



INFRASTRUCTURE SOLUTION



(Image for illustration purposes only)

BG 2500 Batch Type Asphalt Plant Facility

BUILT TO **CONNECT**

Product Description

ASTEC BG 2500 Batch type mixing asphalt plant, with Automatic controls, computer system, printer and remote assistance capability.

SCOPE OF WORK

The scope of works for this project include the supply of the referred equipment. Post supply, assist you in assembly, site installation, commissioning and as per below mentioned terms and conditions of sale.

Specifications

PRODUCTION OUTPUT AND PARAMETERS

PLANT TYPE: MODEL: BG 2500

Industry's best mix quality

Highest efficiency thanks to the patented designs in the dryer unit.

Best in class emission

Lowest energy requirement (Built with technology that reduces your power consumption and power generator requirements).

Highly Modular Relocatable with steel base.

Minimal works

Small footprint.

Easily sets up with small capacity crane.

All units are easy to assemble and mount.

PRODUCTION CAPACITY:

Drying Capacity : 200 Tph @ < 3 % moisture content

Mixing capacity : upto 200 tph

Mixer Size : 2500 kgs max

PLANT IS RATED AT THE BELOW CONDITIONS

Elevation : MSL

Cold feed aggregates; < 3% moisture content.

Residual moisture content at dryer outlet : <0.5%

Final product temperature : 150 DegC

Ambient temperature; above 30 Deg C

Diesel fuel calorific value; maximum 10200 Kcal/kg

Maximum aggregate size : 40mm

Specific heat of aggregates; 0.21 Kcal/kg

AGGREGATES

Aggregates type In accordance with International Standards

Maximum size: 40 mm

Specific Heat: 0.20 kcal/kg

Density min: 1.65 T/m³ (bulk)

Physical characteristics: Non-hygroscopic and Non-porous

The dryer drum production rate is calculated by summing the aggregates capacity at the drum outlet and the capacity of the fines reclaimed by the dust collection system.

MIX RECIPE

The production is rated at the following percentages of components used:

Aggregates: 90%

Imported filler: 5% max

Bitumen: 7% max

Sand content (0-3mm): 30-40%

Fines content maximum (<75 µm) : 10%

Bitumen content max : 7 %

Residual moisture content (%) H₂O < 0, 5%

Nominal output temperature: 150 Deg C

Variations of the above mentioned parameters, particular ambient conditions or properties of the aggregates can alter production rates

FUEL SPECIFICATIONS

Burner Fuel: Natural Gas with a Lower Heating Value of 35006 kJ/m³

Burner Fuel: Natural Gas with a Higher Heating Value of 38638 kJ/m³

Burner Fuel: Diesel Oil PCI 42480 kJ/kg

Allowance has been made to include a waste fuel oil heater to reduce the viscosity of waste oil, subject to compatibility of the waste oil specification.

Scope of Supply

Five Cold aggregates feeding Bin



- Five Cold feed bins, 14 m3 each (heaped capacity)
- Inverted Pyramid with ideal slopes
- 5 units with individually controlled VFD
- Enclosed Bin vibrator bin for two bins
- Loading width 3.5 m
- Hoppers made from high quality steel
- Easy-set-up extensions
- Powered by high efficiency low power consuming geared-motor arrangement
- Flow indicators and controls on each bin
- Safety grids on upper part of bin for protection
- **Extractor belt**
- 500 mm width tensioning device
- VFD steeples controls for feeding conveyor
- 1.5 kw geared motor
- High strength belt
- **Mineral flow control system Alarm.**
- Each bin equipped with alarm no-flow indicators to indicate shortage of materials or an accidental interruption of minerals out flow in one or more hopper.

