

## Material properties heat shrinks

### Heat shrinks, thin-walled, BST21

BN 22974, BN 22967, BN 22966

Property	Test method	Typical value
<b>Physical properties</b>		
Tensile strength	ASTM D 638	13 N/mm <sup>2</sup>
Elongation at break	ASTM D 638	350%
Longitudinal change	ASTM D 2671	-5% to +5%
Water absorption	ASTM D 570	0,20%
Specific gravity	ASTM D 792	1,45
<b>Electrical properties</b>		
Dielectric strength	ASTM D 2671	20 kV/mm
Volume resistivity	ASTM D 257	10 <sup>16</sup> ohm cm
<b>Thermal properties</b>		
Heat shock 4 hours at 250 °C	ASTM D 2671	no dripping, cracking or flowing
Heat ageing 168 hours at 175 °C	ASTM D 638	elongation 250%
Low temp. flexibility at -55 °C	ASTM D 2671 C	no cracking
Flammability	UL224	pass (colors only)
<b>Chemical properties</b>		
Fungus resistance	ASTM G21	no growth
Chemical resistance	AMS-DTL-23053/5	good
Copper corrosion	ASTM D 2671 B	no corrosion

### Heat shrinks, thin-walled, BST31

BN 22975, BN 22969, BN 22968

Property	Test method	Typical value
<b>Physical properties</b>		
Tensile strength	ASTM D 638	13 N/mm <sup>2</sup>
Elongation at break	ASTM D 638	300%
Longitudinal change	ASTM D 2671	-10% to +1% -10% to +5% (transparent)
Water absorption	ASTM D 570	0,20%
Specific gravity	ASTM D 792	1,45
<b>Electrical properties</b>		
Dielectric strength	ASTM D 2671	20 kV/mm
Volume resistivity	ASTM D 257	10 <sup>16</sup> ohm cm
<b>Thermal properties</b>		
Heat shock 4 hours at 250 °C	ASTM D 2671	no dripping, cracking or flowing
Heat ageing 168 hours at 175 °C	ASTM D 638	elongation 200%
Low temp. flexibility at -55 °C	ASTM D 2671 C	no cracking
Flammability	UL224	pass (colors only)
<b>Chemical properties</b>		
Fungus resistance	ASTM G21	no growth
Chemical resistance	AMS-DTL-23053/5	good
Copper corrosion	ASTM D 2671 B	no corrosion

### Heat shrinks with adhesive BSA31

BN 22976, BN 22971, BN 22970

Property	Test method	Typical value
<b>Physical properties</b>		
Tensile strength	ASTM D 638	11 N/mm <sup>2</sup>
Elongation at break	ASTM D 638	300%
Longitudinal change	ASTM D 2671	-15% to +1%
Water absorption	ASTM D 570	≤ 0,5%
Specific gravity	ASTM D 792	1,45
<b>Electrical properties</b>		
Dielectric strength	ASTM D 2671	15 kV/mm
Volume resistivity	ASTM D 257	10 <sup>14</sup> ohm cm
<b>Adhesive properties</b>		
Peel strength	PVC	85 N/25 mm <sup>2</sup>
	Steel	44 N/25 mm <sup>2</sup>
	Copper	35 N/25 mm <sup>2</sup>
<b>Thermal properties</b>		
Heat shock 4 hours at 250 °C	ASTM D 2671	no dripping, cracking or flowing
Heat ageing 168 hours at 175 °C	ASTM D 638	elongation 250%
Low temp. flexibility at -55 °C	ASTM 2671 C	no cracking
Flammability	ASTM D 2671 B	pass
<b>Chemical properties</b>		
Fungus resistance	ASTM G21	no growth
Chemical resistance	AMS-DTL-23053/4C	good
Copper corrosion	ASTM D 2671 B	no corrosion

### Heat shrinks with adhesive BSA41

BN 22973, BN 22972

Property	Test method	Typical value
<b>Physical properties</b>		
Tensile strength	ASTM D 638	11 N/mm <sup>2</sup>
Elongation at break	ASTM D 638	300%
Longitudinal change	ASTM D 2671	-15% to +1%
Water absorption	ASTM D 570	≤ 0,5%
Specific gravity	ASTM D 792	1,45
<b>Electrical properties</b>		
Dielectric strength	ASTM D 2671	15 kV/mm
Volume resistivity	ASTM D 257	10 <sup>14</sup> ohm cm
<b>Adhesive properties</b>		
Peel strength	PVC	85 N/25 mm <sup>2</sup>
	Steel	44 N/25 mm <sup>2</sup>
	Copper	35 N/25 mm <sup>2</sup>
<b>Thermal properties</b>		
Heat shock 4 hours at 250 °C	ASTM D 2671	no dripping, cracking or flowing
Heat ageing 168 hours at 175 °C	ASTM D 638	pass
Low temp. flexibility at -55 °C	ASTM 2671 C	no cracking
Flammability	ASTM D 2671 B	pass
<b>Chemical properties</b>		
Fungus resistance	ASTM G21	no growth
Chemical resistance	AMS-DTL-23053/4C	good
Copper corrosion	ASTM D 2671 B	no corrosion