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Material Testing & Laboratory Equipment for Civil, Mining and General Laboratory Equipment
Supply, Service, Calibration, Contractor, General Trading & Training for Civil Work
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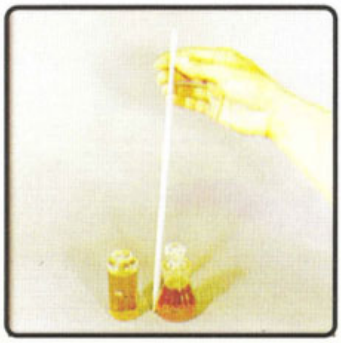
SPECIFIC GRAVITY OF SEMI-SOLID BITUMINOUS MATERIALS (BI-100A)

ASTM D-70 **AASHTO T-228**
For determining the specific gravity of semi -solid bituminous materials, asphalt cement, and soft tar pitches by use of a picnometer

Type	Parts Name	Specification	Qty
BI-101	Picnometer	Hubbart type, 24 ml capacity	1 PC
BI-102	Picnometer	Hubbart type, 25 ml capacity	1 PC
GE-642	Thermometer	ASTM 63 C,8 to 32 C	1PC

Dimension (l x w x h) :20 x 20 x 20 cm
Gross weight :3 kg

Also required, but not part of this set:
GE-191 Hot Plate
GE-363 Mixing Bowl
GE-473 Funnel



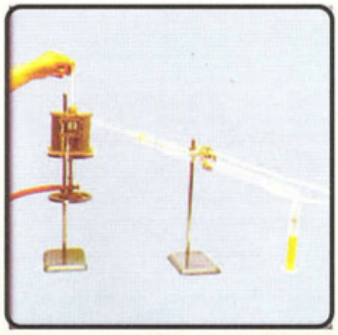
BI-100 A

DISTILATION OF CUTBACK ASPHALTS (BI-110A)

ASTM D-402 **AAS HTO T-78**
For measuring the amount of the more volatile constituents in cut back asphaltic product

Type	Parts Name	Specification	Qty
BI-111	Flask	resistance glass 500 ml capacity, with side arm	1 Set
BI-112	Condenser	Glass, jacketed 1 set	
BI-113	Adapter	Heat resistance glass	1 Set
BI-114	Shield	Metal, asbestos lined, glass window	1 Set
BI-115	Shield and Flask Support	Variable height adjustment	1 Set
BI-116	Support and Clamp	Metal, provided with clamps	1 Set
GE-230	Bunsen Burner	Heat resource	1Pc
GE-237	Asbestos Wire Gauze	15 cm x 15 cm	1Pc
GE-402	Graduated Cylinder	100 ml capacity	1Pc
GE-649.1	Thermometer	ASTM 7 C, 2 to300^{o}C	1Pc

Dimension (l x w x h) :100 x 80 x 80 cm
Gross weight :10 kg



BI-110 A

Also required, but not part of this set:
GE-152 Triple Beam Balance
GE-222 Butane Field Heater
GE473 Glass Funnel
GE-748 Leather Gloves
GE-203 Cooling System

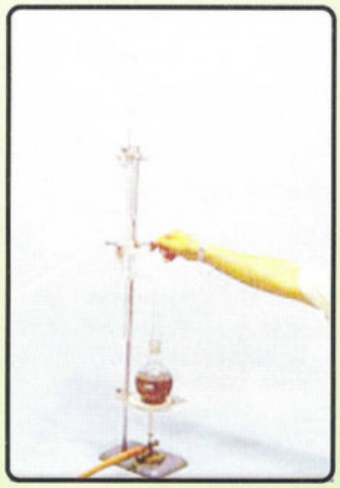
WATER CONTENT IN PETROLEUM PRODUCT (SBI-120)

ASTM D-95 **AASHTO T-55**
For determining water in crude petroleum. tars and product derived from these materials

Type	Parts Name	Specification	Qty
BI-121	Flask	Heat resistance glass. 500 ml capacity	1 Pc
81-122	Water Trap	Glass for receiving distilated water	1 Pc
BI-123	Condenser	Glass. jacketed	1Pc
BI-124	Support Assembly	For holding apparatus assembly	1 set
BI-125	Flask Support	Variable height adjustment	1 Pc
GE-230	Bunsen Burner	Heat resource	1 Pc
GE-237	Asbestos Wire Gauze	15 cm x 15 CM	1 Pc

