

JCT Trade

represents a manufacturing company which specialises in supplying Plumbing Products. We provide a complete range of cost effective solutions to the plumbing and building industries to help get the job done quicker, easier and at a lower cost.







WM74650 WM74651 WM74750 AMI74689



Australian Standard AS/NZS 2492 AS/NZS 2537 AS4176

Disclaimer: All care has taken to ensure the information provided in this brochure is accurate and reliable but it must be treated as being of a general nature only. Products in this brochure may change as JCT Trade is committed to continuous product improvement. JCT Trade provide no guarantee nor accept responsibility for information contained in this brochure.

JCT Copper Crimp for Water, 16mm to 25mm.

JCT Slide for Water 16mm to 32mm.

JCT Stainless Steel Crimp for Water 16mm to 25mm.

JCT Stainless Steel Crimp PEX-AL-PEX System for Gas, 16mm to 32mm.

JCT Stainless Steel Crimp PEX-AL-PEX for GAS and JCT Stainless Steel Crimp for WATER use the same JCT Crimp tools.

JCT Water System is licensed by ApprovalMark International to Australian Standards and complies with Australian and New Zealand Standards AS/NZ 2492:2007 for Pipe (Licence WM 74650) and AS/NZS 2537:2011 for Fittings (Licence WM 74651).

JCT Gas System is licensed by ApprovalMark International to Australian Standards and complies with Australian Standards AS 4176.8-2010 for Pipe (Licence AMI74689) and Fittings (Licence AMI74689).

JCT Pipe Systems (excluding tooling) carries a 25 year manufacturers warranty when the system is installed by a licensed plumber or gasfitter in accordance with AS/NZS3500 and Local Authority Requirements. This is backed by Franklins Comprehensive Insurance Cover.

TEST PROCEDURES FOR WATERMARK COMPLIANCE

Listed below are the characteristics that are being tested for as well as the code from which the method for testing is followed:

- Carbon black or Pigment Dispersion ISO 18553
- Diameter and Wall Thickness AS/NZS 1462.1
- Degree of Cross Linking ISO 10147
- Effect on Water AS4020
- Elongation at Break ISO 6259-1, ISO 6259-3
- Hydrostatic Strength ISO 1167 or AS 1462.6
- Long Term Stability ISO 1167 or AS 1462.6
- Longitudinal Reversion ISO2505
- Opacity ISO7866
- · Resistance to Weathering ISO 14531-1
- Slow Crack Growth ISO 13479
- · Thermal Stability ISO-TR 10837

PN20 PE-Xa Water Pipe

JCT PN20 PE-Xa Pipe is made from Peroxide - cross linked polyethylene and manufactured under strict quality controls to Australian Standards AS/NZS 2492:2007 for hot and cold water applications under Licence WM 74650.

JCT PN20 PE-Xa Pipes are completely Non Toxic and are approved to AS4020.

The great advantage of JCT PN20 PE-Xa Pipe is that it can be used with JCT Copper Crimp and JCT Slide Fittings to complete two systems using the same pipe but utilising two different jointing methods.

JCT PN20 PE-Xa Pipe is colour coded to assist the installer in avoiding cross connections. The piping is available in two colours. It is recommended that unprotected pipe not be exposed to direct sunlight on a permanent basis.

JCT PN20 PE-Xa Pipes carries a 25 year manufacturers warranty when the system is installed by a licenced plumber in accordance with AS/NZS3500 and Local Authority Requirements. This is backed up by Franklins Comprehensive Insurance Cover.

Black - cold potable water

Red - hot potable water







Inner layer: combination of HDPE & crosslinking agent Outer layer: HDPE compound

Performance

The use of JCT PN20 PE-Xa Pipe provides users with many advantages over traditional piping materials. It has excellent flexibility, is not adversely affected by freezing, offers excellent pressure and temperature resistance, is lightweight and also has low noise and heat transmission qualities. JCT PN20 PE-Xa Pipe provides very low levels of friction loss and therefore can often save users needing to upsize piping when installing long runs. As jointing methods are mechanical it does not require the use of solvents. Nor does it require soldering, welding or brazing.

