

NEW ZEALAND SLIP RESISTANCE USAGE & COMPLIANCE GUIDE

Ceramic, porcelain and natural stone pedestrian floor surfaces

Residential • Commercial • Retail • Hospitality • Airports • Healthcare • Retirement Villages • Education • Pools • External Areas • Industrial

Document status

Client-facing technical selection guide prepared for European Ceramics, 2026. This guide distinguishes New Zealand Building Code requirements and D1/AS1 compliance pathways from referenced application guidance and European Ceramics recommendations. It is not a producer statement, design certificate, building consent approval, or project-specific professional advice.

1. How to use this Guide

The key rule: use the NZ Building Code pathway first, then use application guidance and project requirements to select an appropriate surface finish.

There is no single New Zealand Building Code table that assigns an R or P rating to every room type. NZBC Clause D1 requires adequate slip-resistant walking surfaces on access routes under conditions of normal use. D1/AS1 provides specific pathways for wet level access routes, dry level access routes, primarily barefoot wet areas, sloping routes, stairs and wet-to-dry transitions. SA HB 198:2014 is referenced by D1/AS1 and provides application guidance for many commercial and industrial situations; those application values are guidance, not blanket New Zealand legal minima.

Important — classification and compliance

Requirements depend on the actual location and function of the surface, whether it forms part of an access route, whether it is expected to be wet or dry in normal use, its gradient, contaminants, footwear/barefoot use, user group and project-specific requirements. Statements such as “all commercial bathrooms require R10” or “all external tiles require P4” should not be treated as universal NZ Building Code requirements.

2. Core NZBC D1 Slip-resistance Rules

Situation	NZ compliance pathway	Practical client guidance	Basis
Level access route expected to become wet with water in normal use	D1/AS1 2.1.2: Slider 96 wet pendulum SRV ≥ 39 under AS 4586 Appendix A, or a D1/AS1 Table 2 material acceptable for wet slip.	For a tested tile, obtain the actual Slider 96 SRV. A P3 class alone is not conclusive because P3 spans SRV 35–44.	D1/AS1 2.1.2
Level access route expected to remain dry	D1/AS1 2.1.3: dry coefficient of friction (COF) ≥ 0.40 under AS 4586 Appendix B, or a D1/AS1 Table 2 material acceptable for dry slip.	Use product evidence appropriate to the dry test pathway. Do not substitute an R rating as a universal dry-slip compliance measure.	D1/AS1 2.1.3
Primarily barefoot wet area (for example pool surround or area adjacent to communal showers)	D1/AS1 2.1.2(c): wet-barefoot Class B under AS 4586 Appendix C is an acceptable slip-resistance pathway for these areas.	Where the project calls for a higher class because of slope, submerged steps or specific risk, follow the project requirement.	D1/AS1 2.1.2(c)
Commercial / industrial surface exposed to oils or similar contaminants	D1/AS1 2.1.4 accepts AS 4586 Appendix D oil-wet inclining-platform testing; D1/AS1 points to HB 198 for suggested R classes.	Select R class to the actual contamination and process. Consider displacement-volume (V) classification for profiled industrial floors.	D1/AS1 2.1.4 + HB 198
Sloping access routes and stairs	D1/AS1 2.1.5: use AS 4586 Appendix F to derive an appropriate classification. Alternatively D1/AS1 Table 2 may be used. A P4 wet-pendulum rating is accepted for stairs and ramps not steeper than 1:12.	For steeper or unusual slopes, do not rely on a generic room-use rating; assess the actual slope and use Appendix F / project design.	D1/AS1 2.1.5
Wet-to-dry transition zone (except housing)	D1/AS1 2.1.6: use water-absorbent matting, an extension of the wet-slip-resistant surface, or a combination. Guidance notes suggest matting of about 1.8 m minimum or wet-resistant flooring typically extending 6–10 m.	Coordinate flooring, entrance matting, drainage and maintenance as one transition-zone design.	D1/AS1 2.1.6
Housing — important exception	For housing, D1/AS1 treats internal access routes, including kitchens and bathrooms, as dry in normal use. The wet-level requirement applies to the approach to the main entrance, not automatically to internal bathrooms.	This does not mean bathrooms cannot be slippery. Use a suitable finish, mats and good detailing, and assess elderly or mobility-impaired users separately.	D1/AS1 2.1.2(b)

Note: D1/AS1 comments that imported oil-wet R11 results will often be equivalent to SRV 39 for water-wet conditions, but this is not a mathematical conversion and should not be treated as one.