Dimension (l x w x h : 25 x 25 x 60 cm
Gross weight : 10 kg

Also required. but not part of this set:
GE-152 Triple Beam Balance
GE-203 Cooling System
GE-222 Butane Field Heater
GE-473 Glass Funnel
GE-748 Leather Gloves



BI-120

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SAYBOLT VISCOSIMETER (BI-150A)

ASTM D-88 **AASHTO T-72**

For determining saybolt wscosity of petroleum products at specified temperature between 21.1 and 98.8 C

Type	Parts Name	Specification	Qty
BI-151	**Viscosimeter**	Stainless steel bath, motor stirer, 220 V-AC. Thermostat control panel 2 tubes capacity	1 set
BI-154	**Viscosimeter Tube**	Brass, seamless, provided with tips and tip wrench	2 Pcs
BI-155	**Tube Wrench**	T-wrenchl PC	
BI-156	**Pipette**	Brass with rubber bulb	1 Pc
BI-157	**Thermometer Support**	Alumunium plate	2 Pcs
BI-158	**Flask**	60 ml capacity	2 Pcs
BI-159	**Funnel**	Brass. 60° angle, complete with mesh 100/mesh 200	1 Pc
GE-644.1	**Thermometer**	ASTM 17 ° C, 19 to 27° C	2 Pcs
GE-644.2	**Thermometer**	ASTM 18° C, 34 to 42° C	2 Pcs
GE-644.3	**Thermometer**	ASTM 19° C, 49 to 57° C	2 Pcs
GE-644.4	**Thermometer**	ASTM 20° C, 57 to 65° C	2 Pcs
GE-644.5	**Thermometer**	ASTM 21° C, 79 to 870° C	2 Pcs
GE-644.6	**Thermometer**	ASTM 22° C, 95 to 103° C	2 Pcs
Dimension (l x w x h)	:70 x 70 x 70 cm		
Gross weight	: 25 kg		

Also required. but not part of this set.
GE-700 Stop Watch

BI-150 A

BI-200

FLASH AND FIRE POINT BY CLEVELAND OPEN CUP (BI-200A)

ASTM D-92 **AASHTO T-48**

For determining flash and fire point by cleveland open cup for petroleum product and other liquids, except fuel oils and materials having an open flash point below 79° C (173 F) as determined by the cleveland open cup tester

Type	Parts Name	Specification	Qty
BI-201	**Flash Cup**	Brass, insulation handle	1 Pc
BI-202	**Cleveland Gas**		
Consist of:			
BI-202.1	**Burning Pipe**	Brass pipe, insulation handle	1 Pc
BI-202.2	**Flash Cup Plate**	Steel plate	1 Pc
BI-202.3	**Support**	Adjustable height metal. thermometer holder	1 Pc
BI-203	**Y-Connector**	Brass, provided with gas hose	1 Set
GE-230	**Bunsen Burner**	Heat resources	1 Pc
GE-648	**Thermometer**	ASTM 11 C. 6° to 400'C	1 Pc
Dimension (l x w x h)		:150 x 30 x 30 cm	
Gross weight		:10 kg	

Also required but not part of this set:
GE-222 Butane field heater
GE-363 Mixing Bowl

FLASH AND FIRE POINT BY CLEVELAND OPEN CUP (BI-200A)

ASTM D-92 **AASHTO T-48**

For determining flash and fire point by Cleveland open cup for petroleum product and other liquids, except fuel oils and materials having an open flash point below 79°C (173 F) as determined by the Cleveland open cup tester

Type	Parts Name	Specification	Qty
BI-201	**Flash Cup**	Brass. insulation handle	1 Pc
BI-202A	**Cleveland Electric**	Electric. 220 V-AC, heating speed control.	1 Set
GE-648	**Thermometer**	ASTM 11°C. 6 to 400°C	1 Pc
Dimension (l x w x h)		: 100 x 50 x 50 cm	
Gross weight		: 20 kg	

Also required, but not part of this set:
GE-363 Mixing Bowl

BI-200 A

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BI-210 A

SOFTENING POINT TEST SET (BI-210A)

