PRODUCT PROFILE

Class II Permeable Base Rock

SKU: CNST-AGG-PRB-110 | Caltrans terminology: Class 2 Permeable Material



Actual product photograph; particle sizes are defined by the gradation table.

A graded blend of crushed aggregate and sand-sized particles for specified drainage and permeable backfill applications. The supplied test summary reports a 1-inch maximum size, controlled fines and quality values within the listed Caltrans Class 2 permeable-material limits. [1,2]

1 inch
100% passing the top sieve

2.6%
Passing the No. 200 sieve

79
Reported sand equivalent

Material at a glance

Characteristic	Product description
Material form	Crushed aggregate with a graded sand fraction and limited fines
Appearance	Gray to green-gray; natural color and moisture variations are expected
Bulk supply	Delivered as loose bulk aggregate; product listing uses cubic yards

Typical specification-led uses

- Drainage backfill and underdrains where the approved plans specify Class 2 permeable material.
- Bridge-abutment and wingwall drainage, and approved engineered drainage blankets.

See page 3 for application checks, page 4 for placement guidance and page 6 for a plain-language glossary.

LABORATORY GRADATION

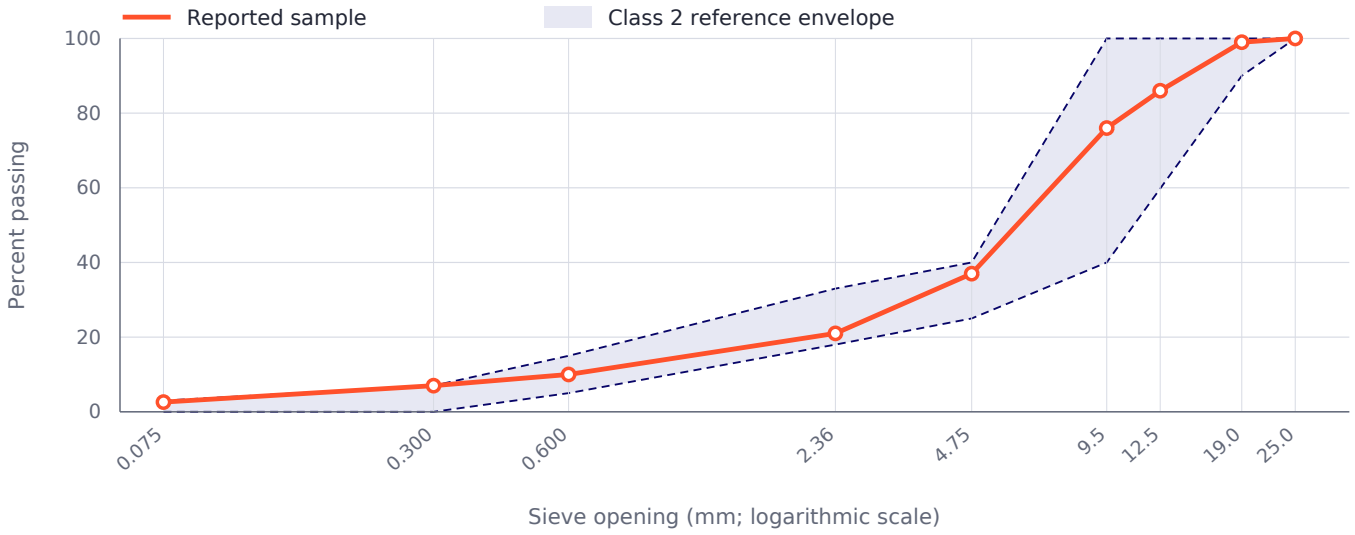
Particle-size distribution

Supplied test values compared with Caltrans 2024 Section 68-2.02F(3). [1,2]

Sieve size	Opening (mm)	Reported (% passing)	Class 2 limit (% passing)	Comparison
1 inch	25.0	**100**	100	Within
3/4 inch	19.0	**99**	90-100	Within
1/2 inch	12.5	**86**	Not specified	Info only
3/8 inch	9.5	**76**	40-100	Within
No. 4	4.75	**37**	25-40	Within
No. 8	2.36	**21**	18-33	Within
No. 30	0.600	**10**	5-15	Within
No. 50	0.300	**7**	0-7	Within
No. 200	0.075	**2.6**	0-3	Within

All eight specified sieve values are within the displayed ranges. No separate 1/2-inch limit is listed. Percent passing is cumulative by mass.

