

MATERIAL SAFETY DATA SHEET PENETRATION GRADES BITUMEN

Bitumen 30/40 | 40/50 | 50/70 | 60/70 | 80/100 | 85/100 | 100/120 | 160/220

Bitumen– Tar – Asphalt Bitumen – Penetration Grades Bitumen

(i) Bitumen or Asphalt (ii) Bituminous Material (iii) Road Bitumen (iv) Paving Asphalt

CLASSIFIED HS CODES 27.13 & 27.14

Under Sub-Headings as below;

PCT CODE	DESCRIPTION
27.13	Petroleum coke, Petroleum Bitumen and other residues of Petroleum Oils or of Oils obtained from Bituminous Minerals.
	- Petroleum coke:
2713.1100	-- Not calcined
2713.1200	-- Calcined
2713.2000	- Petroleum Bitumen
	- Other residues of Petroleum Oils or of Oils obtained from Bituminous Minerals:
2713.9010	--- Carbon Black Oil (Carbon Black Feed Stock)
2713.9020	--- Residue Carbon Oil
2713.9090	--- Other
27.14	Bitumen and Asphalt, Natural; Bituminous or Oil shale and tar sands; Asphaltites and Asphaltic Rocks.
2714.1000	- Bituminous or Oil shale and tar sands
2714.9000	- Other



Email Address
Sales@TigerBitumen.com



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HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE:

No significant effects expected.

EMERGENCY RESPONSE DATA:

Black semi-solid.

FIRST AID MEASURES

EYE CONTACT:

Flush thoroughly with water. If irritation occurs, call a doctor.

SKIN CONTACT:

If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a doctor for removal of adhering material and treatment of burn. Wash contact areas with soap and water.

INHALATION:

Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance and call a doctor. If breathing has stopped, use mouth-to-mouth resuscitation.

FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA:

Carbon Dioxide, foam and dry chemical

SPECIAL FIRE-FIGHTING PROCEDURES:

Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

SPECIAL PROTECTIVE EQUIPMENT:

For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Avoid ignition sources. Flash Point °C: >250 (ASTM D-92). Flammable limits - LEL: NA, UEL: NA.

NFPA HAZARD ID:

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

Hazardous decomposition products:

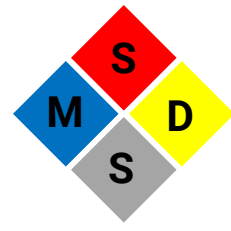
Sulphur oxides. Hydrogen sulphide. Carbon monoxide.



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ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES:

Report spills as required to appropriate authorities.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.

ENVIRONMENTAL PRECAUTIONS:

Prevent spills from entering storm sewers or drains and contact with soil.

HANDLING AND STORAGE

HANDLING:

Trace amounts of Hydrogen Sulphide may be present. Keep face clear of tank and/or tank car openings.

STORAGE:

Do not store in open or unlabelled containers. Store away from strong oxidizing agents or combustible material.

STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC):

Stable.

CONDITIONS TO AVOID:

Overheating may result in thermal cracking and produce flammable vapors.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong oxidizers and water.

HAZARDOUS DECOMPOSITION PRODUCTS:

Sulphur oxides. Hydrogen sulphide. Carbon monoxide.

HAZARDOUS POLYMERIZATION:

Will not occur.

DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Dispose of waste at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.



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EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION:

Use in well-ventilated area.

RESPIRATORY PROTECTION:

Use approved respiratory protection in confined or enclosed spaces when handling hot product or when hydrogen sulphide and/or asphalt fumes exceed permissible limits.

EYE PROTECTION:

Generally eye contact with solid material is unlikely, however, when handling in liquid form; chemical type goggles should be worn.

SKIN PROTECTION:

Use chemical-resistant apron and/or other clothing to protect against hot liquid and to avoid skin contact.

TOXICOLOGICAL DATA

ACUTE TOXICOLOGY:

- **ORAL TOXICITY (RATS):**
Practically non-toxic (LD50: greater than 2000 mg/kg). Based on testing of similar products and/or the components.
- **DERMAL TOXICITY (RABBITS):**
Practically non-toxic (LD50: greater than 2000 mg/kg). Based on testing of similar products and/or the components.
- **EYE IRRITATION (RABBITS):**
Practically non-irritating.(Draize score: 0 or greater but 6 or less).Based on testing of similar products and/or the components.
- **SKIN IRRITATION (RABBITS):**
Practically non-irritating. (Primary Irritation Index: 0.5 or less). Based on testing of similar products and/or the components.

