



TITLE	SPECIFICATION FOR PVC ADHESIVE TAPES	REFERENCE CP_TSSPEC_046	REV 3
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		PAGE:	1 OF 20

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FOREWORD

Recommendations for corrections, additions or deletions should be addressed to the:

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2016

INTRODUCTION

This specification covers insulating tapes for binding and insulating purposes where good electrical insulating properties are required.

1 SCOPE

This specification covers City Power's requirements for pressure-sensitive adhesive tapes.

2 NORMATIVE REFERENCES

The following documents contain provisions that, through reference in the text, constitute requirements of this specification. At the time of publication, the editions indicated were valid. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

SANS 122 Pressure-sensitive adhesive tapes for electrical purposes.

BS 3924 Pressure-sensitive adhesive tapes for electrical purposes.

UL 510 Standard for Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape.

3 DEFINITIONS AND ABBREVIATIONS

For the purpose of this specification the definitions, as per SANS 122 for pressure-sensitive adhesive tapes shall apply.

4 CONSTRUCTIONAL REQUIREMENTS

4.1 General

The tape shall preferably comply with SANS 122, but alternatively BS 3924 or UL 510 shall also be considered.

4.2 Type

4.2.1 The pressure-sensitive adhesive tape shall:

4.2.1.1 Be of the Type B: Tapes suitable for use where the working temperature does not exceed 90 °C.

4.2.1.2 Bear the SANS 122 mark of approval or alternative as per 4.1 above on the protective wrapping.

Note: Only type B tapes, suitable for use where the working temperature does not exceed 90°C, are required.

4.3 Finish

4.3.1 Each roll of tape shall be free from telescoping and distortion.

4.3.2 The edges of the tape shall be straight and unbroken.

4.3.3 The tape shall be smooth, uniform and free from any lumps and bare spots when unrolled.

4.4 Colour

4.4.1 The colour of the tapes shall be:

4.4.1.1 Red,

4.4.1.2 Yellow,

4.4.1.3 Blue,

4.4.1.4 Black, and

4.4.1.5 Green.

4.5 Dimensions

4.5.1 The core shall be wound on an acceptable core having a 30mm nominal internal diameter.

4.5.2 The nominal width of the tape shall be 19 mm.

4.5.3 The tape shall have a nominal length of 20 m.

4.5.4 The nominal thickness of the tape shall be 160 µm.

5 ELECTRICAL REQUIREMENTS

5.1 Breaking strength and elongation

The tape shall have a minimum breaking strength of 2,6 N/mm of the width, having a 120% elongation of the original length for a 160 µm thickness of tape under standard test conditions.

5.2 Adhesion strength

5.2.1 The adhesion to steel shall be at least 190 N/mm of the width of the tape under standard test conditions.

5.2.2 Adhesion to the backing shall be at least 170 N/mm of the width of the tape under standard test conditions.

5.3. Breakdown voltage

The tape, of nominal thickness of 160 µm, shall have a minimum breakdown voltage of 7,4 kV under standard test conditions.

5.4 Insulation resistance

The insulation resistance of the tape shall be at least 100 000 MΩ per 25 mm width of tape under standard test conditions.

Note: *The insulation resistance of the tape is an indirect measurement of electrolytic corrosion caused by the tape.*

5.5 Heat resistance

When tested under the standard test conditions, the type B tape shall show no sign of cracking after flexing.

6 TESTS

6.1 Type test

The type test shall comply with the requirements of SANS 122.

6.2 Routine test (Inspection)

The routine inspection test shall comply with SANS 122.

7 MARKING, PACKING AND DOCUMENTATION

7.1 Marking

7.1.1 The marking of the tapes shall comply with the requirements of SANS 122.

7.1.2 The core of the tape shall be clearly and indelibly marked with:

7.1.2.1 Brand name or trade mark, and

7.1.2.2 Catalogue number.

7.1.3 City Power's SAP number shall be clearly shown on the label.

7.2 Packing

The packing shall comply with the requirements of SANS 122.

