

VG Bitumen Waterproofing Selection & Procurement Checklist

Use this form when VG10, VG20, VG30 or VG40 is proposed as a raw material for a waterproofing, roofing, coating or membrane formulation. The finished system must be qualified separately.

1. Define the end use before choosing VG

- Application identified: roof / below grade / deck / podium / tanking / mastic / coating / factory-made membrane.
- System identified: hot-applied asphalt / built-up membrane / SBS sheet / APP sheet / oxidized compound / proprietary system.
- Governing waterproofing or roofing standard and edition identified.
- Service temperature range, UV exposure, slope/orientation and substrate movement recorded.
- Hydrostatic pressure, drainage and mechanical protection requirements recorded where applicable.
- VG is explicitly classified as final material or raw-material feedstock - not left ambiguous.

2. Raw VG binder qualification

Item	Requirement	Project / COA value	Pass
VG grade	Exact VG10 / VG20 / VG30 / VG40 under IS 73		■
Source / lot	Approved producer/refinery, lot traceability		■
Penetration	Per applicable IS 73 purchase specification		■
Absolute viscosity 60 C	Per applicable IS 73 purchase specification		■
Kinematic viscosity 135 C	Per applicable IS 73 purchase specification		■
Flash point / solubility	Per applicable IS 73 purchase specification		■
Softening point	Per applicable IS 73 purchase specification		■
RTFO residue controls	Required viscosity-ratio / ductility checks		■

3. Choose the correct waterproofing specification path

System	Typical reference path	Verified
Hot-applied dampproofing / waterproofing asphalt	ASTM D449/D449M or project/local equivalent	■
Roofing asphalt / built-up roofing	ASTM D312/D312M or project/local equivalent	■
Built-up deck waterproofing	ASTM C981 system design guidance + specified material standards	■
SBS polyester-reinforced sheet	ASTM D6164/D6164M-26 or adopted project equivalent	■
APP polyester-reinforced sheet	ASTM D6222/D6222M-16(2023) or adopted project equivalent	■

4. Formulation / process qualification

- Polymer and filler compatibility verified with the actual VG lot/source.
- Mixing, pumping and coating viscosity window documented.
- Hot-storage homogeneity / separation behavior acceptable.
- Reinforcement impregnation or coating is complete and uniform.
- Line speed, coating thickness, cooling and roll blocking behavior acceptable.
- Supplier source/process change triggers defined requalification.

5. Finished product / membrane release

Property area	Project method / requirement	Result	Pass
Heat stability / flow / softening behavior			■
Low-temperature flexibility			■
Tensile or peak-load performance			■
Elongation			■
Tear resistance			■
Dimensional stability			■
Watertightness / hydrostatic resistance			■
Lap / joint / adhesion performance			■
Thickness / mass / reinforcement / surfacing			■
Aging / durability test required by project			■

6. Procurement and receiving controls

- Purchase order states raw VG grade and finished waterproofing system separately.
- Batch-specific VG COA and lot identification required.
- Finished-product conformity report references the correct waterproofing/roofing/membrane standard.
- Representative retained sample and independent verification rights defined where needed.
- Storage temperature, reheating, recirculation and maximum holding guidance documented.
- Current SDS available for raw binder, modifiers and finished hot-applied materials.
- Change-notification requirement covers refinery/source, process and modifier changes.

7. Installation release

Check	Acceptance evidence	Status
Substrate	Clean, dry, sound, correctly sloped/prepared	■
Primer / accessory compatibility	Approved within system; drying/cure condition confirmed	■
Application temperature	Within approved manufacturer/system window	■
Laps / joints / details	Correct overlap, continuity, reinforced corners and penetrations	■
Protection / drainage	Specified boards, layers and drainage installed where required	■
Hot-work controls	Burn, splash, fire and fume controls implemented	■

8. Red flags - stop and investigate

Red flag	Why it matters
PO says only 'VG40 waterproofing bitumen'	A paving grade is named but the waterproofing product/system is undefined.
VG grade is declared equivalent to D449 or D312 type	Different standards use different properties and end-use classifications.
Finished SBS/APP sheet approved from raw VG COA	Reinforcement, polymer, filler and manufacturing control finished performance.
Softening point is the only waterproofing test	Does not prove watertightness, flexibility, tear, elongation or lap integrity.
Refinery/source changes with no requalification	Same nominal VG may process differently in a sensitive formulation.
Process temperature raised to fix poor flow	Can increase fumes, hardening and thermal degradation.

Approval record: Project _____ VG grade/source _____ Formulation _____ Finished system / standard _____ Reviewer _____
 _____ Date _____