3. Test Classifications — What the ratings mean

Do not convert P, R and A/B/C ratings mechanically. They are different test methods, not mathematical equivalents; only use paired classes where recognised application guidance provides alternative test routes.

Test / class	Classification	Result / range	Use in this guide
Wet pendulum — Slider 96 (AS 4586 Appendix A)	P0	Below 12 SRV	Lowest classification; not used as a universal application recommendation.
	P1	12–24 SRV	Low wet classification.
	P2	25–34 SRV	Low wet classification.
	P3	35–44 SRV	Moderate classification. For NZ wet level access routes the actual SRV must still be ≥ 39 .
	P4	45–54 SRV	High wet classification; provides margin above the D1/AS1 wet-level threshold and is accepted by D1/AS1 for stairs and ramps $\leq 1:12$.
	P5	55 SRV and above	Highest wet-pendulum class.
Oil-wet inclining platform (AS 4586 Appendix D)	R9	6° to $<10^\circ$	Commercial / industrial shod-foot guidance; commonly used where contaminants are relevant.
	R10	10° to $<19^\circ$	Higher grip class.
	R11	19° to $<27^\circ$	Higher contamination / wet commercial guidance in many applications.
	R12	27° to $<35^\circ$	High contamination / specialist applications.
	R13	35° and above	Highest R class.
Wet-barefoot inclining platform (AS 4586 Appendix C)	A	Minimum acceptance angle 12°	Lower-risk barefoot wet areas.
	B	Minimum acceptance angle 18°	Pool surrounds / communal shower guidance; D1/AS1 expressly recognises Class B for primarily barefoot wet areas.
	C	Minimum acceptance angle 24°	Higher-risk barefoot areas such as ramps or stairs leading into water.

4. Comprehensive Application Matrix — New Zealand selection Guidance

Read the “Basis / status” column first. Ratings identified as HB 198 are application guidance, not universal NZ Building Code minima. Where a surface is a D1 access route, the D1/AS1 pathway takes precedence.

Sector	Location / use	Selection benchmark	Basis / status	Client guidance
RESIDENTIAL	Main approach to principal house entrance — level and expected wet	Actual Slider 96 SRV ≥ 39 , or D1/AS1 Table 2 wet-slip pathway	D1/AS1	Code pathway for the approach to the main entrance.
RESIDENTIAL	Internal living / bedroom floor — dry	Dry COF ≥ 0.40 where the floor is an access route, or D1/AS1 Table 2 dry-slip pathway	D1/AS1	Most common finishes can be suitable when clean and dry; verify where required.
RESIDENTIAL	Kitchen — normal internal use	No blanket P or R class in D1/AS1; housing internal routes are assumed dry in normal use	D1/AS1	Choose a practical, cleanable finish; manage spills promptly.
RESIDENTIAL	Private dwelling bathroom / ensuite / WC	No blanket P or R class in D1/AS1; housing internal bathrooms are assumed dry in normal use	D1/AS1	Use a sensible surface and manage local wetting with mats/drainage. Consider a higher-grip finish for elderly or mobility-impaired users.
RESIDENTIAL	Private external patio / deck / path — level or gentle slope	For a wet access route: actual Slider 96 SRV ≥ 39 . For general external selection, P4 / R11 is a conservative benchmark.	D1/AS1 + HB 198 / EC	Confirm whether the path is an access route and check slope.
RESIDENTIAL	Stairs or ramps not steeper than 1:12	P4 wet pendulum accepted; otherwise use Appendix F / D1 Table 2	D1/AS1	For steeper or unusual gradients, use a slope-specific assessment.
COMMERCIAL / PUBLIC	External entry / access route expected wet	Actual Slider 96 SRV ≥ 39 , or D1/AS1 Table 2 wet-slip pathway	D1/AS1	Do not rely on a P3 class alone unless its actual Slider 96 SRV is ≥ 39 .
COMMERCIAL / PUBLIC	Entry foyer — transition from wet to dry	D1/AS1 transition-zone design; HB 198 P2 / R9 is contextual guidance for transitional areas	D1/AS1 + HB 198	Coordinate matting / drainage / wet-resistant surface. The transition-zone design is more important than a generic room rating.
COMMERCIAL / PUBLIC	Dry foyer / office circulation / internal lift lobby	D1 dry route: COF ≥ 0.40 or Table 2. HB 198 dry-area guidance: P1 / R9	D1/AS1 + HB 198	Use the D1 dry-access-route pathway where applicable.
COMMERCIAL / PUBLIC	Public / office / hotel toilet facilities	P3 / R10 guidance	HB 198 guidance	Guidance only; assess expected wetting and whether the location is an access route.
RETAIL	Shop entry directly from outside	HB 198 P3 / R10; if a D1 wet access route, actual Slider 96 SRV must also be ≥ 39	D1/AS1 + HB 198	A P3 label alone may not satisfy the wet-level D1 threshold.
RETAIL	Supermarket fresh fruit / vegetable area	P3 / R10	HB 198 guidance	Water tracking and local contamination increase risk.
RETAIL	Supermarket general aisles	P1 / R9	HB 198 guidance	Assumes normal dry conditions.
RETAIL	Separate internal shop — dry	P1 / R9	HB 198 guidance	Assumes normal dry conditions.

