



KemPex Slide™

**DESIGN &
INSTALLATION
GUIDE**

PE-Xa
SLIDING
SLEEVE
CONNECTION
SYSTEM FOR
WATER





KemPex Slide™

WHY USE KEMPEX SLIDE™

- PE-Xa is a robust and reliable piping system rated for normal operation at 1000kPa and 70°C, resulting in a service life of 50+ years, however the maximum operating temperature is 95°C.
- The expanded pipe ends provide full bore flow with no fitting restrictions.
- Simple and secure sliding sleeve jointing system means total peace of mind and a simple visual inspection confirms water tightness.
- O’rings are not required with KemPex Slide, reducing the chance of installer error.
- Solid DZR brass fittings and PE-Xa tube comply with Australian Standards AS2537 and AS2492 and is certified by SAI Global (licence no.s WMK25717 and WMK25757).
- KemPex Slide DZR fittings are forged brass, resulting in superior mechanical properties with greater fatigue resistance. The machined fitting shoulder allows maximum contact with the compression tool for easy connection.
- KemPex carries a 25 year warranty and is covered by Kembla’s comprehensive insurance cover.



KemPex Slide™

INSTALLATION

The following is a step by step guide to installing the KemPex Slide™ System. For projects requiring maintenance and repair visually inspect the copper tube to ensure it is in reasonable condition with no signs of external corrosion.



1. Cut pipe at right angle.



2. Slide on brass sleeve with chamber facing toward fitting



3. Expand pipe



4. Open expander & rotate 30°.



5. Expand again in new position



6. Fully insert fitting into tube

KemPex Slide™



7. Ensure fitting is inserted into shoulder stop



8. Press sleeve fully closed to fitting shoulder



9. Cross section shows leak proof joint



KemPex chain tool kit 16 - 20mm



Battery Slide Tool

Tooling • KemPex Slide requires an axial press tool to press the joints. KemPex Slide has available two types of tooling including a battery tool. Other brands of axial pressing tools and expanders maybe suitable for KemPex Slide, please consult your KemPex stockist.

KemPex Slide™

PE-Xa PIPE TECHNICAL DATA

Water Quality

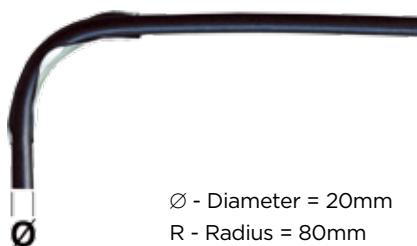
KemPex fittings are made from high quality DZR brass which provides good resistance to corrosive water conditions. However, if water conditions are outside the NZ drinking water guidelines of pH 6.5 - 8.5, Kembla Pex DZR fittings should not be used.

Handling and Storage

- UV radiation can damage PE-Xa pipes, so always protect KemPex pipe from direct sunlight.
- Avoid damage to the pipe surface from dragging pipes across rough surfaces.
- Protect uninstalled pipes from ingress of harmful liquids.
- Protect DZR fittings from corrosion.



	Potable Water PE-Xa - Black PN20	Recycled Water PE-Xa - Lilac PN20	Rain Water PE-Xa - Green PN20
Operating Pressure (Max)	1000kPa	600kPa	1000kPa
Operating Temperature (Max)	95 °C	95 °C	95 °C
Material	PE-Xa	PE-Xa	PE-Xa
Linear Thermal Expansion Co-Efficient	0.15	0.15	0.15
Thermal Conductivity	.35 W/mk	.35 W/mk	.35 W/mk
Pipe Roughness	.007mm	.007mm	.007mm
Maximum Bending Radius with preformed bend	4 x Ø	4 x Ø	4 x Ø
Maximum Bending Radius without preformed bend	8x Ø	8x Ø	8x Ø



Ø - Diameter = 20mm
R - Radius = 80mm

Minimum Bending Radius

A profile bend holds KemPex in a secure 4 x diameter bend, profile bends are recommended especially on hot lines to ensure that the tube does not kink. The maximum bend radius when not using a profile bend is 8 x diameter.