OTHER TOXICOLOGY DATA:

Some asphalt may contain polycyclic aromatic compounds (PACs). The TLV of 5mg/m³ is believed to be adequate to protect workers exposed to asphalt fumes. Trace amounts of Hydrogen Sulphide, atoxic gas, may be present when this material is handled in liquid form. Keeps face clear of tank and/or tank car opening.

OTHER INFORMATION

USE: Highway Construction.



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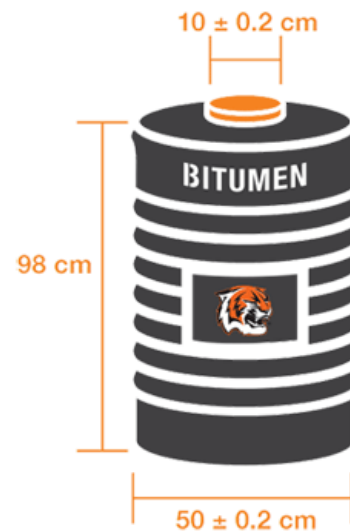
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Penetration Bitumen 30/40 Specifications

Penetration Grade Bitumen 30/40		
Property	Specifications	Test Method
Penetration @ 25 °C	30/40	D – 5
Softening point °C	55/63	D – 36
Ductility @25 °C	100 Min	D – 113
Loss on heating(wt) %	0.2 Max	D – 6
Flash point °C	250 Min	D – 92
Solubility in CS ₂ (wt) %	99.05 Min	D – 4
Drop in penetration after heating %	20 Max	D – 5
Density @25 °C	1.01/1.06	D – 70 / D – 3289
Spot test	Negative	A.A.S.H.O.T102

Bitumen Drum Specifications

180 Kg New Steel Drum Specifications	
Item	Value
Packing in	180 ± 3 kg
Sheet grade	ST-12
Heigh of drum	98 cm
Diameter of drum	50 ± 0.2 cm
Diameter of Lid	10 ± 0.2 cm
Plate thickness (body)	0.6 mm
Plate thickness (top & Bottom)	0.6 mm
Drum Weight	9.3 ± 0.2 kg



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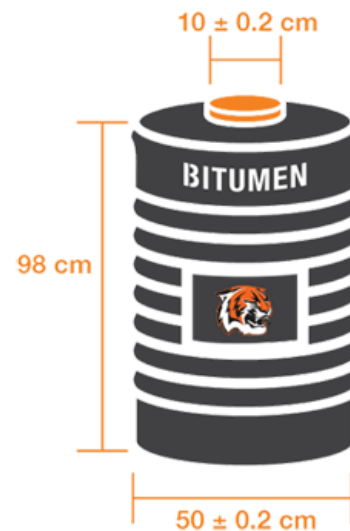
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Penetration Bitumen 40/50 Specifications

Penetration Grade Bitumen 40/50		
Property	Specifications	Test Method
Penetration @ 25 °C	40/50	D – 5
Softening point °C	52/60	D – 36
Ductility @25 °C	100 Min	D – 113
Loss on heating(wt) %	0.2 Max	D – 6
Flash point °C	250 Min	D – 92
Solubility in CS ₂ (wt) %	99.05 Min	D – 4
Drop in penetration after heating %	20 Max	D – 5
Density @25 °C	1.01/1.06	D – 70 / D – 3289
Spot test	Negative	A.A.S.H.O.T102

Bitumen Drum Specifications

180 Kg New Steel Drum Specifications	
Item	Value
Packing in	180 ± 3 kg
Sheet grade	ST-12
Heigh of drum	98 cm
Diameter of drum	50 ± 0.2 cm
Diameter of Lid	10 ± 0.2 cm
Plate thickness (body)	0.6 mm
Plate thickness (top & Bottom)	0.6 mm
Drum Weight	9.3 ± 0.2 kg



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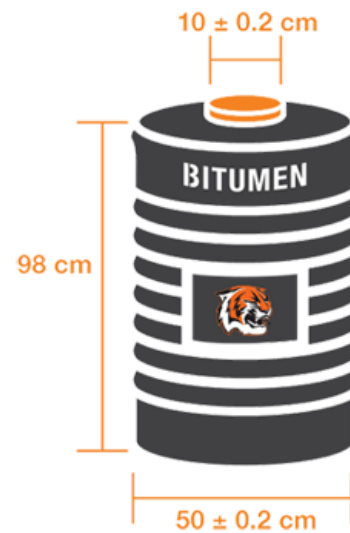
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Penetration Bitumen 50/70 Specifications

Penetration Grade Bitumen 50/70		
Property	Specifications	Test Method
Penetration @ 25 °C	50/70	D – 5
Softening point °C	46/54	D – 36
Ductility @25 °C	100 Min	D – 113
Loss on heating(wt) %	0.2 Max	D – 6
Flash point °C	240 Min	D – 92
Solubility in CS ₂ (wt) %	99.05 Min	D – 4
Drop in penetration after heating %	20 Max	D – 5
Density @25 °C	1.01/1.06	D – 70 / D – 3289
Spot test	Negative	A.A.S.H.O.T102