Collecting Conveyor

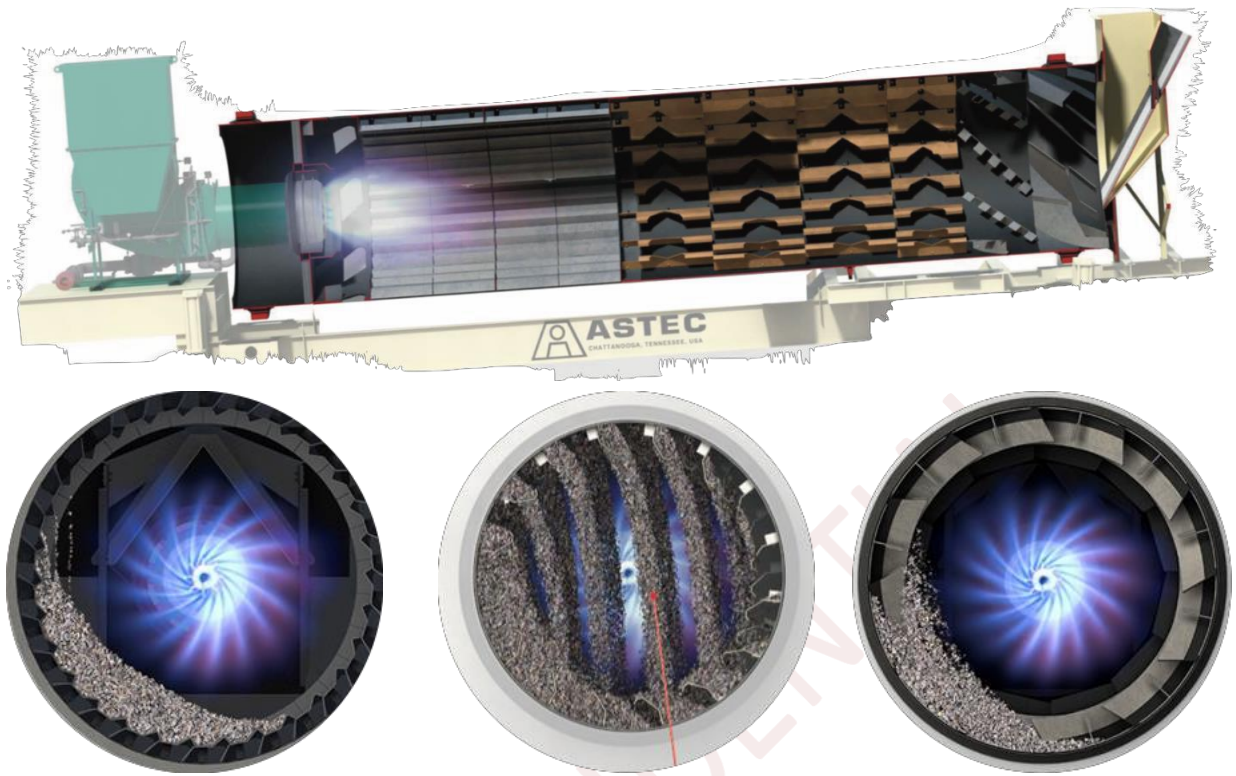
- Steel wire enforced collecting conveyor
- 4 layers fabric rubber belt
- Belt width : 700 mm
- Collecting capacity 220 tph
- Motor power 7.5 kw
- Scrapers
- High efficiency rollers and bearings

Charging Belt

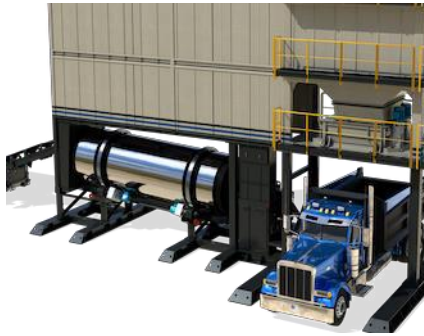
- Charging belt made from endless rubber conveyor
 - Heavy duty Rubber belt
 - Capacity 220 tph
 - Motor power : 7.5 kw
 - Belt width 600 mm
 - High quality rollers
 - Scarper arrangement
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OverSize Removal Screen

