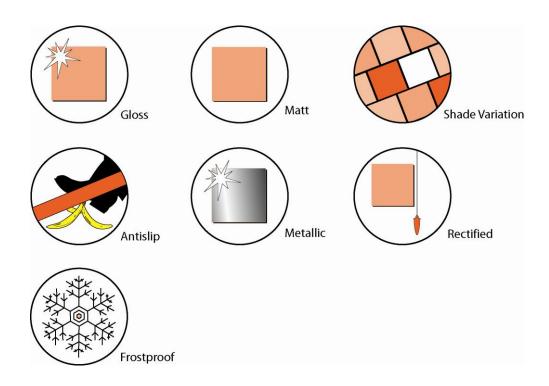


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This document is intended as a guide to the slip resistance and PEI ratings assigned to our floor tiles.

We have also indicated the properties of the tiles with the icons depicted below:



## **Slip Resistance Requirements:**

The law requires floor coverings to be safe in use. This imposes specific requirements for areas where risk of slipping may be increased due to the type of traffic or risk of contamination on the floor, such as industrial, food preparation or barefoot use.

German social insurance body ('Berufsgenossenschaft') for occupational accidents have drawn up standards detailing specific requirements for these areas where risk of slipping is to be assumed.

The institute identified areas where there is an increased risk of slipping and assigned a slip resistant requirement for each area using criteria or results from DIN 51097 - Barefoot Ramp Test, DIN 51130 -Shoe Shod Ramp Test and Displacement Volume (V) value. The slip resistant floor coverings considered consist of glazed or unglazed vitreous tiles with a slightly rough, rough or profiled surface.

These requirements are not included in any standard or legislation regarding slip resistance. We have simply included them into our technical library to provide independent reference information to specifiers and designers.

	Work Areas	R Value	V Value
0	General working rooms and areas		
0.1	Entrance areas, indoors	R9	
0.2	Entrance areas, outdoors	R11 or R10	V4
0.3	Stairs, indoors	R9	
0.4	Stairs, outdoors Sanitary (e. g. toilets, changing or washrooms), Break rooms (e.g. day rooms, canteens),	R11 or R10 R9	V4
0.5	Medical rooms	K7	
1	Manufacture of margarine, edible fats and oils		
1.1	Fat melting	R13	V6
1.2	Edible-oil refinery	R13	V4
1.3	Manufacture and packing of margarine	R12	
1.4	Manufacture and packing of edible fat, bottling of edible oil	R12	
2	Milk treatment and processing, cheese production	D40	
2.1	Processing of fresh milk, including buttery  Cheese production, storage and packing	R12 R11	
2.2	Ice cream manufacture	R12	
3	Manufacture of chocolates and confectionery	IVIZ	
3.1	Sugar boiling plant	R12	
3.2	Cocoa production	R12	
3.3	Preparation of raw mass	R11	
3.4	Production of slabs, hollow moulded forms and chocolates	R11	
4	Manufacture of breads and pastries (bakeries, cake and biscuit manufacturers)	DAA	
4.1	Preparation of dough	R11	
4.2	Areas where fats and liquid mixtures are processed Washing-up rooms	R12 R12	V4
5	Slaughtering, meat handling, meat processing	KIZ	V4
5.1	Abattoir		
5.2	Gut cleaning areas	R13	V10
5.3	Meat jointing	R13	V10
5.4	Sausage and cold meats kitchen	R13	V8
5.5	Boiled sausage area	R13	V8
5.6	Preserved sausage area	R13	V6
5.7 5.8	Sausage drying room	R12 R12	
5.8	Gut storage Curing, smoking room	R12	
5.1	Poultry processing	R12	V6
5.11	Slicing and packing area	R12	
5.12	Butchery with shop	R12	V8
6	Handling and processing of fish, manufacture of delicatessen products		
6.1	Handling and processing of fish	R13	V10
6.2	Manufacture of delicatessen products	R13 R13	V6 V4
6.3	Manufacture of mayonnaise Preparation and processing of vegetables	RI3	V4
7.1	Manufacture of sauerkraut	R13	V6
7.1	Manufacture of canned vegetables	R13	V6
7.3	Sterilisation areas	R11	
7.4	Rooms in which vegetables are prepared for processing	R12	V4
8	Wet areas in food and drink manufacture		
8.1	Storage and fermenting cellar	R10	
9.2	Bottling, fruit juice manufacture	R11	
9.1	Kitchens, dining rooms Gastronomic kitchens (restaurant and hotel kitchens)		
9.1.1	up to 100 covers per day	R11	V4