7.3 Documentation

7.3.1 Documentation shall be submitted in a technical catalogue format.

7.3.2 The technical catalogue shall specify the sizes, dimensions, reference numbers, and if applicable, the complete range of other products and accessories available.

8 QUALITY MANAGEMENT

A quality management plan shall be set up in order to assure the proper quality management of the PVC adhesive tape during design, development, production, installation and servicing phases. Guidance on the requirements for a quality management plan may be found in the SANS ISO 9001. The details shall be subject to agreement between City Power and the Supplier.

9 ENVIRONMENTAL MANAGEMENT

An environmental management plan shall be set up in order to assure the proper environmental management of the PVC adhesive tape throughout its entire life cycle (i.e. during design, development, production, installation, operation and maintenance, decommissioning and disposal phases). Guidance on the requirements for an environmental management system may be found in SANS ISO 14001 standards. The details shall be subject to agreement between City Power and the Supplier. This is to ensure that the asset created conforms to environmental standards and City Power SHEQ Policy.

10 HEALTH AND SAFETY

A health and safety plan shall be set up in order to ensure proper management of PVC adhesive tape and compliance of the queuing system during installation, operation, maintenance, and decommissioning phases. Guidance on the requirements of a health and safety plan may be found in OHSAS 18001 standards. This is to ensure that the asset conforms to standard operating procedures and City Power SHERQ Policy. The details shall be subject to agreement between City Power and the Supplier.

ANNEX A - Bibliography

None

ANNEX B - Revision information

DATE	REV. NO.	NOTES
Nov. 2002	0	First issue
Jan. 2005	1	Clause 2. Normative reference SANS 122. Clause 3. SANS 122. Clause 4.1. SANS 122. Clause 4.2(b). SANS 122. Clause 6.1. SANS 122. Clause 6.2. SANS 122. Clause 7.1.1. SANS 122. Clause 7.2. SANS 122. Clause 8. Quality Management. Annex C. Add schedules for all tapes.
June 2011	2	Format changes Introduction reworded Additional technical schedule items included
February 2019	3	Added new study committee Added clause 10, Health and Safety

ANNEX C – Item 1: TAPE PVC TYPE B RED – SAP. NO. 5953

Schedule A: Purchaser's specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

Item	Sub clause of CP_TSSPEC_046	Description	Schedule A	Schedule B
		Manufacturer	Required	
		Comply to SANS 122	Yes	
1	4.1	Is this a type B tape?	Yes	
2	4.2	Diameter of core (mm)	30 nom	
3		Width (mm)	19	
4		Length (m)	20	
5		Thickness (mm)	0,18	
6		Breaking strength (N/mm width	2,9	
7		Elongation at break (% min)	120	
8		Adhesion strength (mN/mm)		
9		a)Adhesion to steel , min	190	
10		b)Adhesion to backing , min	170	
		Copper corrosion test – no discoloration	Required	
		Insulation resistance (Ω /25mm of width - min)	Required	
11		Electrical breakdown voltage (8 kV/min)	Required	
12		Resistance to flame propagation	Required	
13		Resistance to adhesive transfer	Required	
14		Heat resistance – no cracking	Required	
15	6	Type test report supplied with tender	Yes	
16	7.1	Do the markings comply with the specification?	Yes	
17	7.3	Technical catalogue supplied with tender	Yes	

Note: Ticks, Cross [$\sqrt{}$, X], Astrick [*], Word [Noted] or TBA ["To Be Advice"] will not be accepted

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

Item 1: TAPE PVC TYPE B RED – SAP. NO. 5953
Deviation schedule

Any deviations offered to this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by City Power.