- Oversize grizzly screen with fully enclosed vibrators
 - 50 mm x 50 mm screen opening size
 - Chute for rejection of over size
 - High efficiency springs
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High Efficiency Dryer drum 2 M Diameter



- Dryer drum with 2 m x 8.5 m dryer
 - High **efficiency patented** V Flights designs, ensures optimum material showering and maximum efficiency.
 - Insulated with 50 mm high grade glass wool and clad with Stainless steel
 - Drive 4 x 15 kw – direct shaft mounted gear boxes
 - Production capacity : 200 tph @ 3 % moisture content.
 - Aggressively drying type flights
 - Extra-thick long life drum tyres
 - Thrust wheels for arresting dryer movement
 - Drum shell made from specially Alloy steel
 - Dryer exit flights made in Hardox wear resistant steel
 - Spring mounted dryer drum rings for smoother dryer drum rotations
 - Specially designed Astec Combustion zone – reduces combustion zone wear & increases dryer life.
 - **Four wheeled** -zero maintenance, heavy duty friction drive
 - Special dryer drum inlet seals to prevent loss of heat
 - Heavy duty cross braced dryer for stability
 - Low chassis height allows easy access and maintenance
 - Easy burner maintenance platform
 - Dryer outlet made from Hardox 400 sheets for wear resistance
 - Industrial IR sensors // thermocouple for dryer outlet temperature measurement
 - Heavy duty stabilised Dryer drum frame integrated and cross braced
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Burner unit to meet rated capacity



- Complete monobloc dryer drum burner
- Suitable for Light oil firing
- Low noise with silenced operation.
- Operating with Auto and manual controls.
- Burner controls - track dryer's pre-set temperature and adjusts the firing accordingly.
- High efficiency combustion technology
- Very low emission
- Self ignition system with electrical / pilot flame
- All necessary pressure meters, pressure switch, indicators, safety devices and controls after the burner fuel inlet flange.
- Capacity : 50 MM BTU
- Low noise 22KW integral fan,
- Burner management system for safe operations and for safe start and stop.
- Flame detection using UV sensors with interlocks on pump and valves
- Flame guard system to automatically shut down of fuel valves and for pre-purge operations
- Controls coupled with Aggregate set temperature and stack set temperature
- Burner blower and exhaust fan interlocks for pre-purge operations
- Burner system status indication on the controller
- *All pipelines & inputs up to the burner is not included in the offer*

High Efficiency Bag house type pollution control unit

Completely assembled unit
Arrives ready to go
Pre-installed with bags/cages
Fan and integral duct work

- Two stage pollution control unit
 - Primary dust collector, integral to the unit, traps large sized dust
 - Specially designed bags and cages for long life
 - Specially treated Meta-Aramid filtration media
 - Automatic bag cleaning and operating
 - Vario-controls for best filtration arrangement
 - High efficiency Exhaust fan, 110 kw power,
 - Lower power consumption fan
 - Stack height around ~20 mtrs from Ground level
 - Bag filtering area ~ 625 sq m
 - Dust emission : Less than 20 mg/Nm³
 - Overheating protection with temperature sensor
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Reclaimed filler silo under Filter

- 15 Ton reclaimed dust silo
- Dust recycling material transfer screws
- Level indicator for high level alarms
- Dust reject system with screw conveyor

Batching tower BG 2500**Features**

Easy transportation all width and height under 2.5 m

Sturdy frame and legs

Easy set up design

Dust extraction unit from tower

- Hot elevator with 220 tph capacity, 18 Kw
- Specially designed buckets
- Heavy Duty Roller Chains for smooth operations
- Screen by pass option, to divert by-passed aggregate in to sand bin
- Powered by a geared motor without belts and chains
- Anti roll back arrangement
- Heavy duty roller type chain
- Easy inspection and maintenance doors
- Zero maintenance bearings in specially alloyed & cast; high wear resistant material
- Hardox Lined buckets



Best screening technology
Ideal for highly dense mixes
Mixes for Airports
Major highways
Best quality control options
Online hot bin checks available