Sector	Location / use	Selection benchmark	Basis / status	Client guidance
RETAIL	Separate internal shop — wet	P3 / R10	HB 198 guidance	Use where water contamination is expected in normal use.
HOSPITALITY	Fast-food outlet / buffet / food court / dining service area	P3 / R10	HB 198 guidance	Escalate for grease, food preparation or high contamination.
HOSPITALITY	Hotel apartment bathroom / ensuite / toilet	P2 / wet-barefoot A	HB 198 guidance	Guest-room wet areas are not the same as communal pool / shower areas.
HOSPITALITY	Hotel apartment kitchen / laundry	P2 / R9	HB 198 guidance	Normal-use guidance; confirm unusual contamination.
HOSPITALITY	Bar serving area / cold store freezer	P4 / R11	HB 198 guidance	Higher contamination risk.
HEALTHCARE / AGED CARE	Hospital / aged-care bathroom or ensuite	P3 / wet-barefoot B	HB 198 guidance	Aged-care and healthcare projects often impose stricter project requirements; confirm the facility standard.
HEALTHCARE / AGED CARE	Hospital / aged-care wards and corridors	P2 / R9	HB 198 guidance	Guidance only; where the route is expected wet, apply the D1 wet-access-route pathway.
RETIREMENT VILLAGE	Independent-living private bathroom	No universal NZBC P/R minimum solely because it is in a retirement village. EC recommends considering P3 where elderly users, expected wetting or mobility risk justify it.	D1/AS1 + project / EC	Confirm building classification, resident profile and project specification.
RETIREMENT VILLAGE	Communal corridor / lobby — normally dry	P2 / R9 as a conservative aged-user benchmark	EC recommendation informed by HB 198	Not a specific NZBC minimum; dry D1 access routes still require the D1 dry-slip pathway.
RETIREMENT VILLAGE	Communal / care bathroom	P3 / wet-barefoot B	HB 198 / project guidance	Use higher project requirements where specified for aged-care or care facilities.
RETIREMENT VILLAGE	External accessible pedestrian route — level and wet	Actual Slider 96 SRV ≥ 39 under D1/AS1; P4 is a conservative EC selection margin	D1/AS1 + EC	Confirm accessibility obligations, slope, drainage and facility requirements.
EDUCATION	School / kindergarten entry or access area — wet	HB 198 P3 / R10; if a D1 wet access route, actual Slider 96 SRV must also be ≥ 39	D1/AS1 + HB 198	P3 alone may not satisfy D1 unless actual SRV is at least 39.
EDUCATION	School / kindergarten internal dry circulation	P1 / R9 guidance	HB 198 guidance	D1 dry-access-route requirements still apply where relevant.
POOLS / SPORT	Swimming pool surround / communal shower	P4 / wet-barefoot B	HB 198 + D1/AS1	D1/AS1 recognises Class B for primarily barefoot wet areas.
POOLS / SPORT	Pool ramp / stairs leading into water	P5 / wet-barefoot C	HB 198 guidance	Highest-risk barefoot application in the guide.
POOLS / SPORT	Communal changing room	P3 / wet-barefoot A	HB 198 guidance	Escalate if the area functions as a continuously wet shower / pool transition.
POOLS / SPORT	Undercover stadium concourse	P3 / R10	HB 198 guidance	Assess water tracking and crowding.