Pipe Sizes and Tolerances

Nom.O.D (DN)	Mean Outside Diameter (mm)	Maximum Out-of- Roundness (mm)	Wall Thickness (mm)
SDR 7.4 PN20			
16	16.0	1.2	2.2
20	20.0	1.2	2.8
25	25.0	1.2	3.5
32	32.0	1.3	4.4

Pressure Ratings

Pipes for water applications are classified in terms of the nominal pressure rating (PN) at water service temperature of 20°C. JCT PEX Pipe has a pressure rating of PN20 and a nominal working pressure of 2,000kPa at 20°C. The following table shows the relationship of the pipe working pressure and pipe material temperature (PMT).

Working Pressure, kPa

PMT	200C	600C	700C	General Working
PN20	2000	1500	1300	1000

- Maximum Working Temperature: 95°C
- · Maximum Continuous Working Pressure: 1000kPa
- Maximum Continuous Working Temperature: 70°C
- · Short Term Extension Limit: 100°C
- · Linear Thermal Expansion Co-Efficient: 0.15
- Thermal Conductivity: 0.35W/(m.K)
- · Pipe Internal Roughness: 0.007mm
- Maximum bending radius with preformed bend: 4x Ø
- Maximum bending radius without preformed bend: 8x Ø

PN20 PE-Xa WATER PIPE can be used with JCT Copper Crimp and JCT Slide Fittings to complete two systems.

PE-Xa PIPE TECHNICAL DATA Water Quality

JCT 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, JCT Pex DZR fittings should not be used.

Flush Pipes so they are clean and ready for use.

Handling and Storage

UV radiation can damage PE-Xa pipes, so always protect JCT pipe from direct sunlight.

Avoid damage to the pipe surface from dragging pipes across rough surfaces.

Protect uninstalled pipes from entry of harmful liquids.

Protect DZR fittings from corrosion.

Pressure Loss Tables for PN20 PE-Xa Pipe

Cold Water at 250C				
Peak Flow Rate Qs (I/s) 0.01 to 0.50	16mm x 2.2mm Head Loss (kPa/m)	20mm x 2.8mm Head Loss (kPa/m)	25mm x 3.5mm Head Loss (kPa/m)	32mm x 4.4mm Head Loss (kPa/m)
0.05	0.3465	0.1242	-	-
0.10	1.1650	0.4141	0.1430	0.0430
0.15	2.3930	0.8455	0.2905	0.0866
0.20	4.0077	1.4090	0.4822	0.1430
0.25	5.9950	2.1001	0.7160	0.2122
0.30	8.3490	2.9143	0.9908	0.2927
0.35	11.0620	3.8498	1.3053	0.3846
0.40	14.1295	4.9036	1.6589	0.4879
0.45	-	6.0756	2.0510	0.6018
0.50	-	7.3633	2.4808	0.7266

	Hot Water at 600C			
Peak Flow Rate Qs (I/s) 0.01 to 0.50	16mm x 2.2mm Head Loss (kPa/m)	20mm x 2.8mm Head Loss (kPa/m)	25mm x 3.5mm Head Loss (kPa/m)	32mm x 4.4mm Head Loss (kPa/m)
0.05	0.2913	0.0135	0.0358	0.0106
0.10	1.0002	0.3520	0.1205	0.0357
0.15	2.0803	0.7270	0.2475	0.0731
0.20	3.5175	1.2222	0.4140	0.1218
0.25	5.3030	1.8343	0.6185	0.1814
0.30	7.4321	2.5605	0.8685	0.2515
0.35	9.9026	3.3998	1.1392	0.3318
0.40	12.7115	4.3509	1.4535	0.4223
0.45	-	5.4121	1.8038	0.5228
0.50	-	6.5836	2.1891	0.6329

Pipe Supports

- Fixing of JCT PE-Xa 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 I	Pipes	Vertical Pi	ipes
Clip Spacing	gø	Clip Spacine	gø
Pipe	(metres)	Pipe	(metres)
16mm	0.60	16mm	1.20
20mm	0.70	20mm	1.40
25mm	0.75	25mm	1.50
32mm	0.85	32mm	1.70

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

Expansion and Contraction

Expansion

JCT PE-Xa 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 JCT PE-Xa 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.