- Vibrating screen fully enclosed
- Allows separation of up to 5 aggregate sizes
- Ripple flow type with vibrator
- Capacity 220 tph
- Zero maintenance fully enclosed components for vibrators
- Extra fine sieve size allows best control on air voids and pavement performance.
- Screen by pass arrangement
- Over flow chutes
- Enclosed and dust proof arrangement
- Screen mesh made in special heat and abrasion material
- Easily removable design

Hot Agg Bins

- Hot bins 42 T capacity
- 5 partitions
- Level indicators supplied on each individual bin
- Sample extraction – sampling port from each bin
- Trap liners provide long operations without maintenance
- Non-skid catwalks and protection
- Stairs as per international safety norms
- Thermocouple in sand bin for temperature measurement

Weighing and Feeding Unit

- Max Batch size 2500 kgs
 - Aggregate Bitumen and filler weighing system
 - Aggregate with 4 point weighing
 - Filler weigh hopper with 3 point load cells
 - 200 Kg capacity
 - Bitumen weigh hopper with 3 point load cell
 - 200 kg capacity
 - Feeding ramp with three way automatic valve
 - Electrically heated and insulated bin
 - Spray pump for quick discharge into all the mixer
 - Bitumen transfer pump to transfer bitumen from bitumen tank to the bitumen weigh hopper
 - Thermocouple for bitumen temperature control
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High efficiency 3D mixer

Features

Twin shaft pug mill mixer

Power spray

Heavy duty arms & Tips

Highest Mixing index in the industry

High performance arms and tips



- **2500 kg mixer size** for best performance in normal operating conditions and best in mix and wear results.
- Powered with 35 kw geared motor
- No pulleys, chains etc.. completely maintenance free operations
- Standard Mixing cycle - 45 seconds with normal mix designs. Cycle time can be changed based on mix requirements.
- Shafts designed and built in high quality alloy steel
- Mixer paddles made from wear resistant steel
- Wearing plate in high wear resistant special steel
- Mixer gate on full width of mixer unit
- Highly responsive pneumatically controlled mixer gate opening for quick emptying and for arresting segregation.
- Enclosed unit with mixer evacuation design
- Low oxidation mixer.
- Direct shaft mounted power gear
- Bitumen power spray
- Special bitumen circuit to ensure faster and quicker dispersal to ensure best quality mixing

Control Centre



- Modern control cabin for plant operation
 - 5.6 x 2.3 x 2.2 m main cabin unit
 - Fully Airconditioned with all round view
 - Centralized system, fully automatic with option to run on manual and semi automatic modes
 - SCADA system for data logging
 - Remote connection options for reset, reconfigure and support
 - With ASTEC Operating system and controls
 - Screens and displays
 - Latest state of the art PLC and modules Complete system built with Siemens / Telemecanique/ Moeller/ Danfoss
 - Printer and storage devices for routine standard plant operations and data storage
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Electrical Cabling	<ul style="list-style-type: none"> • All wiring in suitable protective cable trays and pipelines, • All wires & cables coded • Electrical devices and connectors suitable for dusty environs. • Housed in suitable dust and water proof container. • Main switch with under voltage circuit breaker, short circuit-quick switch action release as well as built-in faulty current circuit breaker supplied as standard . • The electric circuits for motors shall be equipped with contactors and additionally safe guarded by thermal overload releases. • Over load protection safety arrangement. • Lighting arrestor to be supplied & installed by client at site to meet local site requirements • All units rated for 400v, 50Hz power supply. 	
Customers scope	<ul style="list-style-type: none"> • When not opting for Astec supplied bitumen tank and heating system. • The bitumen pipeline must be supplied up to the batching tower legs. 	
Support for Erection and Commissioning	<p>Two engineers for Erection and commissioning of the unit (for a period of 60 days) will be deputed on confirmation about site readiness. Customer to provide or cover for all on the ground costs, hotel, fooding and lodging and statutory requirements.</p>	Included