ASTM D-36 **AASHTO T-53**

For determining softening point of asphalt and tar using the ring and ball Method

Type	Parts Name	Specification	Qty
BI-211	Shouldered Ring Assembly	Machined brass, height adjustment	1 Set
BI-212	Standard Ball	Steel ball, 9.52 mm dia.	2 Pcs
BI-213	Flash Support	Mesh wire gauze variable height adjustment	1 Set
BI-214	Support Assembly	Metal, provided with thermometer holder	1 Set
GE-230	Bunsen Burner	Heat resources	1 Pc
GE-237	Asbestos Wire Gauze	15 cm x 15 cm	1 Pc
GE-424	Beaker Glass	1000 ml capacity	1 Pc
GE-646.1	Thermometer	ASTM 15°C, 2 to 86°C	1 Pc

Dimension (l x w x h): 90 x 30 x 30 cm
Gross weight: 10kg

Also required, but not part of this set:

CO-473	Ladle
GE-222	Butane Field Heater
GE-363	Mixing Bowl
GE-700	Stop Watch
GE-820	Spatula

LOSS ON HEATING/THIN-FILM TEST (BI-220A)

ASTM D-6/D-1754 **AASHTO T-47 / T-179**

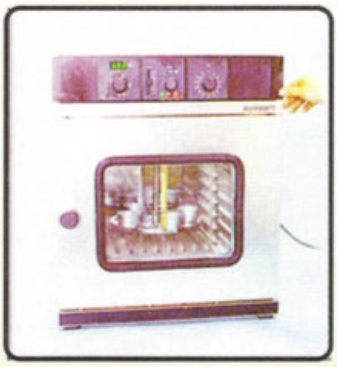
For determining the loss in mass (exclusive of water) of asphaltic compounds after heating

Type	Parts Name	Specification	Qty
BI-221	Revolving Shelf Oven	Variable temperature oven, cast alumunium rotating shelf, 5-6 RPM, external electromotor drive, 220 V-AC, 1400 Watt.	1 Set
GE-390	Thin Box	55 mm i.d. Approx, alumunium sheet, seamless	12 Pc
GE-643	Thermometer	ASTM 13°C, 155 to 170°C	1 Pc

Dimension (l x w x h) : 100 x 100 x 100 cm
Gross weight : 45 kg

Also required, but not part of this set:

CO-473	Ladle
GE-150	Cent O-Gram Balance
GE-222	Butane Field Heater
GE-363	Mixing Bowl
GE-748	Leather Gloves



BI-220 A

BI-230

LABORATORY PENETRATION TEST SET (BI-230)

ASTM D-5 **AASHTO T-49**

For determining consistency of bituminous materials

Type	Parts Name	Specification	Qty
BI-231	Penetrometer	Cast alumunium frame, 4 1/2" dial indicator, 400 x 0.1 mm dial, single knob control, weight of needle and plunger : 50 gr	1 Set
BI-232	Penetration Needle	Steel needle with brass shank, 1 mm dia	2 Pc
BI-233	Transfer Dish	Glass, 100 mm i.d approx	1 Pc
GE-390	Thin Box	55 mm i.d approx, alumunium Sheet, seamless	2 Pc

Dimension (l x w x h) : 50 x 50 x 70 cm
Gross weight : 20kg

Also required, but not part of this set

GE-222	Butane field heater
GE-363	Mixing Bowl
GE-600	Thermometer

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LABORATORY PENETRATION TEST SET (BI-230A)

BI-230 A

ASTM D-5 **AASHTO T-49**

For determining consistency of bituminous materials

Type	Parts Name	Specification	Qty
BI-231A	Penetrometer	Electric control box, 220 V-AC variable timer, ON-OFF and START switch for automatic plunger release cast alumunium frame, 4 ½" dial indicator, 400 x 0.1 mm dial, knob control manual + electric,weight of needle and plunger:: 50 gr.	1 Set
BI-232	Penetration Needle	Steel needle with brass shank, 1 mm dia	2 Pcs
BI-233	Transfer Dish	Glass, 100 mm i.d approx	1 Pc
GE-390	Thin Box	55 mm i.d approx, alumunium sheet, seamless	2 Pcs

Dimension (l x w x h) : 50 x 50 x 70 cm
Gross weight : 25 kg

Also required, but not part of this set
GE-363 Mixing Bowl
GE-600 Thermometer

DUCTILITY OF BITUMINOUS MATERIALS TEST SET (BI-250)

ASTM D-113 **AASHTO T-51**

For determining ductility of formed asphalt/cement or semi solid bitumen by measuring distance of elongation before breaking point when two end of briquet are pulled a part at a specific speed and temperature.