Item	Sub clause of CP_TSSPEC_046	Proposed deviation

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

ANNEX C – Item 2: TAPE PVC TYPE B YELLOW – SAP. NO. 391

Schedule A: Purchaser's specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

Item	Subclause of CP_TSSPEC_046	Description	Schedule A	Schedule B
		Manufacturer	Required	
1	4.1	Comply to SANS 122	Yes	
2	4.2	Is this a type B tape?	Yes	
3		Diameter of core (mm)	30 nom	
4		Width (mm)	19	
5		Length (m)	20	
6		Thickness (mm)	0,18	
7		Breaking strength (N/mm width	2,9	
8		Elongation at break (% min)	120	
		Adhesion strength (mN/mm)		
		c)Adhesion to steel , min	190	
		d)Adhesion to backing , min	170	
9		Copper corrosion test – no discoloration	Required	
10		Insulation resistance (Ω /25mm of width - min)	Required	
11		Electrical breakdown voltage (8 kV/min)	Required	
12		Resistance to flame propagation	Required	
13		Resistance to adhesive transfer	Required	
14		Heat resistance – no cracking	Required	
15	6	Type test report supplied with tender	Yes	
16	7.1	Do the markings comply with the specification?	Yes	
17	7.3	Technical catalogue supplied with tender	Yes	

Note: Ticks, Cross [$\sqrt{\quad}$, X], Astrick [*], Word [Noted] or TBA [“To Be Advice”] will not be accepted

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

Item 2: TAPE PVC TYPE B YELLOW – SAP. NO. 391

Deviation schedule

Any deviations offered to this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by City Power.

Item	Sub-clause of CP_TSSPEC_046	Proposed deviation

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

ANNEX C – Item 3: TAPE PVC TYPE B BLUE – SAP. NO. 392

Schedule A: Purchaser's specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

Item	Sub clause of CP_TSSPEC_046	Description	Schedule A	Schedule B
		Manufacturer	Required	
1	4.1	Comply to SANS 122	Yes	
2	4.2	Is this a type B tape?	Yes	
3		Diameter of core (mm)	30 nom	
4		Width (mm)	19	
5		Length (m)	20	
6		Thickness (mm)	0,18	
7		Breaking strength (N/mm width	2,9	
8		Elongation at break (% min)	120	
		Adhesion strength (mN/mm)		
		e)Adhesion to steel , min	190	
		f)Adhesion to backing , min	170	
9		Copper corrosion test – no discoloration	Required	
10		Insulation resistance (Ω /25mm of width - min)	Required	
11		Electrical breakdown voltage (8 kV/min)	Required	
12		Resistance to flame propagation	Required	
13		Resistance to adhesive transfer	Required	
14		Heat resistance – no cracking	Required	
15	6	Type test report supplied with tender	Yes	
16	7.1	Do the markings comply with the specification?	Yes	
17	7.3	Technical catalogue supplied with tender	Yes	

Note: Ticks, Cross [$\sqrt{}$, X], Astrick [*], Word [Noted] or TBA ["To Be Advice"] will not be accepted

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

Item 3: TAPE PVC TYPE B BLUE – SAP. NO. 392

Deviation schedule

Any deviations offered to this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by City Power.

Item	Sub clause of CP_TSSPEC_046	Proposed deviation

Tender Number: _____

Tenderer's Authorised Signatory: _____

Name in block letters

Signature

Full name of company: _____

ANNEX C – Item 4: TAPE PVC TYPE B BLACK – SAP. NO. 6059

Schedule A: Purchaser's specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

Item	Sub clause of CP_TSSPEC_046	Description	Schedule A	Schedule B
		Manufacturer	Required	
1	4.1	Comply to SANS 122	Yes	
2	4.2	Is this a type B tape?	Yes	
3		Diameter of core (mm)	30 nom	
4		Width (mm)	19	
5		Length (m)	20	
6		Thickness (mm)	0,18	
7		Breaking strength (N/mm width	2,9	
8		Elongation at break (% min)	120	
		Adhesion strength (mN/mm)		
		g)Adhesion to steel , min	190	
		h)Adhesion to backing , min	170	
9		Copper corrosion test – no discoloration	Required	
10		Insulation resistance (Ω /25mm of width - min)	Required	
11		Electrical breakdown voltage (8 kV/min)	Required	
12		Resistance to flame propagation	Required	
13		Resistance to adhesive transfer	Required	
14		Heat resistance – no cracking	Required	
15	6	Type test report supplied with tender	Yes	
16	7.1	Do the markings comply with the specification?	Yes	
17	7.3	Technical catalogue supplied with tender	Yes	

Note: Ticks, Cross [$\sqrt{\quad}$, X], Astrick [*], Word [Noted] or TBA ["To Be Advice"] will not be accepted

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

Item 4: TAPE PVC TYPE B BLACK – SAP. NO. 6059

Deviation schedule

Any deviations offered to this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by City Power.