Optional Items

Steel Base	<ul style="list-style-type: none">• The hyper modular plant is supplied with steel base which enable set up of the plant without major civil and foundations works• Steel base for cold feedbins, dryer drum, batching tower is supplied as standard.• The ground needs to be compacted and levelled, with a bearing capacity of not less than 10T/m2.
Foreign filler silo 15 T	<ul style="list-style-type: none">• 15 MT storage• Filler weighing arrangement• Dust proof and fully enclosed• Filler feeding pipeline (customer to arrange for charging system)
IN LINE HOT MIX STORAGE SILO	<ul style="list-style-type: none">• 30 MT storage silo• With option for reject / direct load out• Insulated with heavy duty 50 mm insulation• High level indicator• Pneumatically operating gates• Electrical heating on gate• Modular design.• Extended steel base• Elevated tower section

To be supplied by the customer :

Air Compressor

- Package Air compressor with dryer
 - Storage tank 500 ltrs x 2
 - 15 kw x 2
 - Compete with valves
 - Filter
 - Lubricator
 - Instrumentation panel
 - Screw type air compressor of reputed brand.
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Air compressors need, local support and spares and therefore it is recommended that you use your nearest compressor dealer to supply & support you with the spares and service.

Schedule D : Delivery

The ordered standard plant configuration will be delivered ex works within 20 weeks from the date of order and receipt of payment. For optional items delivery time would increase accordingly.

Schedule E: Warranty

The offered equipment is covered under warranty against any manufacturing defects, for a period of 12 months from the date invoicing. The warranty doesn't cover operations which are not as per manufacturers recommendations, or arising from normal wear and tear, neither covers any electrical components Or damages caused due to any accidents due to non compliance to safety norms.

Schedule F : Customer scope (refer to standard Astec scope & Use)

Arrange for necessary ground work.
Provide all inputs to the plant, including aggregates, bitumen, filler etc.. power, lubricants etc.
Supply all material handling equipment and man power
Fitters and electricians for setup of the plant
Loading equipment
Main electrical cable and change over station
Other parts not exclusively mentioned in this offer

Schedule I: Exclusions

The following items are excluded from Astec's Installation Scope of Works:

Site allowances
Site surveys
Placement of equipment foundations
Supply of embedded concrete foundation bolts and plates
Trenching for underground conduit supply
Telecom communication
Local authority requirements, permits and submissions
Site clearing and civil work
Site drainage and access
Mains power and connection to Astec's Power Room, Control Room and other permanent buildings including site main disconnect and metering system
Plant fire services including extinguishers and ring mains
Mains gas line or fuel line to burner connections
Fuel tanks for burners (if required)
Bunding of fuel tanks and bitumen storage tanks
Ramps and retaining walls for bins
Fencing and site security during installation to handover
Equipment enclosures or access fencing guarding
Bunker storage facility for raw materials (sands, gravels and RAP)
Yard lighting and power points
Ticket transfer system from control room to trucks (See options)
Supply of bitumen for commissioning
Supply of virgin aggregates for commissioning
Testing of commissioning and test mixes
Testing for environmental compliance
Load cells for hot storage silos are not trade certified
Grounding System for all equipment
Handicap accessibility to the control center
Lightning protection system (including wire and ground rods)
Arc Flash Hazard Analysis
Any modifications to existing equipment
Any other equipment, services, controls, materials, permits, certifications, or other items not specifically identified in this contract including but not limited to Structural Observation, Structural Inspection, Electrical Observation and Electrical Inspection.

The following additional items will be required for placing the equipment into operation and are your responsibility:
Baghouse compliance stack test in accordance with operating permit requirements

Bundling of fuel tank and bitumen tanks in accordance with Standards
Furnishing and installation of flexible or hard piped fill line between fuel delivery truck and fuel tank(s)
Furnishing and installation of flexible or hard piped suction line between AC delivery truck and AC unloading pump(s)
Gas regulator on incoming line
Earthing system for all equipment
Handicap accessibility to the control centre if required
Lightning protection system (including wire and ground rods), where required