Type	Parts Name	Specification	Qty
BI-251	Ductility Mold	Form sample shape and hold end during test, made of brass, provided with base	1 Set
BI-253	Ductility Machine	Electric 220 V-AC, stainless steel bath, provided with temperature control Pulling speed: 5 cm/min Travel range : 150 cm	1 Set

Dimension (l x w x h) : 244 x 80 x 80 cm
Gross weight : 150 kg

Also required, but not part of this set
BI -254 Glycerin
BI -255 Talk
GE-222 Butane field heater
GE-363 Mixing Bowl
GE-600 Thermometer
GE-820 Spatula

BI-250

BI-300

CENTRIFUGE EXTRACTOR TEST SET (BI-300)

ASTM D-2172 **AASHTO T-164**
For determining bitument content in hot mixed paving mixture and pavement sample

Type	Parts Name	Specification	Qty
BI-301	Centrifuge Extractor	Hand operated, alumunium housing removable cover and bowl, 1500 gr capacity	1 Set
BI-303	Filter Paper	Low ash filter paper	1 Box

Dimension (l x w x h) : 5Ox4Ox6Ocm
Gross weight : 40 kg

Also required, but not part of this set:
BI -304 Solvent (CCL4)
GE-152 Triple beam balance
GE-174 Drying oven
GE-363 Mixing Bowl
GE-403 Graduated cylinder
GE-748 Leather gloves

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BI-300 A

CENTRIFUGE EXTRACTOR TEST SET (BI-300A)

ASTM D-2172 **AASHTO T-164**

For determining bitumen content in hot mixed paving mixture and pavement sample

Type	Parts Name	Spesification	Qty
BI-305	**Centrifuge Extractor**	Electric, 220 V-AC, variable speed DC motor up to 3600 rpm, alumunium housing, removable cover and bowl, 1500 gram capacity	1 Set
BI-303	**Filter Paper**	Low ash filter paper	1 Box

Dimension (l x w x h) : 60 x 40 x 60 cm
Gross weight : 50 kg

Also required, but not part of this set
BI-304 Solvent (CCL4)
GE-152 Triple beam balance
GE-174 Drying oven
GE-363 Mixing bowl
GE-403 Graduated cylinder
GE-748 Leather gloves

REFLUX EXTRACTOR TEST SET (BI-310)

ASTM D-2172 **AASHTO T-164**

For determining bitumen content in hot mixed paving mixtures and pavement samples

BI-311 **Reflux Extractor**

Consist of:

BI-311.1	**Glass Jar**	Pyrex, 6" i.d approx	1 Pc
BI-311.2	**Funnel**	Two wire mesh screen cone	1 Pc
BI-311.3	**Condensor**	Brass/copper	1 Pc
BI-312	**Hot Plate**	220 V-AC, 1000/1500 Watt	1 Set
BI-313	**Filter Paper**	Low ash filter paper	1 Box
GE-216	**Asbestos Wire Gauze**	15 cm x 15 cm	1 Pc

Dimension (l x w x h) : 90 x 50 x 50 cm
Gross weight :15 kg

Also required, but not part of this set
BI-304 Solvent (CCL4)
GE-152 Triple beam balance
GE-174 Drying oven
GE-203 Cooling system

BI-310

BI-320

Also required, but not part of this set :
GE-161 Digital Balance
GE-222 Butane Field Heater
GE-363 Mixing Bowl
GE-622 Dial Thermometer

MARSHALL TEST SET (BI-320)

ASTM D-1559 **AASHTO T-245**

For measuring the resistance to plastic flow of cylinder specimen of bituminous paving mixture loaded on the lateral surface by means of the marshall apparatus.