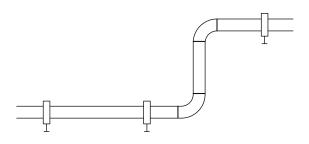


Fig.1: Expansion absorption through bends

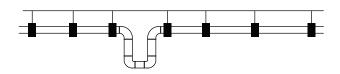


Fig.2: Expansion absorption through U Bend

Thermal Insulation

Although JCT PE-Xa has excellent insulating properties local authorities may require further insulation to reduce heat loss. JCT PE-Xa 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 the complete system should be drained

Water heaters and Uncontrolled Heating Sources.

JCT PE-Xa for potable water systems are designed to operate within a tempering valve controlled hot water system limited to max 70°C. Although JCT PE-Xa 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 JCT PE-Xa to a water heater must comply with AS3500 and connect via a minimum 1 metre of copper pipe. JCT PE-Xa is not suitable for flow and return lines of solar panels as temperatures can reach 140°C.







Red Pipe - Hot Water

5R	16mm	5m/len
00R	16mm	100m/coil
5R	20mm	5m/len
00R	20mm	100m/coil
	5R 00R 5R 00R	00R 16mm 5R 20mm



Lilac Pipe - Recycled Water

CTPEX1650LILAC 16mm 50m/coil



Blue Pipe - PEX-a Cold Water

CTPEX16L5B	16mm	5m/len
CTPEX16100B	16mm	50m/coil
CTPEX20L5B	20mm	5m/len
CTPEX20100B	20mm	50m/coil



Pipe Clips - Black

JCT16B	16mm	100/bag
JCT20B	20mm	100/bag
JCT25B	25mm	100/bag
JCT32B	32mm	100/bag

JCT Slide System

JCT Slide product range is a complete PEX Plumbing System comprising JCT PN20 PE-Xa Water Pipe, a full range of DR brass fittings and a set of easy to use tooling.

JCT Slide System is a simple and secure sliding sleeve jointing system which means total peace of mind and a simple visual inspection confirms water tightness.

JCT Slide Fittings are especially designed and engineered to compliment the JCT PE-Xa Pipe.

JCT Slide All JCT fittings are made from high quality Dezincification Resistant (DR) brass, heat treated and chemically enhanced for increased strength, durability and reliability.

JCT Slide system complies with Australian Standards AS2537 and AS2492 and is certified by ApprovalMark (Licences WM74651 and WM74650 respectively) for use with crosslinked polyethylene (PE-Xa) for hot and cold water installations.

JCT Slide System carries a 25 year manufacturers warranty when the system is installed by a licensed plumber in accordance with AS/NZS3500 and Local Authority Requirements. This is backed by Franklins Comprehensive Insurance Cover.





INSTALLATION INSTRUCTIONS

STEP 1:

Measure the pipe and cut to correct angle, ensuring it is straight and burr free. Always use a PEX pipe cutter.

STEP 2:

Slide the compression sleeve over the pipe with the bevelled end facing towards the fitting. Expand the pipe using the expansion tool, rotate the pipe 30° and repeat the process, ensuring the pipe is evenly expanded.

STEP 3:

Insert the fitting into the expanded pipe; use the compression tool to slide the sleeve towards the fitting, making sure the two surface areas (shoulder stop and PEX pipe) meet completely flat and evenly all around in order to achieve a super seal.

STEP 4:

At completion, carry out pressure testing as required per AS/NZS 3500 and or any requirements specified by local authorities prior to burying or concealing the JCT Slide System.







IMPORTANT:

This system must be installed by a licensed plumber in accordance with this procedure otherwise warranty will be void.



