PETROLEUM & ENERGY DIVISION · TECHNICAL DATA SHEET

Refined Petroleum Bitumen — Grade Specifications

Penetration Grades · AC & VG Viscosity Grades · Cutbacks (MC/RC/SC) · Oxidized & Emulsions

BEG-TDS-BITUMEN

HS Code: 2713.20 · **CAS:** 8052-42-4
Inspection: SGS / Intertek Port COA
beroilenergy.com/bitumen-supplier

REFINERY ORIGIN	MIN. CONTRACT QTY	INCOTERMS	QUALITY ASSURANCE
Middle East	100 MT	FOB · CPT · CFR ASWP	SGS / Intertek

Product Overview & Standards

ASTM · EN · IS 73

Refinery-grade paving and industrial bitumen processed from high-quality vacuum bottom residue via controlled vacuum distillation and air-rectification. Offering exceptional waterproofing, thermal stability, and aggregate adhesion, Beroil Energy Group exports all major international specifications in new steel drums, bitubags, or bulk vessels.

ASTM D946 · D3381 | EN 12591 · EN 13304 | AASHTO M20 · M226 | IS 73:2013



01 · Penetration Grade Bitumen (ASTM D946 / EN 12591 / AASHTO M20)

Paving Grades

PACKAGING	MIN. ORDER	DELIVERY TERMS	PAYMENT
180/150 kg Steel Drums · Bitubags	100 MT	FOB, CPT, CFR ASWP	T/T · 100% L/C at Sight

PROPERTY	UNIT	TEST METHOD	30/40	40/50	60/70	80/100
Penetration @ 25 °C (100g, 5s)	0.1 mm	ASTM D5	30 – 40	40 – 50	60 – 70	80 – 100
Softening Point (Ring & Ball)	°C	ASTM D36	55 – 63	52 – 60	49 – 56	45 – 52
Specific Gravity @ 25/25 °C	g/cm³	ASTM D70	1.01 – 1.06	1.01 – 1.06	1.01 – 1.06	1.00 – 1.05
Ductility @ 25 °C (5 cm/min)	cm	ASTM D113	100 Min	100 Min	100 Min	100 Min
Flash Point (Cleveland Open Cup)	°C	ASTM D92	250 Min	250 Min	250 Min	225 Min
Loss on Heating (TFOT)	% wt	ASTM D1754	0.2 Max	0.2 Max	0.2 Max	0.5 Max
Drop in Pen. After Heating	%	ASTM D5	20 Max	20 Max	20 Max	20 Max
Solubility in Trichloroethylene	% wt	ASTM D2042	99.5 Min	99.5 Min	99.5 Min	99.5 Min
Spot Test (Standard Naphtha)	—	AASHTO T102	Negative	Negative	Negative	Negative

Cold-Climate Penetration Grades Also Available: 120/150 (Pen. 120–150 dmm · Softening Point 40–47 °C · Flash Point 218 °C Min) and **200/300** (Pen. 200–300 dmm · Softening Point 37–43 °C · Flash Point 177 °C Min) for sub-zero paving corridors.

02 · Climate & Pavement Engineering Selection

Application Guide

GRADE GROUP	GRADES COVERED	RECOMMENDED OPERATING ENVIRONMENT
Hard Coastal & Heavy Load	30/40 · 40/50 · VG-40 · AC-30	Airport runways, container ports, toll plazas & high-ambient-heat highways resisting rutting
Global Standard Highway	60/70 · VG-30 · AC-20	Mainline asphalt wearing/binder courses in temperate-to-warm climates (~70% of global trade)
Moderate & Cold Climate	80/100 · VG-10 · VG-20 · AC-10	High-altitude roads, cooler climates, spray seals & base stock for emulsions / cutbacks

03 · Asphalt Cement Viscosity Grades — AC Series (ASTM D3381 Table 1)

ASTM D3381

GRADING BASIS	STANDARDS	PACKAGING	INSPECTION
Absolute Viscosity @ 60 °C	ASTM D3381 · AASHTO M226	Steel Drums · Bitubags · Bulk	SGS / Intertek Port COA

PROPERTY / TEST PARAMETER	UNIT	ASTM METHOD	AC-10	AC-20	AC-30	AC-40
Viscosity @ 60 °C (Original)	Pa·s (Poise)	ASTM D2171	100 ± 20 (1,000 P)	200 ± 40 (2,000 P)	300 ± 60 (3,000 P)	400 ± 80 (4,000 P)
Kinematic Viscosity @ 135 °C	cSt (mm^2/s)	ASTM D2170	150 Min	210 Min	250 Min	300 Min
Penetration @ 25 °C (100g, 5s)	0.1 mm	ASTM D5	70 Min	40 Min	30 Min	20 Min
Flash Point (Cleveland Open Cup)	°C	ASTM D92	219 Min	230 Min	230 Min	230 Min
Solubility in Trichloroethylene	% wt	ASTM D2042	99.0 Min	99.0 Min	99.0 Min	99.0 Min
Viscosity @ 60 °C (After TFOT Residue)	Pa·s	ASTM D2872 / D2171	500 Max	1,000 Max	1,500 Max	2,000 Max
Ductility @ 25 °C (After TFOT)	cm	ASTM D113	50 Min	20 Min	15 Min	10 Min

AC Designations: Numeric suffix indicates target absolute viscosity at 60 °C in hundreds of Poise (AC-10 = 1,000 P; AC-20 = 2,000 P; AC-30 = 3,000 P). Lighter grades AC-2.5 (250 P) and AC-5 (500 P) are also available on contract allocation.

