first two loops of the split, then pulling it through until ends are centered evenly. Cross the lace ends and thread through next two loops, and so on down the grip. Do not pull lacing too tight. Spacing of laced closure should be about the same as the mesh weave. When the end of the grip is reached, twist lacing strands tightly together; wrap ends of lace around grip, and twist again to secure. Excess may be cut off.

2. Split mesh with rod closure
Split-mesh grips with rod closure can be quickly installed. Simply wrap the grip around the cable, then thread the rod through the loops, using a cork-screw motion. To remove, pull the rod out, and the grip is ready for re-use.

Wire-Mesh Grip Warnings

⚠**WARNING:** Grips are to be used for temporary installation, not for permanent anchorage.

⚠**WARNING:** When used on/or near energized lines, ground, insulate, or isolate grip before pulling.

⚠**WARNING:** Do not exceed rated capacity.

⚠**WARNING:** Always match proper size and type of grip to application.

⚠**WARNING:** Before each use, clean jaw area and inspect grip for proper operation to avoid slippage.

All dimensions are in inches and (millimeters).

See Wire-Mesh Grip Warnings on page 277.

Introduction – Wire-Mesh Grips

How to select the proper pulling grip for your application

1. Select the proper pulling-grip series (Prefix Letter Code…e.g. KPS) based on the "General Application Information" descriptions in the Wire-Mesh Grips Introduction on preceding pages.
2. Select grip size based on the outside diameter or circumference of the cable(s) to be pulled. Refer to reference tables (on this and following page) for convenience in determining cable diameters.
3. Use Pulling-Grip Selection Tables (on this and following page) to determine the "Size" portion of the Catalog Number for the cable diameter required. In the ordering tables (see following pages) this "Size" code is incorporated within the catalog number under the various grip-type classifications.

Table 1

Pulling Grip Selection Table for One or More Cables of Equal Diameter to Be Pulled in One Grip

1. Read across on top line for number of cables in one grip.
2. Read down for diameter of each cable.
3. Use Cat. No. size code to select catalog number of the required size grip.

Example:

3 Cables, each with diameter of 1.31" use grip with Cat. No. Size Code 250.

Cable Diameters in Decimal Inches

1 Cable	2 Cables	3 Cables	4 Cables	5 Cables	6 & 7 Cables	8 Cables	9 Cables	Cat. No. Size Code	Grip Diam. Range
0.50–0.62	0.27–0.36	0.26–0.33	0.24–0.28	0.21–0.25	0.19–0.22	0.17–0.20	0.15–0.19	050	0.50–0.62
0.62–0.75	0.36–0.45	0.33–0.36	0.28–0.31	0.25–0.29	0.22–0.26	0.20–0.23	0.19–0.22	062	0.62–0.75
0.75–1.00	0.45–0.60	0.36–0.49	0.31–0.42	0.29–0.38	0.26–0.34	0.23–0.31	0.22–0.31	075	0.75–1.00
1.00–1.25	0.60–0.76	0.49–0.63	0.42–0.54	0.38–0.48	0.34–0.43	0.31–0.39	0.29–0.36	100	1.00–1.25
1.25–1.50	0.76–0.91	0.63–0.76	0.54–0.65	0.48–0.58	0.43–0.52	0.39–0.46	0.36–0.43	125	1.25–1.50
1.50–1.75	0.91–1.08	0.76–0.89	0.65–0.77	0.58–0.67	0.52–0.60	0.46–0.54	0.43–0.49	150	1.50–1.75
2.00–2.50	1.23–1.54	1.02–1.28	0.88–1.10	0.77–0.96	0.69–0.86	0.62–0.77	0.57–0.72	200	2.00–2.50
2.50–3.00	1.54–1.84	1.28–1.53	1.10–1.32	0.96–1.16	0.86–1.03	0.77–0.93	0.72–0.86	250	2.50–3.00
3.00–3.50	1.84–2.15	1.53–1.79	1.32–1.54	1.16–1.35	1.03–1.20	0.93–1.08	0.86–1.00	300	3.00–3.50
3.50–4.00	2.15–2.45	1.79–2.05	1.54–1.76	1.35–1.54	1.20–1.37	1.08–1.24	1.00–1.14	350	3.50–4.00