Sliding Sleeve

TSS16	16mm	
TSS20	20mm	
TSS25	25mm	
TSS32	32mm	



Straight Connection

0 11 011 9111 0 0		
TSC16	16mm	
TSC20	20mm	
TSC25	25mm	
TSC32	32mm	



Reducing Connection

TRC2016	20mm x 16mm
TSC2520	25mm x 20mm
TSC3225	32mm x 25mm



Female Connection

TFC16	16mm
TFC20	20mm



Male Connection

TMC16	16mm	
TMC20	20mm	
TMC25	25mm	











Equal Elbow

TEE16	16mm	
TEE20	20mm	
TEE25	25mm	
TEE32	32mm	

Male Elbow

Male LIDOW		
TME16	16mm	
TME20	20mm	

Female Elbow

TFE16	16mm	
TFE20	20mm	

Female Wingback

TFWB16	16mm	
TFWB20	20mm	

Male Wingback

TMWB161565	16mm x 15mm BSP x 65mm
TMWB161590	16mm x 15mm BSP x 90mm



Equal Tee

TET16	16mm	
TET20	20mm	
TET25	25mm	
TET32	32mm	



Reduced Tee

Reduced Lee	
TRT201616	20mm x 16mm x 16mm
TRT202016	20mm x 20mm x 16mm
TRT2016	20mm x 16mm
TRT251616	25mm x 16mm x 16mm
TRT2516	25mm x 16mm
TRT252516	25mm x 25mm x 16mm
TRT252020	25mm x 20mm x 20mm
TRT2520	25mm x 20mm
TRT252520	25mm x 25mm x 20mm
TRT322525	32mm x 25mm x 25mm
TRT3225	32mm x 25mm



Swivel Connector

TSWC16	16mm	
TSWC20	20mm	
TSWC25	25mm	



Swivel Elbow

TSE16	16mm	
TSE20	20mm	





TCB16	16mm	
TCB20	20mm	



Plug		
TP16	16mm	
TP20	20mm	



Hose Plate

THP16	16mm

JCT Copper Crimp System

JCT Copper Crimp product range is a complete Pex Plumbing System comprising JCT PN20 PE-Xa water pipe, a full range of DR Brass Fittings and a set of easy to use tooling.

JCT Copper Crimp is a solid DZR brass fitting using robust copper rings with inspection windows and equally the longest joining barb on the market ensuring a water tight join every time.

JCT Copper Crimp has no O'rings which results in increased bore size and better flow and removes the risk of installer error because of dirty, damaged or dislodged O'rings.

Simple Crimp jointing system results in quick and simple installation.

JCT Copper Crimp All JCT fittings are made from high quality Dezincification Resistant (DR) brass, heat treated and chemically enhanced for increased strength, durability and reliability.

JCT Copper Crimp system complies with Australian Standards AS2537 and AS2492 and is certified by ApprovalMark (Licences WM74651 and WM74650 respectively) for use with crosslinked polyethylene (PE-Xa) for hot and cold water installations.

JCT Copper Crimp carries a 25 year manufacturers warranty when the system is installed by a licenced plumber in accordance with AS/NZS3500 and Local Authority Requirements. This is backed by Franklins Comprehensive Insurance Cover.

INSTALLATION INSTRUCTIONS

STEP 1:

Cut pipe at right angle.



STEP 2:

Insert fitting.



STEP 3:

Observe window for correct position of fitting.



STEP 4:

Position crimping tool.



STEP 5:

Crimp fitting.



Test with Pressure Gauge.





IMPORTANT:

This system must be installed by a licensed plumber in accordance with this procedure otherwise warranty will be void.