Bitumen Drum Specifications

180 Kg New Steel Drum Specifications	
Item	Value
Packing in	180 ± 3 kg
Sheet grade	ST-12
Heigh of drum	98 cm
Diameter of drum	50 ± 0.2 cm
Diameter of Lid	10 ± 0.2 cm
Plate thickness (body)	0.6 mm
Plate thickness (top & Bottom)	0.6 mm
Drum Weight	9.3 ± 0.2 kg



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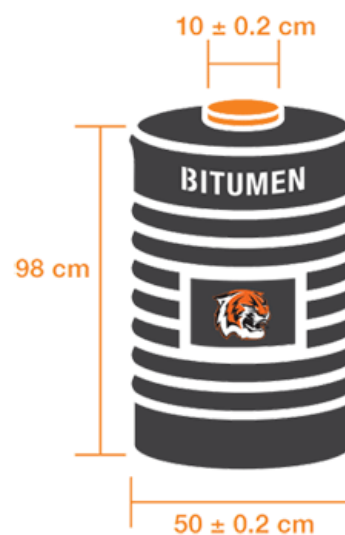
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Penetration Bitumen 60/70 Specifications

Penetration Grade Bitumen 60/70		
Property	Specifications	Test Method
Penetration @ 25 °C	60/70	D – 5
Specific Gravity @25/25 °C	1.01/1.06	D – 70
Softening Point	48/56	D – 36
Ductility @25 °C	100 Min	D – 113
Loss on Heating(wt) %	0.2 Max	D – 6
Drop in Penetration after Heating %	20 Max	D – 6 & D – 5
Flash point °C	240 Min	D – 92
Solubility in CS ₂ (wt) % n CS ₂ (wt)	99.5 Min	D – 4
Spot test	Negative	A.A.S.H.O.T102

Bitumen Drum Specifications

180 Kg New Steel Drum Specifications	
Item	Value
Packing in	180 ± 3 kg
Sheet grade	ST-12
Height of drum	98 cm
Diameter of drum	50 ± 0.2 cm
Diameter of Lid	10 ± 0.2 cm
Plate thickness (body)	0.6 mm
Plate thickness (top & Bottom)	0.6 mm
Drum Weight	9.3 ± 0.2 kg



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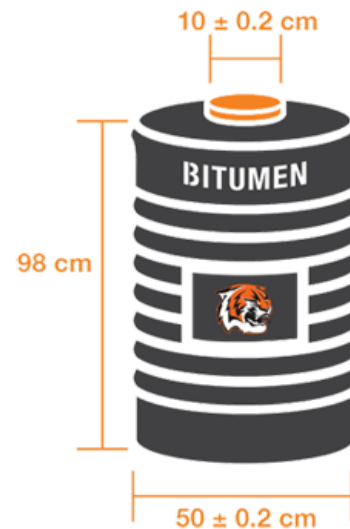
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Penetration Bitumen 80/100 Specifications

Penetration Grade Bitumen 80/100		
Property	Specifications	Test Method
Penetration @ 25 °C	80/100	D – 5
Softening point °C	45/52	D – 36
Ductility @25 °C	100 Min	D – 113
Loss on heating(wt) %	0.5 Max	D – 6
Flash point °C	225 Min	D – 92
Solubility in CS ₂ (wt) %	99.05 Min	D – 4
Drop in penetration after heating %	20 Max	D – 5
Density @25 °C	1.01/1.06	D – 70 / D – 3289
Spot test	Negative	A.A.S.H.O.T102

Bitumen Drum Specifications

180 Kg New Steel Drum Specifications	
Item	Value
Packing in	180 ± 3 kg
Sheet grade	ST-12
Heigh of drum	98 cm
Diameter of drum	50 ± 0.2 cm
Diameter of Lid	10 ± 0.2 cm
Plate thickness (body)	0.6 mm
Plate thickness (top & Bottom)	0.6 mm
Drum Weight	9.3 ± 0.2 kg



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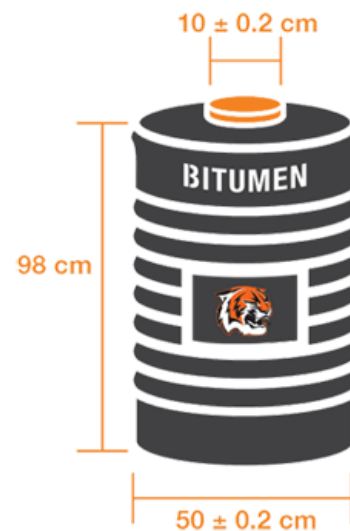
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Penetration Bitumen 85/100 Specifications