Gradation curve



Lines and shaded boundaries between listed sieves guide the eye; acceptance limits apply at the specified sieve sizes. The 1/2-inch point is a reported value only.

Close-to-limit results: No. 50 = 7.0% at the upper limit; No. 200 = 2.6% against a 3.0% maximum. Confirm current stockpile and delivery grading for specification work.

MATERIAL QUALITY & SELECTION

Quality & engineering use

Physical-property results are reproduced from the supplied summary. [1]

Property	Method shown	Reported	Class 2 reference	Comparison
Durability index	CT 229	**45**	40 minimum	Within
Sand equivalent	CT 217	**79**	75 minimum	Within

Durability index describes resistance to producing clay-sized fines during wet abrasion. **Sand equivalent** indicates the relative cleanliness of the fine fraction. Neither is a direct permeability or load-capacity test. [3]

Application checks

Proposed use	Design or approval check
Underdrains / drainage blankets	Use where Class 2 is specified. Caltrans otherwise defaults underdrains to Class 1 unless the contract specifies another class. [2]
Bridge abutments / wingwalls	Class 2 is a listed Caltrans alternative. Follow the approved drainage arrangement and structure-backfill construction requirements. [2]
Permeable pavers / turf systems	Obtain system-designer approval for this gradation. Verify bedding, reservoir, joint aggregate and hydraulic criteria separately.
Retaining-wall / foundation drainage	Confirm soil-filter compatibility, drain openings, structural details and a functioning outlet.
Dry wells / infiltration systems	Confirm field infiltration, groundwater conditions, storage design and any required material permeability test.

> **Identify the correct product:** Caltrans Class 2 permeable material is a Section 68 drainage designation. Class 2 aggregate base is a separate Section 26 material. ASTM stone-size designations require their own gradation check.

Engineering values to establish for the project

Hydraulic conductivity, connected void content, bulk density, moisture-density relationship, R-value/CBR and percent crushed particles are not provided in the supplied summary. Obtain the tests required by the project before assigning infiltration, storage, structural or compaction values.

DESIGN & INSTALLATION GUIDANCE

Placement & drainage details

Use the approved drawings and governing project specifications to set the construction requirements.

1. **Confirm the complete section**

   Verify material class, design thickness, grades, drainage destination, pipe details, filter transitions and acceptance testing. Review site soils and loading before work begins.

2. **Prepare and approve the subgrade**

   Excavate to the required line and elevation. Remove debris and unsuitable material, and address soft or pumping areas as directed. Keep mud and disturbed soil out of the aggregate.

3. **Install the specified filtration and drains**

   Follow the approved detail for filter aggregate or geotextile. Check soil-retention and drainage compatibility. Set pipe bedding, slope, joints and outlet before placing surrounding material.

4. **Place uniform, controlled lifts**

   Distribute the aggregate without separating coarse and fine fractions. Use lift thicknesses suited to the equipment, trench geometry and specification. Keep soil, concrete washout and other materials out.

5. **Consolidate to the required acceptance criteria**

   Confirm the moisture-conditioning method, equipment and any density or performance target. Work carefully around pipes and structures, limiting displacement, segregation and particle breakdown.

6. **Verify grades and protect the completed layer**

   Check final elevations, thickness, outlet continuity and any required tests before covering. Restrict muddy traffic and protect the drainage layer from sediment during the remaining construction.

> **Caltrans bridge-abutment / wingwall work:** Section 68-2.03 requires horizontal layers and consolidation by the applicable structure-backfill methods. Ponding and jetting are prohibited for this work. [2]

Drainage arrangement to resolve in the plans

Component	Required project decision
Soil / aggregate boundary	Select the filter transition or geotextile detail for the adjacent soil.
Drainage path	Provide a designed outlet or approved infiltration route and overflow provision.
Overlying surface / structure	Set thickness, load support and surface-system compatibility.