9.1.2	more than 100 covers per day	R12	V4 V4
9.2	Commercial kitchens in homes, schools, day nurseries, sanatoriums	R11	
9.3	Commercial kitchens in hospitals and clinics	R12	
9.4	Large-scale commercial kitchens in canteens, district kitchens	R12	V4
9.5	Fast food and snack bar kitchens	R12	V4
9.6	Defrosting and re-heating kitchens	R10	
9.7 9.8	Tea and coffee kitchens, B+B kitchens, ward kitchens	R10	
9.8.1	Washing-up areas Washing-up areas for 9.1, 9.4, 9.5	R12	V4
9.8.2	Washing-up areas for 9.1, 7.4, 7.3  Washing-up areas for 9.2	R12	***
9.8.3	Washing-up areas for 9.3	R12	
9.9	5 .		
7.7	Dining rooms, guest rooms, canteens including serving areas	R9	I

Cold storage rooms, deep freeze rooms and depots		Work Areas	R Value	V Value
10.1   For non-packaged goods	10	Cold storage rooms, deep freeze rooms and depots		
Seles areas and shops	10.1		R12	
11.1   For non-packaged goods	10.2		R11	
11.1.1   For non-packaged goods				
11.12   For packaged goods	$\overline{}$	3	D11	
11.33   For non-packaged goods	$\overline{}$			
11.13.2   For packaged goods	11.3			
11.5   Serving area for dairy and delicatessen, products, non-packaged goods				
11.6.1   For non-packaged goods				
11.6.1   For non-packaged goods				
11.62   For packaged goods	$\overline{}$	·		
			R11	
11.8.1   For meat preparation other than covered in 5   R12			R9	
11.9.2   For meat processing other than covered in 5   R11   Flower arranging rooms and areas   R11   Flower arranging rooms and areas   R11   Flower arranging rooms and areas   R11   For the production of breads and pastries   R11   For the production of breads and pastries   R11   R11.0.2   For the baking of prepared breads and pastries   R11   R11.0.2   For the baking of prepared breads and pastries   R12   V4   R11.0.2   For the baking of prepared breads and pastries   R12   V4   R11.1.2   Sales areas, customer-frequented areas   R7   Freparation areas for food for self-service sale   R10   R11.1.2   R11.1.3   R11.1.5   R11.2   R11.1.5   R11.		, ,	540	
11.10.   For the production of breads and pastries   R11     11.10.   For the production of breads and pastries   R11     11.10.   For the production of breads and pastries   R11     11.10.   Sales areas with fixed deep-fat fryers or grills   R12   V4     11.11.   Sales areas, with fixed deep-fat fryers or grills   R12   V4     11.12.   Sales areas, with fixed deep-fat fryers or grills   R10     11.13.   Preparation areas for food for self-service sale   R10     11.14.   Cash Ill, packing areas   R8     11.15.   Sales areas outdoors   R11   R11     12.   Sales areas outdoors   R11   R11     12.   Disinfection areas well   R11     12.   Sterilisation areas   R10     12.   Sterilisation of a R10     12.   Sterilisation areas   R10     12.   Washrooms for operating theatres, plaster casting rooms   R10     12.   R10   R10   R10     12.   Sanitary rooms, ward bathrooms   R10     12.   Sanitary rooms, ward bathrooms   R10     12.   Washrooms for operating theatres, plaster casting rooms   R10     12.   Washrooms for operating theatres, plaster casting rooms   R10     12.   Washrooms for medical diagnosis and therapy, massaging rooms   R70     12.   Washrooms ward bathrooms   R70     12.   Washrooms ward bathrooms   R70     12.   Washrooms ward bathrooms   R70     12.   Washrooms with theatres   R70     12.   Washrooms with the normal diagnosis and therapy, massaging rooms   R70     12.   Washrooms with diagnosis and therapy, massaging rooms   R70     12.   Washrooms with diagnosis and therapy, massaging rooms   R70     12.   Washrooms with diagnosis and therapy, massaging rooms   R70     12.   Washrooms on medical diagnosis and therapy, massaging rooms   R70     12.   Washrooms on diagnosis and therapy, massaging rooms   R70     12.   Washrooms on medical diagnosis and therapy, massaging rooms   R70		, ,		