Ring Only

CCC16	16mm	
CCC20	20mm	
CCC25	25mm	
CCC32	32mm	



Straight Connection

CSC16	16mm	
CSC20	20mm	
CSC25	25mm	
CSC16BUTE	16mm	



Reducing Connection

CRC2016	20mm x 16mm
CRC2516	25mm x 16mm
CRC2520	25mm x 20mm



Female Connection

CFC16	16mm
CFC2015	20mm x 15mm BSP
CFC20	20mm



Male Connection

CMC16	16mm
CMC2015	20mm x 15mm BSP
CMC20	20mm
CMC2520	25mm x 20mm BSP
CMC25	25mm



Equal Elbow

١	CEE16	16mm	
ı	CEE20	20mm	
ı	CEE25	25mm	



Male Elbow

Wale Libow		
CME16	16mm	
CME2015	20mm x 15mm BSP	
CME20	20mm	
CME25	25mm	



Female Elbow

CFE16	16mm
CFE20	20mm



Female Wingback

CFWB16	16mm
CFWB1620	16mm x 20mm BSP
CFWB2015	20mm x 15mm BSP
CFWB20	20mm



Female Double Fix Wingback CFWB16DF 16mm



Male Wingback

CMWB161565	16mm x 65mm	
CMWB161590	16mm x 90mm	
CMWB1615150	16mm x 150mm	



Equal Tee

CET16	16mm
CET20	20mm
CET25	25mm



Reducing Tee

Reducing ree		
CRT201616	20mm x 16mm x 16mm	
CRT2016	20mm x 16mm	
CRT202016	20mm x 20mm x 16mm	
CRT2516	25mm x 16mm	
CRT2520	25mm x 20mm	
CRT252020	25mm x 20mm x 20mm	
CRT252516	25mm x 25mm x 16mm	
CRT252520	25mm x 25mm x 20mm	



Swivel Connector

CSWC16	16mm
CSWC1620	16mm x 20mm BSP
CSWC20	20mm
CSWC2015	20mm x 15mm BSP
CSWC25	25mm



Swivel Elbow

CSE16	16mm	
CSE20	20mm	
CSE2015	20mm x 15mm BSP	



Connecting Barb

CCB16	16mm
CCB20	20mm



Plug

0016		
CP16	16mm	
01 10	1011111	
CD20	20mm	
GFZU	2011111	



Hose Plate

CHP16	16mm

PN16 PE-Xb Water Pipe

JCT PN16 PE-Xb Pipe is made from Silane - Cross Linked Polyethelene and manufactured under strict quality controls to New Zealand Standards AS/NZS 2492:2007 for hot and cold water applications under Licence WM 74650.

JCT PN16 PE-Xb Pipes are completely Non Toxic and are approved to AS4020.

JCT PN16 PE-Xb Pipes carries a 25-year manufacturers warranty when the system is installed by a licensed plumber in accordance with AS/NZS3500 and Local Authority Requirements. This is backed up by Franklins Comprehensive Insurance Cover.

The great advantage of JCT PN16 PE-Xb Pipe is that it can be used with **JCT Stainless Steel Crimp** fittings.

JCT PN16 PE-Xb Pipe is recommended that unprotected pipe not be exposed to direct sunlight on a permanent basis.

Black - cold potable water





Performance

The use of JCT PN16 PE-Xb Pipe provides users with many advantages over traditional piping materials.

JCT PE-Xb pipes have great flexability making installation quick and easy

JCT PE-Xb pipes have good themral and acosutic insulation properties

JCT PE-Xb use a Universal DZR Water and Gas Stainless Steel Crimp fitting.

Pipe Sizes and Tolerances

Nom.O.D (DN)	Mean Outside Diameter (mm)	Maximum Out-of- Roundness (mm)	Wall Thickness (mm)
SDR 9 PN16			
16	16.0	1.2	2.0
20	20.0	1.2	2.3

Pressure Ratings

Pipes for water applications are classified in terms of the nominal pressure rating (PN) at water service temperature of 20°C. JCT PE-Xb Pipe has a pressure rating of PN16 and a nominal working pressure of 1600kPa at 20°C. The following table shows the relationship of the pipe working pressure and pipe material temperature (PMT).

Working Pressure kPa

PMT	200C	600C	700C	General Working
PN16	1600	1200	1100	1000

	PN16 PE-Xb Pipe				
Working Pressure	Temp. °C	20	40	60	80
Water	Pressure kPa, PN16	1600	1200	950	760
Continuous operation temperature	eration 00°C		72°C at	810kPa	
Maximum operation temperature					
	Nom.O.D (DN)	Thickness			
Minimum wall thickness	16mm PN16	2.0mm			
tilickiiess	20mm PN16	2.3mm			
Linear thermal expansion coefficient	(m/m°C)11.4*10-4				
Thermal conductivity	0.35				
Minimum bending radius without aid	8 x diameter				

PE-Xb PIPE TECHNICAL DATA

Water Quality

JCT Stainless Steel Crimp 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, JCT Pex DZR fittings should not be used.