Sector	Location / use	Selection benchmark	Basis / status	Client guidance
EXTERNAL	External walkway / courtyard / balcony / veranda / roof deck / carpark — gradient no steeper than 1:14	P4 / R11	HB 198 guidance	If the location is a D1 wet access route, also satisfy the applicable D1 pathway.
EXTERNAL	External ramp steeper than 1:14	P5 / R12	HB 198 guidance	For NZ access-route compliance, assess the actual slope and D1/AS1 Appendix F pathway.
CAR PARK	Undercover carpark pedestrian surface	P3 / R10	HB 198 guidance	Check vehicle contaminants, pedestrian zones and drainage.
FOOD / INDUSTRIAL	Commercial kitchen or loading dock under cover	P5 / R12	HB 198 guidance	High contamination use; consider cleaning and drainage.
INDUSTRIAL	Oily / greasy processing area or workshop	Use AS 4586 Appendix D R-class assessment; consider displacement-volume (V) where contaminants accumulate	D1/AS1 + HB 198	No single universal R number is appropriate for all industrial processes.
STAIRS	Stair tread / landing expected wet	P4 / R11 is HB 198 guidance; P4 is also accepted by D1/AS1 for stairs	D1/AS1 + HB 198	Do not interpret an R rating as permission for an installed stair angle.
STAIRS	Stair tread / landing expected dry	P3 / R10 guidance	HB 198 guidance	Where a D1 route applies, also meet the D1 pathway.
RAMPS	Ramp not steeper than 1:12 — wet	P4 wet pendulum accepted by D1/AS1	D1/AS1	For other slopes use Appendix F / slope-specific assessment.
RAMPS	Steeper / specialist ramps	Derive required classification using AS 4586 Appendix F and the actual installed slope	D1/AS1	Do not use a generic room-use rating.

5. Airports and Transport Terminals — Precise Application Guidance

No blanket “airport rating” exists in the NZ Building Code

An airport does not automatically require every tiled floor to be P4, R11 or another single class. The correct requirement depends on the actual access-route condition, water tracking, slope, contaminants, pedestrian use and the airport / project specification. Airport owners, architects and contractors may impose project requirements that are more stringent than the minimum code pathway.