QUANTITY PLANNING & FIELD CONTROLS

Coverage & quality control

Calculate geometric in-place volume, then confirm the delivered quantity needed for the project.

Volume (cubic yards) = area (square feet) x depth (inches) / 324
Example: 1,000 sq ft x 6 inches / 324 = **18.52 cubic yards in place**.

Theoretical coverage and in-place volume

Layer depth	Area per 1 yd³ (sq ft)	For 500 sq ft (yd³)	For 1,000 sq ft (yd³)
3 inches	108.0	4.63	9.26
4 inches	81.0	6.17	12.35
6 inches	54.0	9.26	18.52
8 inches	40.5	12.35	24.69
12 inches	27.0	18.52	37.04

Depths above are calculation examples, not recommended section thicknesses. Volumes exclude handling losses, over-excavation and changes between loose and placed conditions. Agree the project allowance before ordering; no tested bulk density or conversion factor was supplied.

Submittal and delivery verification

- **Confirm the specification:** identify the contract edition, special provisions, required class and approved material submittal.
- **Establish traceability:** request a current report showing the sample date, test methods, laboratory and representative lot or stockpile.
- **Check current material:** verify gradation, durability and sand equivalent at the frequency required by the project; add hydraulic or density testing when specified.
- **Inspect delivery and storage:** keep loads on a clean base, separated from other materials; investigate visible contamination or segregation before placement.
- **Record the installed work:** retain delivery tickets, test results, layer thicknesses, elevations and required acceptance records.

Handling and construction protection

Use controlled dumping and short, clean handling routes to limit segregation. Keep stockpiles isolated from muddy runoff. Apply dust controls appropriate to the site and keep added water from washing sediment into the drainage system. Verify safe truck access and a firm, level unloading area.

PLAIN-LANGUAGE TERMS GUIDE

Understanding the specification

A separate reference page for homeowners, field crews and readers new to aggregate specifications.

Term	What it means
Gradation	The distribution of particle sizes, shown as the percentage passing a series of sieves.
Percent passing	The cumulative share by mass smaller than a sieve opening. At No. 4, 37% passes and 63% is retained.
Sieve / sieve number	A test screen with a defined opening. Higher sieve numbers have smaller openings; No. 200 is 0.075 mm.
Maximum size	Here, all reported material passes the 1-inch sieve. This does not mean every particle is 1 inch.
Fines	Material passing No. 200. The reported 2.6% describes size, not whether those particles are clay or silt.
Sand equivalent (SE)	A cleanliness index for the fine fraction. Higher values generally indicate less detrimental dust or clay-like material.
Durability index (DI)	An index of resistance to forming clay-sized fines under controlled wet abrasion; it is not a strength rating.
Permeability / k	The ability to transmit water under a hydraulic gradient. A measured rate is not supplied here.
Void content	The portion of total aggregate volume occupied by spaces between particles; no storage fraction is supplied here.
Filter compatibility	A soil-to-aggregate or geotextile design check intended to retain soil while permitting drainage.
Consolidation / compaction	Placing particles into a stable arrangement. Required methods and acceptance criteria depend on the project.
Cubic yard (yd³)	A volume of 27 cubic feet. Loose delivered volume can differ from finished in-place volume.

Data and method references: [1] Supplied Class II permeable test summary, undated. [2] Caltrans 2024 Standard Specifications, Sections 68-2.02F and 68-2.03, printed pp. 993-994; Section 26 identifies aggregate base. [3] Caltrans test methods: CT 202 (Nov 2011), CT 217 and CT 229 (June 2011). [4] TerraBay product listing, product identity and photograph; checked 03 Nov 2026.

Disclaimer: This sheet summarizes supplied reference data for product selection and submittal review. Natural aggregate properties, gradation, color and moisture vary by production lot and handling. Reported values are not guaranteed for every shipment. The source summary is undated and does not show a laboratory, sample identity or signed certification. Listed comparisons do not constitute Caltrans approval or a project-specific certificate of compliance. No hydraulic, storage, structural or installed-performance rating is established. The purchaser and design professional must verify current tests, governing contract documents and suitability. Installation guidance does not replace engineered plans or applicable requirements.