Handling and Storage

UV radiation can damage PE-Xa pipes, so always protect JCT pipe from direct sunlight.

Avoid damage to the pipe surface from dragging pipes across rough surfaces.

Protect uninstalled pipes from entry of harmful liquids.

Protect DZR fittings from corrosion.

Protect pipes from freezing by insulation or draining the system when not in use.

JCT PE-Xb water pipes may be installed underground or under-slab so long as all fittings are kept to a minimum and are wrapped in a "Denso" type protective coating.

No fittings should be installed within a concrete slab. All JCT PE-Xb pipes should be sleeved as they penetrate the slab using JCT Conduit.

Installation

Do not use PE-Xb on installations with uncontrolled heat sources such as Solar or Wetbacks before a Tempering Valve

Test JCT PE-Xb Water systems at 1500 kPa for 30 minutes, check crimps visually and after testing to ensure crimps are complete and no leaks have occured. Check Crimps using JCT Crimp Gauge for PE-Xb.

Flush Pipes so they are clean and ready for use.

Horizontal Pipes		Vertical Pipes	
Clip Spacing ø		Clip Spacing ø	
Pipe	(metres)	Pipe	(metres)
16mm	0.60	16mm	1.20
20mm	0.70	20mm	1.40
25mm	0.75	25mm	1.50
32mm	0.85	32mm	1.70

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



CODE	SIZE	PACKING
Black Pipe - W	ater	
JPEX1650	16mm	50m/coil
JPEX16L5	16mm	5m/len
JPEX16100	16mm	100m/coil
JPEX2050	20mm	50m/coil
JPEX20L5	20mm	5m/len



Red Pipe - Hot Water			
JPEX16L5R	16mm	5m/len	
JPEX1650R	16mm	50m/coil	
JPEX20L5R	20mm	5m/len	

20mm

50m/coil



Lilac Pipe - Recycled Water		
JPEX16L5LILAC	16mm	5m/len
JPEX1650LILAC	16mm	50m/coil



Blue Pipe - PEX-b Cold Water

JPEX16L5B	16mm	5m/len
JPEX1650B	16mm	50m/coil
JEPX20L5B	20mm	5m/len
JPEX20L5B	20mm	50m/coil
	JPEX16L5B JPEX1650B JEPX20L5B	JPEX1650B 16mm JEPX20L5B 20mm



Pipe Clips - Black

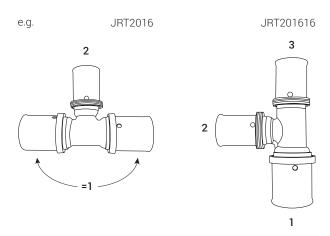
JPEX2050R

JCT16B	16mm	100/bag
JCT20B	20mm	100/bag
JCT25B	25mm	100/bag
JCT32B	32mm	100/bag

TEE CODING

The end number always represents the branch

If the tee is equal on both sides and reduces at the branch then we only have two numbers not three. The larger number is always first.



JCT Tools



Manual Crimp Tools

JCT.MC1620 CC	16mm - 20mm
JCT.C16L CC	16mm - 20mm
JCT.C20L CC	16mm - 20mm
JCT.MC1620 SS	16mm - 20mm



REMS Mini Press Tool Kit

REMS K (Copper Crimp)	16mm - 32mm
REMS U (Stainless Steel Crimp)	16mm - 32mm
REMS S (Sliding Sleeve)	16mm - 32mm



Manual Slide Tool



Pipe Cutter

PC30 16mn	n - 32mm
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S/S Plastic Reamer

JCT.PR1625	16 - 20 - 25mm
JCT.PR2032	20 - 25 - 32mm



90° Profile Bend

PPB016	16mm	10/bag
JCT16GALVPB	16mm	10/bag
JCT20GALVPB	20mm	10/bag
JCT25GALVPB	25mm	10/bag

NOTES:



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