KemPex Slide™

PRESSURE LOSS – PE-Xa PN20 RATED PIPE

Cold Water at 25°C

Peak Flow Rate Qs (l/s) 1.01 to 0.50 (kPa/m)	Ø 16mm 2.2mm wall Head Loss (kPa/m)	Ø 20mm 2.8mm wall Head Loss (kPa/m)	Ø 25mm 3.5mm wall Head Loss (kPa/m)	Ø 32mm 4.4mm wall Head Loss
0.05	0.3467	0.1244	-	-
0.10	1.1655	0.4140	0.1431	0.0428
0.15	2.3941	0.8458	0.2904	0.0866
0.20	4.0088	1.4092	0.4821	0.1432
0.25	5.9970	2.1002	0.7165	0.2123
0.30	8.3508	2.9147	0.9910	0.2929
0.35	11.0641	3.8503	1.3059	0.3847
0.40	14.1323	4.9049	1.6594	0.4877
0.45	-	6.0771	2.0518	0.6021
0.50	-	7.3655	2.4814	0.7267

Hot Water at 60°C

Peak Flow Rate Qs (l/s) 1.01 to 0.50 (kPa/m)	Ø 16mm 2.2mm wall Head Loss (kPa/m)	Ø 20mm 2.8mm wall Head Loss (kPa/m)	Ø 25mm 3.5mm wall Head Loss (kPa/m)	Ø 32mm 4.4mm wall Head Loss
0.05	0.2913	0.1034	0.0357	0.0106
0.10	1.0003	0.3522	0.1205	0.0357
0.15	2.0807	0.7272	0.2476	0.0731
0.20	5.5178	1.2224	0.4143	0.1218
0.25	5.3035	1.8346	0.6187	0.1815
0.30	7.4333	2.5608	0.8606	0.2516
0.35	9.9032	3.4002	1.1395	0.3317
0.40	12.713	4.3513	1.4538	0.4223
0.45	-	5.4129	1.8041	0.5229
0.50	-	6.5847	2.1894	0.6330

Pipe Supports

- Fixing of KemPex must comply with AS/NZS3500.
- Hot water lines must be fixed as to allow for thermal linear expansion.
- Never fix a clip directly onto DZR brass fittings.

Horizontal Pipes

Clip Spacing

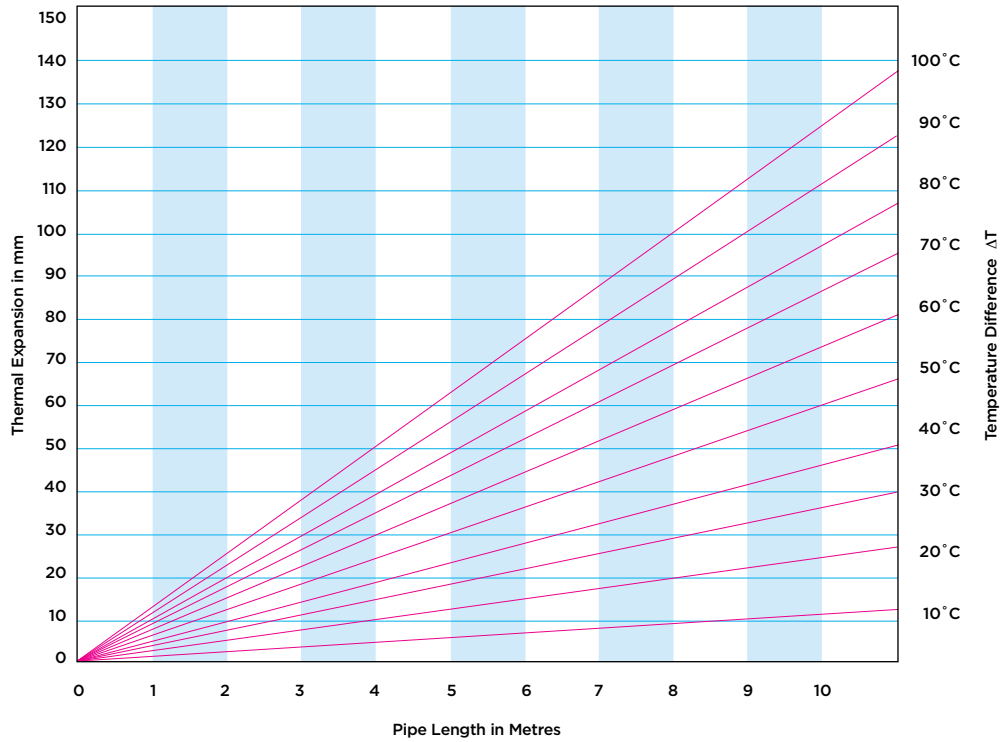
Pipe Ø	(metres)
16mm	0.60
20mm	0.70
25mm	0.75
32mm	0.85