11.10.1   For the production of breads and pastries		• •		
11.102   For the baking of prepared breads and pastries			R11	
11.12   Sales areas, customer-frequented areas   R9		For the baking of prepared breads and pastries		
11.13   Preparation areas for food for self-service sale				V4
11.14	$\overline{}$			
11.15   Sales areas outdoors				
Public health service rooms		71		V/.
12.1   Disinfection areas [wet]			KITOLKIO	V4
Excrement areas, sink rooms, unclean nursing rooms   R10     Pathology rooms   R10     R10     Pathology rooms   R10     R11     R11     R11     R11     R12     R13     R14     R15     R15     R16     R17     R17     R18     R18     R19     R19     R11     R11     R11     R12     R13     R14     R15     R16     R17     R17     R18     R18     R19     R19     R10     R10     R11     R11     R11     R12     R13     R14     R15     R16     R17     R17     R18     R18     R19     R19     R10     R11     R11     R11     R11     R12     R12     R12     R13     R14     R14     R15     R16     R17     R17     R18     R18     R19     R19     R10     R11     R11     R11     R11     R12     R12     R13     R14     R14     R15     R16     R17     R17     R18     R19     R19     R10     R10     R11     R11     R11     R11     R12     R13     R14     R15     R16     R17     R17     R18     R19     R19     R10     R10     R11     R12     R12     R12     R12     R13     R14     R14     R15     R15		Disinfection areas (wet)	R11	
Pathology rooms   R10				
12.5   Rooms for medicinal baths, hydrotherapy, tango preparation				
12.6   Washrooms for operating theatres, plaster casting rooms   R10     12.7   Sanitary rooms, ward bathrooms   R10     12.8   Rooms for medical diagnosis and therapy, massaging rooms   R79     12.9   Operating theatres   R79     12.11   Wards with hospital rooms and corridors   R79     12.11   Wards with hospital rooms and corridors   R79     12.12   Dispensing chemist's   R79     12.13   Laboratories   R79     12.14   Hairdresser's   R79     12.15   Haundries   R79     13.1   Rooms with continuous-run washing machines or centrifugal washing machines   R79     13.2   Rooms in which the laundry is removed from the machine dripping wet   R11     13.3   Rooms for ironing and pressing   R79     14.1   Dry feed production   R71     14.2   Feed concentrate production using fat and water   R71     14.1   Dry feed production   R71     14.2   Feed concentrate production using fat and water   R71     14.3   Areas with fleshing machines   R71     15.1   Water workshops in tanneries   R71     15.2   Areas where glued leather occurs   R713   V10     15.3   Areas where glued leather occurs   R713   V10     15.4   Grease room for the manufacture of seals   R71     15.5   Dye works for textiles   R71     16   Paint-shops   R72   V10     17.1   Wet-grinding (for ceramic material)   R71     17.2   Mixers, working with materials such as tar, pitch, graphite, synthetic resin   R71   V6     17.4   Casting areas   R712   V710     17.4   Casting areas   R712   V710     17.5   Casting areas   R712   V710     17.6   Casting areas   R712   V710     17.7   Casting areas   R712   V710     17.8   Casting areas   R712   V710     17.1   Casting areas   R712   V710     17.2   Casting areas   R712   V710     17.3   Presses [Forming], working with materials such as tar, pitch, graphite, synthetic resin   R711   V6     17.4   Casting areas   R712   V710     17.5   Casting areas   R712   V710     17.6   Casting areas   R712   V710     17.7   Casting areas   R712   V710     17.8   Casting areas   R712   V710     17.9   Casting areas   R712   V				