Airport area	Condition to assess	Selection benchmark	Status / basis
Terminal external pedestrian approach / exposed entry	Normally wet public access route	Actual Slider 96 SRV ≥ 39 ; EC generally prefers P4 margin where practical	D1/AS1 + EC
Entry vestibule / first internal zone subject to water tracking	Wet / transitional	D1/AS1 transition-zone design; use wet-slip-resistant flooring and/or compliant matting. HB 198 transitional P2/R9 guidance is contextual only.	D1/AS1 + HB 198
Main check-in / concourse / gate lounge	Normally dry public access route	D1 dry COF ≥ 0.40 or Table 2; HB 198 dry public-building guidance P1/R9	D1/AS1 + HB 198
Public toilets	Expected wetting varies by design and operation	Assess D1 access-route status and expected wetting; HB 198 toilet guidance P3/R10. EC may prefer P4 where wetting is frequent.	D1/AS1 + HB 198 + project
Accessible toilet / circulation to accessible facilities	Accessible public route	Apply D1 route condition first; if expected wet, actual Slider 96 SRV ≥ 39 . Confirm airport / accessibility project requirements.	D1/AS1 + project
Food court / fast-food / buffet areas	Food spill risk	P3 / R10 guidance; escalate where cooking grease or heavy contamination occurs	HB 198
Commercial kitchen / back-of-house food production	Oil / grease / food contamination	P5 / R12 guidance; assess displacement volume where needed	HB 198 + project
Baggage / BOH dry staff circulation	Dry or operational contamination depending area	Assess actual use. Dry pathway if genuinely dry; use R-class risk assessment if oils / contaminants occur.	D1/AS1 + project
External airside pedestrian path / exposed balcony	Wet external	P4 / R11 guidance, subject to actual slope and airport standard	HB 198 + project
Stairs / ramps	Slope-specific	P4 accepted for stairs and ramps $\leq 1:12$; otherwise use AS 4586 Appendix F / D1 Table 2	D1/AS1

6. Retirement Villages, Aged Care and Hospitals — Important Distinction

Retirement villages require particular care because independent living, communal facilities, care facilities, public accommodation and connecting routes can carry different accessibility and use requirements. MBIE Determination 2024/032 confirms that accessibility obligations can differ between specific uses and buildings within a retirement-village complex. There is therefore no defensible rule that every retirement-village floor must be P3, R10 or another single rating.

Area	Compliance approach	European Ceramics specification position
Independent-living dwelling — private bathroom	D1/AS1 housing treatment: no blanket P/R minimum; internal housing bathrooms are assumed dry under normal use.	Where older or mobility-impaired users are expected and a tested matt surface is compatible with cleaning and project requirements, consider P3 as a conservative project recommendation — not as a blanket NZBC minimum.
Care / rest-home bathroom or ensuite	Use project / aged-care requirements, assess wetting and barefoot use, and apply D1 where an access route is involved. HB 198 gives P3 / B guidance for hospital and aged-care bathrooms.	Treat as higher-risk than a normal private dwelling. Confirm facility/operator standard and any healthcare specification.
Wards / care corridors	Dry route pathway plus HB 198 aged-care guidance.	P2 / R9 guidance where conditions are dry; if water tracking or wet normal use occurs, apply the D1 wet-route pathway.
Communal foyer / dining / activity area	Assess whether the route is dry or wet and apply D1 accordingly; HB 198 public-building / aged-user guidance may inform the specification.	Use the actual condition rather than a single retirement-village rating.
External walkways / access between buildings	Assess Building Act accessibility obligations, access-route classification, slope and wetting. Level wet access routes require actual Slider 96 SRV ≥ 39 .	P4 is generally a prudent external selection margin for level / gentle-slope areas, subject to drainage, slope and project requirements.

7. European Ceramics Specification Decision Tree

Step	Question	Action
1	Is the surface a pedestrian walking surface on an access route?	If no, D1 may not prescribe slip resistance for that location, but health and safety, good design and project requirements still apply. If yes, continue.
2	Is the level surface expected to become wet with water in normal use?	Use the Slider 96 wet-pendulum pathway: actual SRV ≥ 39 , or D1/AS1 Table 2 acceptable wet-slip pathway.
3	Is the level surface expected to remain dry?	Use dry COF ≥ 0.40 or the D1/AS1 Table 2 acceptable dry-slip pathway.
4	Is it primarily barefoot and wet?	Use AS 4586 Appendix C. D1/AS1 recognises Class B for pool-surround / adjacent communal-shower type areas.
5	Is it a stair or sloping access route?	Use AS 4586 Appendix F / D1 Table 2. P4 wet pendulum is accepted for stairs and ramps not steeper than 1:12.
6	Will oils, grease or industrial contaminants occur?	Use AS 4586 Appendix D R-class assessment and consider Appendix E displacement volume; use HB 198 application guidance.
7	Does the project brief specify a higher or different class?	The project requirement governs the supply specification where it is contractually adopted and more stringent.
8	Does the exact supplied finish have matching test evidence?	Match the certificate to the exact range, finish and test method; report the numeric value and class. Do not transfer results between different surfaces without evidence.