Vertical Pipes

Clip Spacing

Pipe Ø	(metres)
16mm	1.20
20mm	1.40
25mm	1.50
32mm	1.70

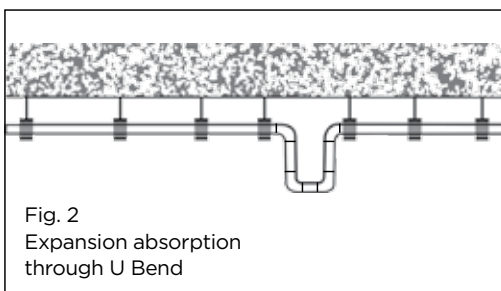
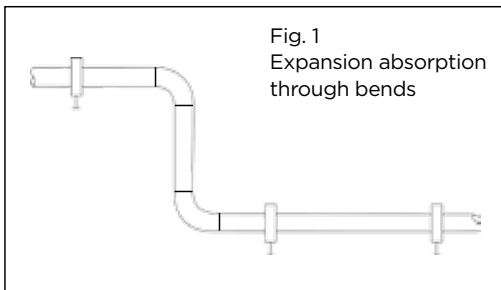
Horizontal hot water lines may require closer clip spacing to maintain straight lines and avoid sagging.



EXPANSION AND CONTRACTION

Expansion

KemPex will expand with heat so allowance must be made for expansion in the system. The use of anchor points can ensure the expansion occurs in the desired direction. By securely clipping to one side of a fitting, expansion will occur in the opposite direction. All other clips and holes through which KemPex passes should allow the pipe to slide longitudinally. For long runs on the hot water service an offset bend Fig. 1 or U bend Fig. 2 may be required.



Thermal Insulation

Although KemPex has excellent insulating properties local authorities may require further insulation to reduce heat loss. KemPex should be insulated against freezing conditions to reduce the chances of damage to the pipe work. In extreme conditions it is not possible to prevent static water freezing, so if not in use the complete system should be drained.

Water heaters and Uncontrolled Heating Sources.

KemPex for potable water systems are designed to operate within a tempering valve controlled hot water system limited to max 70°C. Although KemPex has a maximum operating temperature of 95°C and will survive a short period of 100°C, this situation is not recommended and would only occur in the event of a tempering valve failing.

Connection of KemPex to a water heater must comply with AS3500 and connect via a minimum 1 metre of copper pipe. KemPex is not suitable for flow and return lines of solar panels as temperatures can reach 140°C.

KemPex Slide™

In Ground Installation

KemPex has an excellent notch resistance and can be laid underground instead of standard PE water mains. Installations must comply with AS3500 and Local Authority requirements. KemPex must always be protected from UV radiation, frost, high temperatures and crushing. If KemPex fittings are installed underground they should be adequately protected from corrosive soil conditions and be buried a minimum of 300mm if freezing is a risk as per AS3500.