Table 2

Pulling-Grip Selection Table for Cables of Different Diameters to Be Pulled in One Grip

Grip Circumference Range		Cat. No. Size Code	Grip Diameter Range	
Fractional Inches	Decimal Inches		Fractional Inches	Decimal Inches
1-37/64–1-15/16	1.57–1.94	062	1/2–5/8	.50–.62
1-37/64–2-3/8	1.57–2.37	050	5/8–3/4	.62–.75
2-3/8–3-5/32	2.37–3.15	075	3/4–1	.75–1.00
3-5/32–3-15/16	3.15–3.94	100	1–1-1/4	1.00–1.25
3-15/16–4-23/32	3.94–4.72	125	1-1/4–1-1/2	1.25–1.50
4-23/32–5-33/64	4.72–5.51	150	1-1/2–1-3/4	1.50–1.75
6-19/64–7-55/64	6.29–7.86	200	2–2-1/2	2.00–2.50
7-55/64–9-7/16	7.86–9.43	250	2-1/2–3	2.50–3.00
9-7/16–11-1/64	9.43–11.01	300	3–3-1/2	3.00–3.50
11-1/64–12-37/64	11.01–12.58	350	3-1/2–4	3.50–4.00

"Grip Circumference Range" refers to circumference of all cables held together.

1. Determine grip circumference range by measuring circumference of bundle of cables to be held.
2. Read down to locate correct range.
3. Read across for catalog number size code.

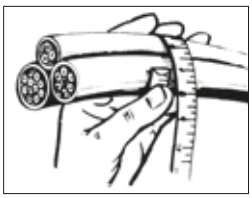


Table 3

Reference Table: Dimension Conversions for Ordering Tables

Decimal Inches	Fractional Inches	Metric Dimensions (mm)
0.12–0.24	1/8–15/64	3.17–5.95
0.25–0.36	1/4–23/64	6.35–9.13
0.37–0.49	3/8–31/64	9.52–12.30
0.50–0.61	1/2–39/64	12.70–15.48
0.62–0.74	5/8–47/64	15.88–18.65
0.75–0.99	3/4–63/64	19.05–25.00
1.00–1.24	1–1-15/64	25.40–31.35
1.25–1.49	1-1/4–1-31/64	31.75–37.70
1.50–1.99	1-1/2–1-63/64	38.10–50.40
2.00–2.49	2–2-31/64	50.80–63.10
2.50–2.99	2-1/2–2-63/64	63.50–75.80
3.00–3.49	3–3-31/64	76.20–88.50
3.50–3.99	3-1/2–3-63/64	88.90–101.20

Example:

For four cables together with circumference of 6.35", use grip containing catalog number size code "200".

All dimensions are in inches and (millimeters).

See Wire-Mesh Grip Warnings on page 277.

Wire-Mesh Grips

Single-Weave, Flexible-Eye Pulling Grips

KPJ-50

Cable Dia.*	KPJ Junior Duty				KPL Light Duty			
					Short Length			
	Cat. No.	Loaded/Compressed Mesh Length	Maximum Safe Load	Weight	Cat. No.	Loaded/Compressed Mesh Length	Maximum Safe Load	Weight
.50"–.61"	**KPJ50**	8.5"	260 lbs. (118 kg)	.05 lbs.	—	—	—	—
.75"–.99"	**KPJ75**	10"	560 lbs. (254 kg)	.10 lbs.	—	—	—	—
1.00"–1.24"	**KPJ100**	11.5"	780 lbs. (354 kg)	.28 lbs.	—	—	—	—
1.25"–1.49"	—	—	—	—	**KPL125-1**	14"	1060 lbs. (481 kg)	.40 lbs.
1.50"–1.74"	—	—	—	—	**KPL150-1**	15"	1360 lbs. (617 kg)	.40 lbs.
2.00"–2.49"	—	—	—	—	**KPL200-1**	18"	1700 lbs. (771 kg)	.65 lbs.