12.7 Sanitary rooms, ward bathrooms R10 12.8 Rooms for medical diagnosis and therapy, massaging rooms R9 12.9 Operating theaters R9 12.1 Wards with hospital rooms and corridors R9 12.1.1 Medical practices, day clinics R9 12.1.2 Dispensing chemist's R9 12.1.3 Laboratories R9 12.1.4 Hairdresser's R9 13.1 Rooms with continuous-run washing machines or centrifugal washing machines R9 13.2 Rooms in which the laundry is removed from the machine dripping wet R11 13.3 Rooms for ironing and pressing R9 14.1 Dry feed concentrate production R11 14.2 Feed concentrate production R11 14.2 Feed concentrate production using fat and water R15 Manufacture of leather goods, textiles R15.1 Water workshops in tanneries R16 R17 R17 R17 R18 R19 R19 R19 R19 R19 R10 R11 R11 V4 R11 R11 V4 R11 R11 V4 R11 R13 V10 R15 R14 R15 R15 Dye works for textiles R11 R11 R11 R11 R11 R11 R11 R11 R11 R1				
12.9 Operating theatres R9 12.1 Wards with hospital rooms and corridors R9 12.11 Medical practices, day clinics R9 12.12 Dispensing chemist's R9 12.13 Laboratories R9 12.14 Hairdresser's R9 13.1 Rooms with continuous-run washing machines or centrifugal washing machines R9 13.2 Rooms in which the laundry is removed from the machine dripping wet R11 13.3 Rooms for ironing and pressing R9 14.1 Dry feed production R11 14.2 Feed concentrate production using fat and water R11 15.1 Water workshops in tanneries R13 15.1 Water workshops in tanneries R13 15.2 Areas with fleshing machines R13 15.4 Grease room for the manufacture of seals R12 15.5 Dye works for textiles R11 16 Paint-shops R12 17.1 Wet-grinding (for ceramic material) R11 17.2 Met-grinding (for ceramic materials such as tar, pitch, graphite, synthetic resin R11 17.4 Casting areas				
12.11   Wards with hospital rooms and corridors   R9     12.11   Medical practices, day clinics   R9     12.12   Dispensing chemist's   R9     12.13   Laboratories   R9     12.14   Hairdresser's   R9     12.15   Laundries   R9     13.1   Rooms with continuous-run washing machines or centrifugal washing machines   R9     13.1   Rooms in which the laundry is removed from the machine dripping wet   R11     13.2   Rooms for ironing and pressing   R9     14.1   Dry feed production   R11     14.2   Feed concentrate production   R11     14.2   Feed concentrate production using fat and water   R11   V4     15   Manufacture of leather goods, textiles   R13     15.2   Areas with fleshing machines   R13   V10     15.3   Areas where glued leather occurs   R13   V10     15.4   Grease room for the manufacture of seals   R12     15.5   Dye works for textiles   R11     16   Paint-shops   R12     17   Ceramics industry   R11   V4     17.2   Mixers, working with materials such as tar, pitch, graphite, synthetic resin   R11   V6     17.4   Casting areas   R12   R12     17.5   Casting areas   R11   V6     17.4   Casting areas   R12   R12     17.5   Casting areas   R12   R11   V6     17.4   Casting areas   R12   R12     17.5   R12   R12   R12     17.6   R11   R11   R11   R11   R11     17.6   R11   R11   R11   R11     17.6   R11   R11   R11   R11   R11     17.7   Casting areas   R12   R11   R11     17.8   R12   R12   R12     17.9   R12   R12   R12     17.1   R12   R12   R12     17.2   R13   R14   R12   R12     17.3   R14   R12   R12     17.4   Casting areas   R12   R12     17.5   R12   R12     17.6   R12   R12     17.7   R12   R12   R12     17.8   R12   R12     17.9   R12   R12     17.1   R12   R12   R12     17.2   R12   R12   R12     17.3   R12   R12   R12     17.4   Casting areas   R12   R12     17.5   R12   R12   R12     17.6   R12   R12   R12     17.7   R12   R12   R12     17.8   R12   R12   R12     17.8   R12   R12   R12     17.9   R12   R12   R12     17.1   R12   R13   R12     17.2   R12   R13   R12     17.2   R13   R12   R1	12.8	Rooms for medical diagnosis and therapy, massaging rooms		