04 · Viscosity Grade Bitumen — VG Series (IS 73:2013 / Export Grading)

IS 73:2013

PEAK TEMP TEST	MIX TEMP TEST	AGING CHECK	INSPECTION
60 °C Absolute Viscosity	135 °C Kinematic Viscosity	RTFOT / TFOT @ 163 °C	SGS / Intertek Port COA

PROPERTY / CHARACTERISTIC	UNIT	TEST METHOD	VG-10	VG-20	VG-30	VG-40
Absolute Viscosity @ 60 °C	Poise	IS 1206 (Pt 2) / D2171	800 – 1,200	1,600 – 2,400	2,400 – 3,600	3,200 – 4,800
Kinematic Viscosity @ 135 °C	cSt	IS 1206 (Pt 3) / D2170	250 Min	300 Min	350 Min	400 Min
Penetration @ 25 °C (100g, 5s)	0.1 mm	IS 1203 / D5	80 Min	60 Min	45 Min	35 Min
Softening Point (Ring & Ball)	°C	IS 1205 / D36	40 Min	45 Min	47 Min	50 Min
Flash Point (Cleveland Open Cup)	°C	IS 1448 / D92	220 Min	220 Min	220 Min	220 Min
Solubility in Trichloroethylene	% wt	IS 1216 / D2042	99.0 Min	99.0 Min	99.0 Min	99.0 Min
Viscosity Ratio @ 60 °C (After TFOT)	Ratio	IS 1206 / D1754	4.0 Max	4.0 Max	4.0 Max	4.0 Max
Ductility @ 25 °C (After TFOT)	cm	IS 1208 / D113	75 Min	50 Min	40 Min	25 Min
Approx. Penetration Equivalent	—	Cross-Reference	~ 80/100	Cold / Altitude	~ 60/70	~ 30/40–40/50

05 · Cutback Bitumen — Medium Curing MC Series (ASTM D2027)

Also RC & SC Grades

PROPERTY	UNIT	ASTM METHOD	MC-30	MC-70	MC-250
Kinematic Viscosity @ 60 °C	cSt (mm²/s)	ASTM D2170	30 – 60	70 – 140	250 – 500
Flash Point (Tag Open Cup)	°C	ASTM D3143	38 Min	38 Min	66 Min
Distillate to 225 °C (% of Total)	% vol	ASTM D402	25 Max	20 Max	10 Max
Distillate to 260 °C (% of Total)	% vol	ASTM D402	40 – 70	20 – 60	15 – 55
Distillate to 316 °C (% of Total)	% vol	ASTM D402	75 – 93	65 – 90	60 – 87
Residue from Distillation to 360 °C	% vol	ASTM D402	50 Min	55 Min	67 Min
Residue Penetration @ 25 °C	0.1 mm	ASTM D5	120 – 250	120 – 250	120 – 250

Full Liquid Cutback Portfolio: Slow Curing **SC-30, SC-70, SC-250, SC-800, SC-3000** (ASTM D2026) · Medium Curing **MC-30 to MC-3000** (ASTM D2027) · Rapid Curing **RC-30 to RC-3000** (ASTM D2028) for prime coats, tack coats, and chip seals.

06 · Oxidized (Blown) R-Series

ASTM D312 / EN 13304

GRADE	SOFTENING PT.	PEN. @ 25 °C	KEY INDUSTRIAL USE
R 75/25 · 85/25	75 – 85 °C	25 ± 5	Roofing & pipe coating
R 85/40 · 90/40	85 – 90 °C	40 ± 5	Membranes & joints
R 90/15 · 95/25	90 – 95 °C	15 – 25	Cable compounds
R 105/35 · 115/15	105 – 115 °C	15 – 35	Battery seal & piling

07 · Emulsions & PMB Systems

ASTM D2397 / EN

GRADE FAMILY	CLASSIFICATION	PRIMARY APPLICATION
Cationic CRS-2 / CMS-2	Rapid / Medium	Chip seals & cold mixes
Cationic CSS-1 / CSS-1h	Slow Setting	Tack coats & fog seals
Anionic ARS / AMS / ASS	ASTM D977	Soil stabilization & prime
Polymer Modified (PMB)	SBS Modified	Heavy-axle highways & airfields

08 · Export Packaging, Heating & Shipping Formats

PACKING FORMAT	NET CAPACITY	DELIVERY TERMS	APPLICATION & LOGISTICS FIT
New Steel Drums (Standard)	180 kg	20ft Container · Bulk	Automated thick-gauge drums — global benchmark for sea export & stacking
New Steel Drums (Compact)	150 kg	20ft Container · Road	Preferred for regional overland corridors and manual job-site discharge
Meltable Bitubags	300 kg / 1,000 kg	Containerized / Jumbo	Tear-away outer jacket with inner liner that melts cleanly in plant kettles
Bulk Tanker / ISO Tank	20–25 MT / Vessel	CFR ASWP · Heated	Direct heated terminal-to-plant discharge for continuous paving works

Need Firm Bitumen Pricing or a Lot-Specific SGS COA?

Specify grade (60/70, 40/50, 80/100, VG-30, AC-20/30, Oxidized, or Cutback), drum or bitubag packaging, tonnage (100 MT+), and destination port for firm FOB / CFR pricing.

Request Quote / Lot COA →

beroilenergy.com/bitumen-supplier

info@beroilenergy.com · +44 7449 139023