Type	Parts Name	Specification	Qty
BI-321	**Compression Machine**	Steel frame, electric, 220 V-AC, 1/2 HP, 1 Phase, speed : 2" per minute	1 Set
BI-322	**Compaction Mold**	Machined steel, galvanized, 4" dia., 3" height, with collar and base plate	1 Set
BI-323	**Stability Mold**	Cast alumunium, split type 4" i.d., 4" wide	1 Set
BI-324	**Compaction Hammer**	Machined steel, galvanized, 10 lbs. hammer weight, 18" drop height	1 Set
BI-326	**Compaction Pedestal**	Wooden base with steel platen	1 Pc
BI-327	**Compaction Mold Holder**	Machined steel, quick clamping system	1 Set
BI-328	**Extruder**	Steel frame, hydraulic system	1 Set
BI-329	**Flow Meter**	Cast alumunium, clamping bolt, with dial indicator 30 x 0.01 mm	1 Set
GE-200	**Water Bath**	Stainless steel, water heater, 220 V-AC thermostat 30 -85 C.	1 Set
GE-101.6	**Proving Ring**	6000 lbs capacity	1 Set

Dimension (l x w x h 67 x 50 x 100 cm
Gross weight 200 kg

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BI-400 A

CORE DRILLING TEST SET (BI-400A)

For cutting core samples from asphalt, concrete and other material on the road, run ways and structures.

Type	Parts Name	Specification	Qty
BI-401	Core Drilling Machine	Cast alumunium frame, gasoline engine 55 HR, 4 cycle vertical drilling position : rubber caster, up to 4" dia. bit	1Set
BI-406	Diamond Bit	4" inner dia.	1Pc
BI-407	Sample Tong	4" dia.	1Pc
BI-408	Breaking Strip	Galvanized steel	1Pc
BI-409	Spanner	Steel, 42 mm and 32 mm	2Pcs

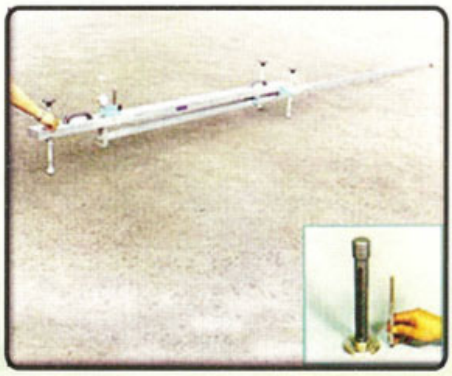
Dimension (l x w x h) : 97 x 57 x 150 cm
Gross weight : 145 kg

BENKLEMAN BEAM (BI-450)

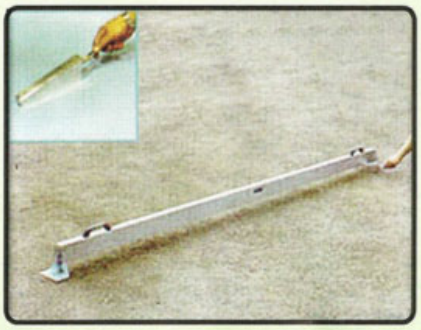
For measuring the deflection of-flexible pavement under the action of moving wheel loads

Type	Parts Name	Specification	Qty
BI-451	Fixed Beam	Alumunium profile frame, 3 points adjuster, with vibrator and dial holder. Alumunium strip arm, 1 : 2 lever ratio	1 Set
BI-455	Tire Gauge	120 psi capacity	1 PC
BI-456	Surface Thermometer	Range 0 -100°C	1 PC
GE-137	Dial Indicator	Range 30 x 0.01 mm	1 PC

Dimension (l x w x h) : 244 x 50 x 50 cm
Gross weight : 45 kg



BI-450



BI-470

MOT STRAIGHT EDGE (BI-470)

For measuring the irregulation of road surface both asphalt and concrete pavement

Type	Parts Name	Specification	Qty
BI-471	Mot Straight	Alumunium profile, 3 meter length, with handle	1 Pc
BI-472	Metric Wedges	Variable measurement from 2.5 -7.5 cm, machine cast alumunium	1 Pc

Dimension (1 x w x h) : 350 x 30 x 30 cm

Gross weight : 20kg

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