Item	Subclause of CP_TSSPEC_046	Proposed deviation

Tender Number: _____

Tenderer's Authorised Signatory: _____

Name in block letters

Signature

Full name of company: _____

ANNEX C – Item 5: TAPE PVC TYPE B GREEN – SAP. NO. 6017

Schedule A: Purchaser's specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

Item	Sub clause of CP_TSSPEC_046	Description	Schedule A	Schedule B
		Manufacturer	Required	
1	4.1	Comply to SANS 122	Yes	
2	4.2	Is this a type B tape?	Yes	
3		Diameter of core (mm)	30 nom	
4		Width (mm)	19	
5		Length (m)	20	
6		Thickness (mm)	0,18	
7		Breaking strength (N/mm width	2,9	
8		Elongation at break (% min)	120	
		Adhesion strength (mN/mm)		
		i)Adhesion to steel , min	190	
		j)Adhesion to backing , min	170	
9		Copper corrosion test – no discoloration	Required	
10		Insulation resistance (Ω /25mm of width - min)	Required	
11		Electrical breakdown voltage (8 kV/min)	Required	
12		Resistance to flame propagation	Required	
13		Resistance to adhesive transfer	Required	
14		Heat resistance – no cracking	Required	
15	6	Type test report supplied with tender	Yes	
16	7.1	Do the markings comply with the specification?	Yes	
17	7.3	Technical catalogue supplied with tender	Yes	

Note: Ticks, Cross [$\sqrt{}$, X], Astrick [*], Word [Noted] or TBA [“To Be Advice”] will not be accepted

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

Item 5: TAPE PVC TYPE B GREEN – SAP. NO. 6017

Deviation schedule

Any deviations offered to this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by City Power.

Item	Sub clause of CP_TSSPEC_046	Proposed deviation

Tender Number: _____

Tenderer's Authorised Signatory: _____

Name in block letters

Signature

Full name of company: _____

ANNEX D – Stock Items

Material Group: CONT-TAPE

Item	SAP No.	SAP Short Description	SAP Long Description
1	5953	TAPE PVC TYPE B RED	TAPE, ADHESIVE, POLYVINYL CHLORIDE, 20M X 19MM, TYPE B, RED, FOR INSULATING PURPOSE, ITEM SPECIFICATION NO. CP_TSSPEC_046
2	391	TAPE PVC TYPE B YELLOW	TAPE, ADHESIVE, POLYVINYL CHLORIDE, 20M X 19MM, TYPE B, YELLOW, FOR INSULATING PURPOSE, ITEM SPECIFICATION NO. CP_TSSPEC_046
3	392	TAPE PVC TYPE B BLUE	TAPE, ADHESIVE, POLYVINYL CHLORIDE, 20M X 19MM, TYPE B, BLUE, FOR INSULATING PURPOSE, ITEM SPECIFICATION NO. CP_TSSPEC_046
4	6059	TAPE PVC TYPE B BLACK	TAPE, ADHESIVE, POLYVINYL CHLORIDE, 20M X 19MM, TYPE B, BLACK, FOR INSULATING PURPOSE, ITEM SPECIFICATION NO. CP_TSSPEC_046
5	6017	TAPE PVC TYPE B GREEN	TAPE, ADHESIVE, POLYVINYL CHLORIDE, 20M X 19MM, TYPE B, GREEN, FOR INSULATING PURPOSE, ITEM SPECIFICATION NO. CP_TSSPEC_046