8. Common Specification Mistakes to Avoid

- Writing “P3 compliant with NZBC” without checking the actual Slider 96 SRV. P3 spans SRV 35–44, while the D1/AS1 wet level access-route threshold is SRV 39.
- Treating R10, R11 or R12 as installed ramp angles. The R test uses an inclined laboratory platform; the result does not authorise a floor to be installed at that angle.
- Calling HB 198 application values “mandatory NZ Building Code ratings”. HB 198 is referenced guidance unless a project formally adopts it or uses it to support a specific compliance design.
- Using wet-barefoot A/B/C as though it were the same test as P or R. Each method simulates different conditions.
- Assuming a bathroom is always legally a wet access route. Housing bathrooms are expressly treated as dry in normal use by D1/AS1; public / aged-care / healthcare bathrooms need context-specific assessment.
- Assuming an airport or retirement village has one universal rating. The actual location, access-route condition, water / contamination exposure, slope, users and project requirements govern.
- Relying on a test result for a different finish, production surface, sealant or treatment. Evidence must correspond to the product condition actually supplied.

9. Product Evidence, Installed floors and Maintenance

New product classification is not an in-service guarantee

AS 4586 classifies new pedestrian surface materials. It does not condition specimens for in-service wear. Slip performance can change with traffic, polishing, contamination, sealing, cleaning products and maintenance. Existing pedestrian surfaces are assessed under AS 4663:2013.

Before European Ceramics or a client relies on a slip-resistance classification, the evidence should identify:

- The exact product range, colour and surface finish.
- The test standard and appendix/method used.
- The slider type for pendulum testing (where applicable) and the actual numeric SRV, not only the P class.
- The R class and, where relevant, displacement-volume (V) result for profiled industrial surfaces.
- The wet-barefoot A/B/C class where that method is relevant.
- Whether the sample was factory-finished, sealed, treated or altered after manufacture.
- The test laboratory, report number and date.
- Any project-specific acceptance criteria.

10. Cleaning, Sealing and Ongoing Performance

Slip-resistant flooring must be supported by appropriate drainage, cleaning and maintenance. D1/AS1 specifically notes that unsuitable cleaning methods can significantly reduce slip resistance. For natural stone and some textured porcelain surfaces, sealing or topical treatments can also change surface friction. Where a sealer, coating, polish or post-installation treatment is proposed, confirm its effect on the tested finish and consider post-treatment testing where risk or project requirements justify it.

- Use cleaning methods that remove grease, soap film, fine dust and other contaminants without leaving a slippery residue.
- Maintain entrance matting and drainage so water tracking does not defeat the flooring selection.
- Review high-traffic surfaces over time; an original factory classification does not prove the same performance after wear.
- Where an installed floor becomes a concern, use an appropriate existing-surface assessment rather than relying only on the original product certificate.

11. Reference Documents and Source Control

- [MBIE — D1/AS1 & D1/VM1, 2nd edition Amendment 6 \(current version shown by Building Performance\)](#)
- [MBIE — Slip-resistant walking surfaces guidance](#)
- [Building CodeHub — AS 4586:2013 Slip resistance classification of new pedestrian surface materials](#)
- [Building CodeHub — SA HB 198:2014 Guide to the specification and testing of slip resistance of pedestrian surfaces](#)
- [MBIE — Buildings which must be accessible](#)
- [MBIE — Determination 2024/032: pedestrian walkway / accessibility in a retirement village](#)

Technical guidance and disclaimer

This guide is a practical product-selection reference for architects, designers, specifiers, contractors and customers. It summarises relevant NZ Building Code provisions and referenced guidance; it does not replace those documents or constitute project-specific design, legal, engineering or consent advice. Suitability must be assessed for the actual access-route condition, slope, wetting or contaminants, footwear/barefoot use, users, drainage and maintenance. Test evidence must match the actual product and finish supplied. Where a project, client or consent requirement is more stringent, that requirement takes precedence. Final project selection should be confirmed by the responsible project professional.