Double-Weave, Flexible-Eye Pulling Grips

KPM-075

Cable Dia.*	KPM Medium Duty				KP Heavy Duty							
					Short Length				Medium Length			
	Cat. No.	Loaded/ Compressed Mesh Length	Maximum Safe Load	Weight	Cat. No.	Loaded/ Compressed Mesh Length	Maximum Safe Load	Weight	Cat. No.	Loaded Compressed Mesh Length	Maximum Safe Load	Weight
.50"–.61"	**KPM050**	13"	480 lbs. (218 kg)	.10 lbs.	—	—	—	—	—	—	—	—
.75"–.99"	**KPM075**	16"	1030 lbs. (467 kg)	.20 lbs.	**KP075-24**	24"	1360 lbs. (617 kg)	.50 lbs.	**KP075-36**	36"	1360 lbs. (617 kg)	.74 lbs.
1.00"–1.37"	**KPM100**	18"	1420 lbs. (644 kg)	.40 lbs.	—	—	—	—	—	—	—	—
1.00"–1.49"	—	—	—	—	**KP100-24**	24"	1920 lbs. (871 kg)	1.1 lbs.	**KP100-36**	36"	1920 lbs. (871 kg)	1.0 lbs.
1.50"–1.99"	—	—	—	—	—	—	—	—	**KP150-36**	36"	3280 lbs. (1488 kg)	1.6 lbs.

Double-Weave, Rotating-Eye Pulling Grips

KPS-062-1

Cable Dia.*	KPS Heavy Duty							
	Medium Length				Medium-Long Length			
	Cat. No.	Loaded/Compressed Mesh Length	Maximum Safe Load	Weight	Cat. No.	Loaded/Compressed Mesh Length	Maximum Safe Load	Weight
.50"–.61"	**KPS050-2**	16"	1120 (508 kg)	.45 lbs.	—	—	—	—
.62"–.74"	**KPS062-2**	16"	1360 (617 kg)	.50 lbs.	—	—	—	—
.75"–.99"	**KPS075-2**	20"	1360 (617 kg)	.85 lbs.	—	—	—	—
1.00"–1.24"	**KPS100-2**	20"	2560 (1161 kg)	1.9 lbs.	—	—	—	—
1.00"–1.49"	—	—	—	—	**KPS100-3**	33"	3280 (1488 kg)	2.4 lbs.
1.25"–1.49"	**KPS125-2**	21"	2560 (1161 kg)	1.9 lbs.	—	—	—	—
1.50"–1.99"	**KPS150-2**	25"	3280 (1488 kg)	2.2 lbs.	**KPS150-3**	34"	3280 (1488 kg)	2.5 lbs.
2.00"–2.49"	**KPS200-2**	26"	5440 (2468 kg)	4.1 lbs.	**KPS200-3**	36"	5440 (2468 kg)	4.7 lbs.
2.50"–2.99"	**KPS250-2**	28"	6600 (2994 kg)	5.3 lbs.	—	—	—	—
3.00"–3.49"	**KPS300-2**	30"	8200 (3720 kg)	6.1 lbs.	—	—	—	—
3.50"–3.99"	**KPS350-2**	32"	9600 (4355 kg)	6.8 lbs.	—	—	—	—

Slack-Pulling, Offset Flexible-Eye Pulling Grips

KSCK-100-1

Cable Dia.*	KSCK Medium Duty – Standard Length				KSSK Medium Duty – Standard Length			
	Cat. No.	Loaded/Compressed Mesh Length	Maximum Safe Load	Weight	Cat. No.	Loaded/Compressed Mesh Length	Maximum Safe Load	Weight
1.00"–1.24"	**KSCK100-1**	15"	800 lbs. (363 kg)	.50 lbs.	—	—	—	—
1.25"–1.49"	—	—	—	—	**KSSK125-1**	16"	800 lbs. (363 kg)	.25 lbs.

All dimensions are in inches and (millimeters).

*For equivalent cable diameters in fractional inches and in metric dimensions (mm), see Dimensions Conversion Reference Table 3.

See Wire-Mesh Grip Warnings on page 277.