Penetration Grade Bitumen 85/100		
Property	Specifications	Test Method
Penetration @ 25 °C	85/100	D – 5
Specific Gravity @25/25 °C	1.01 – 1.06	D – 70
Softening point °C	43/51	D – 36
Ductility @25 °C	100 Min	D – 113
Loss on heating(wt) %	0.2 Max	D – 6
Drop in Penetration after Heating %	20 Max	D – 6 & D – 5
Flash point °C	240 Min	D – 92
Solubility in CS ₂ (wt) % n CS ₂ (wt)	99% Min	D – 4

Bitumen Drum Specifications

180 Kg New Steel Drum Specifications	
Item	Value
Packing in	180 ± 3 kg
Sheet grade	ST-12
Heigh of drum	98 cm
Diameter of drum	50 ± 0.2 cm
Diameter of Lid	10 ± 0.2 cm
Plate thickness (body)	0.6 mm
Plate thickness (top & Bottom)	0.6 mm
Drum Weight	9.3 ± 0.2 kg



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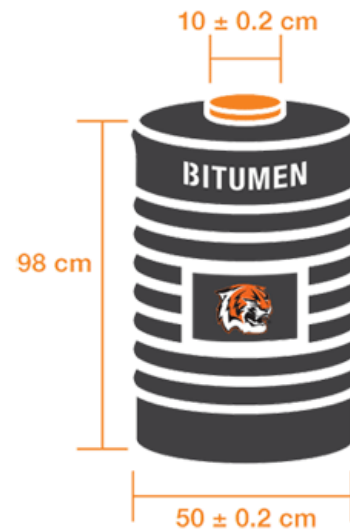
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Penetration Bitumen 100/120 Specifications

Penetration Grade Bitumen 100/120		
Property	Specifications	Test Method
Density	04/1–01/1	ASTM D – 7
Penetration Rate at 25 °C	100 – 120	ASTM D – 5
Softening point °C	42 – 49	ASTM D – 36
Ductility 25 °C (cm)	Min 100	ASTM D – 113
Flash point °C	Min 250	ASTM D – 92
Solubility Disulfide % wt.	5/99	ASTM D – 4
Stain Test	Negative	AASHOT T 102
Weight Loss by Heating % Wt.	Max 20	ASTM D – 6
Weight Loss by Heating %	Max 20	ASTM D – 6/ D – 5

Bitumen Drum Specifications

180 Kg New Steel Drum Specifications	
Item	Value
Packing in	180 ± 3 kg
Sheet grade	ST-12
Heigh of drum	98 cm
Diameter of drum	50 ± 0.2 cm
Diameter of Lid	10 ± 0.2 cm
Plate thickness (body)	0.6 mm
Plate thickness (top & Bottom)	0.6 mm
Drum Weight	9.3 ± 0.2 kg



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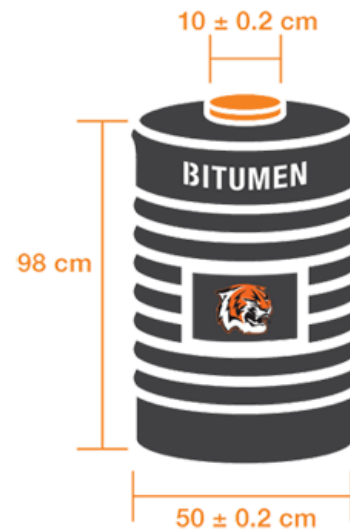
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Penetration Bitumen 160/220 Specifications

Penetration Grade Bitumen 160/220		
Property	Specifications	Test Method
Penetration @ 25 °C	160/220	D – 5
Softening point °C	35/43	D – 36
Ductility @25 °C	100 Min	D – 113
Loss on heating(wt) %	0.2 Max	D – 6
Flash point °C	250 Min	D – 92
Solubility in CS ₂ (wt) %	99.0 Min	D – 4
Drop in penetration after heating %	20 Max	D – 5
Density @25 °C	1.01/1.06	D – 70 / D – 3289
Spot test	Negative	A.A.S.H.O.T102

Bitumen Drum Specifications

180 Kg New Steel Drum Specifications	
Item	Value
Packing in	180 ± 3 kg
Sheet grade	ST-12
Heigh of drum	98 cm
Diameter of drum	50 ± 0.2 cm
Diameter of Lid	10 ± 0.2 cm
Plate thickness (body)	0.6 mm
Plate thickness (top & Bottom)	0.6 mm
Drum Weight	9.3 ± 0.2 kg



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