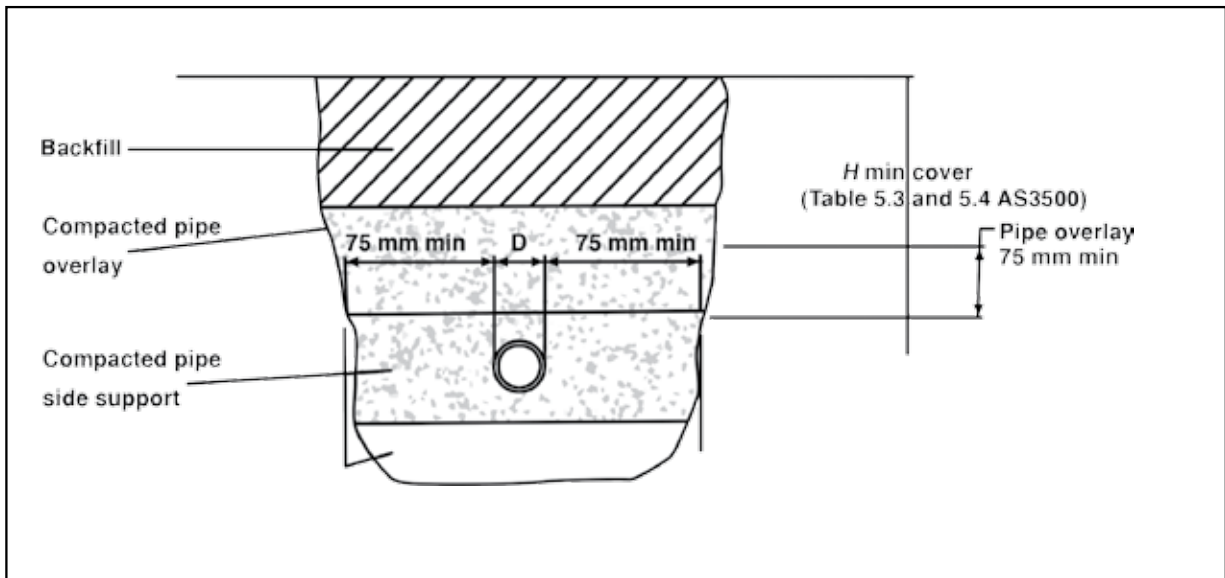
Disassembly of KemPex Slide

- Always cut the fitting to be disassembled completely from system.
- A hot air gun can be used to heat the sliding sleeve.



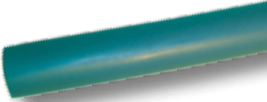
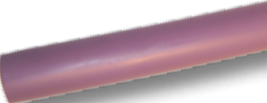


- At 140°C the sliding sleeve can be removed by using pliers.
- Always disassemble the total fitting and scrap the heated sliding sleeves.

Pressure Testing Installations

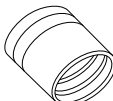
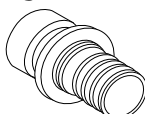
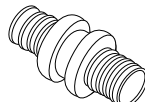
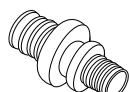
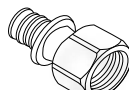
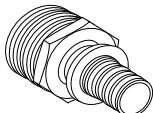

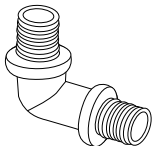
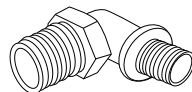
- Testing of KemPex installed systems must comply with AS3500 and local body requirements.
- Check all fittings visually to ensure all rings are crimped, then test with KemPex Go-Nogo gauge.
- Pressure test the water filled system (without air pockets) at 1500kPa for 30 minutes.
- Ensure no pressure leakage has occurred.
- Inspect joints again visually.
- Flush pipes again thoroughly.



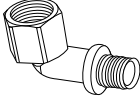
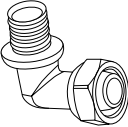
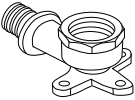
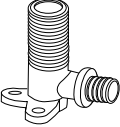
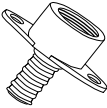
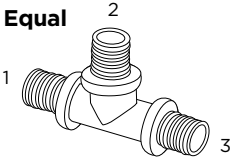
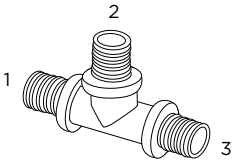
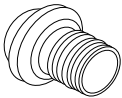


KEMPEX PIPE & CONDUIT RANGE

	Diameter	Wall	Length	Code
Plumbing - Black Pex straights 	16mm	2.2mm	5 meters	100116
	20mm	2.8mm	5 meters	100120
	25mm	3.5mm	5 meters	100125
	32mm	4.4mm	5 meters	100132
Plumbing - Black Pex coils 	16mm	2.2mm	100 meters	100216
	20mm	2.8mm	100 meters	100220
	25mm	3.5mm	50 meters	100225
	32mm	4.4mm	50 meters	100232
Rainwater Pex Pipe - Green 	16mm	2.2mm	50 meters	100616
	20mm	2.8mm	50 meters	100620
Recycled Water Pex Pipe - Lilac 	16mm	2.2mm	50 meters	100516
	20mm	2.8mm	50 meters	100520
Pex Pipe in Conduit 	16mm	2.2mm	50 meters	100416
	20mm	2.8mm	50 meters	100420
	25mm	3.5mm	50 meters	100425
	32mm	4.4mm	25 meters	100432
Conduit for Pex Pipe 	16mm	Fits 16mm Pex	50 meters	100016
	20mm	Fits 20mm Pex	50 meters	100020
	25mm	Fits 25mm Pex	50 meters	100025
	32mm	Fits 32mm Pex	25 meters	100032