12.11 Medical practices, day clinics R9 12.12 Dispensing chemist's R9 12.13 Laboratories R9 12.14 Hairdresser's R9 13 Laundries 13.1 Rooms with continuous-run washing machines or centrifugal washing machines R9 13.2 Rooms in which the laundry is removed from the machine dripping wet R11 13.3 Rooms for ironing and pressing R9 14 Feed concentrate production 15.1 Dry feed production R11 16.2 Feed concentrate production using fat and water R11 17.2 Areas with fleshing machines R13 18.3 Areas where glued leather occurs R13 18.4 Grease room for the manufacture of seals R12 18.5 Dye works for textiles 18.6 Paint-shops 18.7 V10 18.7 Ceramics industry 18.7 Wet grubbing down areas R12 18.8 Wixers, working with materials such as tar, pitch, graphite, synthetic resins R11 18.4 Casting areas	$\overline{}$			
12.12 Dispensing chemist's 12.13 Laboratories 12.14 Hairdresser's 12.15 Rooms with continuous-run washing machines or centrifugal washing machines 13.1 Rooms with continuous-run washing machines or centrifugal washing machines 13.1 Rooms with continuous-run washing machines or centrifugal washing machines 13.1 Rooms with continuous-run washing machines 13.2 Rooms in which the laundry is removed from the machine dripping wet 13.3 Rooms for ironing and pressing 14.5 Feed concentrate production 14.1 Dry feed production 14.2 Feed concentrate production using fat and water 14.2 Feed concentrate production using fat and water 15.1 Water workshops in tanneries 15.1 Water workshops in tanneries 15.2 Areas with fleshing machines 15.3 Areas where glued leather occurs 15.4 Grease room for the manufacture of seals 15.5 Dye works for textiles 16.1 Wet rubbing down areas 16.1 Wet rubbing down areas 17.1 Wet-grinding (for ceramic material) 17.2 Mixers, working with materials such as tar, pitch, graphite, synthetic resins 17.4 Casting areas 17.5 Casting areas				
12.13 Laboratories R9 12.14 Hairdresser's R9 13 Laundries R9 13.1 Rooms with continuous-run washing machines or centrifugal washing machines R9 13.2 Rooms in which the laundry is removed from the machine dripping wet R11 13.3 Rooms for ironing and pressing R9 14 Feed concentrate production R11 14.1 Dry feed production R11 15.2 Feed concentrate production using fat and water R11 V4 15 Manufacture of leather goods, textiles R13 15.2 Areas with fleshing machines R13 15.2 Areas with fleshing machines R13 15.4 Grease room for the manufacture of seals R12 15.5 Dye works for textiles R11 16 Paint-shops R12 17.1 Wet rubbing down areas R12 V10 17.1 Wet rubding (for ceramic material) R13 17.2 Mixers, working with materials such as tar, pitch, graphite, synthetic resin R11 17.4 Casting areas				
12.14 Hairdresser's R9  13 Laundries  13.1 Rooms with continuous-run washing machines or centrifugal washing machines R9  13.2 Rooms in which the laundry is removed from the machine dripping wet R11  13.3 Rooms for ironing and pressing R9  14 Feed concentrate production  14.1 Dry feed production R11  14.2 Feed concentrate production using fat and water R11  15 Manufacture of leather goods, textiles  15.1 Water workshops in tanneries R13  15.2 Areas with fleshing machines R13  15.3 Areas where glued leather occurs R13  15.4 Grease room for the manufacture of seals R12  15.5 Dye works for textiles R11  16 Paint-shops  17 Ceramics industry  17.1 Wet-grinding (for ceramic material)  17.2 Mixers, working with materials such as tar, pitch, graphite, synthetic resin R11  17.4 Casting areas		, ,		