KEMPEX SLIDE FITTINGS RANGE

	Diameter	Pack quantity	Code
Sliding Sleeves 	16mm	100	160016
	20mm	100	160020
	25mm	50	160025
	32mm	50	160032
Connecting Barbs 	16mm	10	161416
	20mm	10	161420
Connectors 	16mm	10	161016
	20mm	10	161020
	25mm	10	161025
	32mm	5	161032
Connectors - Reducing 	20mm x 16mm	10	166010
	25mm x 16mm	10	166012
	25mm x 20mm	10	166014
	32mm x 25mm	10	166016
Connectors - Female 	16mm	10	161116
	20mm	10	161120
Connectors - Male 	16mm x 1/2" BSP	10	161216
	20mm x 1/2" BSP	10	161221
	20mm x 3/4" BSP	10	161220
	25mm x 3/4" BSP	10	161227
	25mm x 1" BSP	10	161225
	32mm x 1" BSP	10	161233
Connectors - Crox Swivel Nut 	16mm x 1/2"	10	161616
	20mm x 3/4"	10	161620
	25mm x 1"	10	161625
	32mm x 1 1/4"	5	161632
Elbows - 90 Degree 	16mm	10	165016
	20mm	10	165020
	25mm	5	165025
	32mm	5	165032
Elbows - 90 Degree Male 	16mm x 1/2"	10	165216
	20mm x 3/4"	10	165220

KEMPEX SLIDE FITTINGS RANGE

	Diameter	Pack quantity	Code
Elbows - 90 Degree Female 	16mm x 1/2"	10	165116
	20mm x 3/4"	10	165120
Elbows - Swivel Nut 	16mm x 1/2"	10	165516
	20mm x 3/4"	10	165520
Wingbacks - Female 	16mm x 1/2"	10	168716
	20mm x 3/4"	5	168720
	16mm x 3/4"	5	168717
Wingbacks- Male 	16mm x 1/2" - 65mm threaded	10	168865
	16mm x 1/2" - 90mm threaded	5	168890
	16mm x 1/2" - 150mm threaded	5	168815
Hose Plates 	16mm x 1/2"	10	168616
Tees - Equal 	16mm	10	167016
	20mm	10	167020
	25mm	5	167025
	32mm	3	167032
Tees - Reducing 	20mm x 16mm x 20mm	10	167211
	20mm x 16mm x 16mm	10	167209
	20mm x 20mm x 16mm	10	167213
	25mm x 20mm x 25mm	5	167219
	25mm x 20mm x 20mm	10	167217
	25mm x 16mm x 25mm	5	167215
	25mm x 25mm x 16mm	5	167221
	25mm x 25mm x 20mm	5	167223
	32mm x 25mm x 32mm	5	167227
	32mm x 25mm x 25mm	5	167225
End Plugs 	16mm	10	168016
	20mm	10	168020
Profile Bends 	16mm	10	103916
	20mm	10	103920
	25mm	10	103925
Open Clips 	16mm	100	103016
	20mm	100	103020
	25mm	100	103025



Quality Piping Systems Since 1916

MM Kembla New Zealand Ltd
20B Trugood Drive, East Tamaki, Auckland, 2013
PO BOX 51 525, Pakuranga, Auckland, 2140
T: +64 9 274 0111 **F:** +64 9 274 0347
E: sales@kembla.co.nz
www.kembla.co.nz

Kembla Australia
Gloucester Boulevard, PO BOX 21,
Port Kembla, NSW 2505
T: 1800 804 631 **F:** 1800 817 846
E: sales@kembla.com.au
www.kembla.com.au

MM Kembla NZ Ltd can accept no responsibility for possible errors in catalogues, brochures and other printed material, MM Kembla NZ Ltd reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without notification. All trademarks in this material are property of MM Kembla NZ. All rights reserved. October 2013.



MM Kembla NZ Ltd warrants Kembla KemPex Pipe pipes and fittings for a period of 25 years against faulty materials or workmanship.