13 Laundries 13.1 Rooms with continuous-run washing machines or centrifugal washing machines 13.2 Rooms in which the laundry is removed from the machine dripping wet 13.3 Rooms for ironing and pressing 14 Feed concentrate production 15 Pry feed production 16 Pred concentrate production wing fat and water 17 Rooms for ironing and pressing 18 Rep 18 Rep 19 Rep 19 Rep 10 Rep 10 Rep 10 Rep 10 Rep 10 Rep 11 V4 12 Feed concentrate production using fat and water 19 Rep 10 Rep 10 Rep 11 Rep 11 Rep 12 Rep 13 V4 15 Manufacture of leather goods, textiles 15 Manufacture of leather goods, textiles 16 Rep 17 Rep 18 Rep 18 Rep 18 Rep 19 Rep 10 Rep 10 Rep 10 Rep 11 Rep 11 Rep 12 Rep 13 V10 Rep 15 Rep 16 Rep 16 Rep 16 Rep 17 Rep 18 Rep 1				
13.2 Rooms in which the laundry is removed from the machine dripping wet 13.3 Rooms for ironing and pressing R9 14 Feed concentrate production R11 14.1 Dry feed production R11 14.2 Feed concentrate production using fat and water R15 Manufacture of leather goods, textiles R16 15.1 Water workshops in tanneries R17 15.2 Areas with fleshing machines R18 15.3 Areas where glued leather occurs R19 15.4 Grease room for the manufacture of seals R19 15.5 Dye works for textiles R10 16.1 Paint-shops R11 17.2 Wet-rubbing down areas R12 17.1 Wet-grinding (for ceramic material) R17 17.2 Mixers, working with materials such as tar, pitch, graphite, synthetic resins R19 R10 R11 R11 R11 R11 R11 R11 R11 R11 R11	13			
13.3 Rooms for ironing and pressing 14 Feed concentrate production 14.1 Dry feed production 14.2 Feed concentrate production using fat and water 15 Manufacture of leather goods, textiles 15.1 Water workshops in tanneries 15.2 Areas with fleshing machines 15.3 Areas where glued leather occurs 15.4 Grease room for the manufacture of seals 15.5 Dye works for textiles 16.1 Wet rubbing down areas 16.1 Wet rubbing down areas 17 Ceramics industry 17.1 Wet-grinding (for ceramic material) 17.2 Mixers, working with materials such as tar, pitch, graphite, synthetic resins 17.4 Casting areas 18.7 17.6 Red concentrate production 18.11 V4 17.2 Casting areas 18.1 V4 17.2 Casting areas 18.1 V6 17.3 Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resins 18.1 V6 17.4 Casting areas	13.1		R9	
14     Feed concentrate production     R11       14.1     Dry feed production     R11       14.2     Feed concentrate production using fat and water     R11     V4       15     Manufacture of leather goods, textiles     R13     V10       15.1     Water workshops in tanneries     R13     V10       15.2     Areas with fleshing machines     R13     V10       15.3     Areas where glued leather occurs     R13     V10       15.4     Grease room for the manufacture of seals     R12       15.5     Dye works for textiles     R11       16     Paint-shops     R11       16.1     Wet rubbing down areas     R12     V10       17     Ceramics industry     R11     V6       17.1     Wet-grinding (for ceramic material)     R11     V6       17.2     Mixers, working with materials such as tar, pitch, graphite, synthetic resins     R11     V6       17.4     Casting areas     R12     R12				
14.1     Dry feed production     R11       14.2     Feed concentrate production using fat and water     R11     V4       15     Manufacture of leather goods, textiles        15.1     Water workshops in tanneries     R13       15.2     Areas with fleshing machines     R13       15.3     Areas where glued leather occurs     R13     V10       15.4     Grease room for the manufacture of seals     R12       15.5     Dye works for textiles     R11       16     Paint-shops        16.1     Wet rubbing down areas     R12     V10       17     Ceramics industry        17.1     Wet-grinding (for ceramic material)     R11     V6       17.2     Mixers, working with materials such as tar, pitch, graphite, synthetic resins     R11     V6       17.4     Casting areas     R12     R11			R9	
14.2       Feed concentrate production using fat and water       R11       V4         15       Manufacture of leather goods, textiles       R13         15.1       Water workshops in tanneries       R13         15.2       Areas with fleshing machines       R13         15.3       Areas where glued leather occurs       R13         15.4       Grease room for the manufacture of seals       R12         15.5       Dye works for textiles       R11         6       Paint-shops       R11         16.1       Wet rubbing down areas       R12       V10         17       Ceramics industry       R11       V6         17.1       Wet-grinding (for ceramic material)       R11       V6         17.2       Mixers, working with materials such as tar, pitch, graphite, synthetic resins       R11       V6         17.4       Casting areas       R12       R12			R11	
15         Manufacture of leather goods, textiles           15.1         Water workshops in tanneries         R13           15.2         Areas with fleshing machines         R13         V10           15.3         Areas where glued leather occurs         R13         V10           15.4         Grease room for the manufacture of seals         R12           15.5         Dye works for textiles         R11           16         Paint-shops         R11           16.1         Wet rubbing down areas         R12         V10           17         Ceramics industry         R11         V6           17.1         Wet-grinding (for ceramic material)         R11         V6           17.2         Mixers, working with materials such as tar, pitch, graphite, synthetic resins         R11         V6           17.3         Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resin         R11         V6           17.4         Casting areas         R12         R12				V4
15.1       Water workshops in tanneries       R13         15.2       Areas with fleshing machines       R13       V10         15.3       Areas where glued leather occurs       R13       V10         15.4       Grease room for the manufacture of seals       R12         15.5       Dye works for textiles       R11         16       Paint-shops       R12         16.1       Wet rubbing down areas       R12       V10         17       Ceramics industry       R11       V6         17.1       Wet-grinding (for ceramic material)       R11       V6         17.2       Mixers, working with materials such as tar, pitch, graphite, synthetic resins       R11       V6         17.3       Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resin       R11       V6         17.4       Casting areas       R12       R12				
15.3 Areas where glued leather occurs R13 V10  15.4 Grease room for the manufacture of seals R12  15.5 Dye works for textiles R11  16 Paint-shops R12 V10  17 Ceramics industry R11  17.1 Wet-grinding (for ceramic material) R11  17.2 Mixers, working with materials such as tar, pitch, graphite, synthetic resins R11 V6  17.4 Casting areas R12  17.5 R15 V10  17.6 R17 V6  17.7 Casting areas R17 V6				
15.4 Grease room for the manufacture of seals R12 15.5 Dye works for textiles R11 16 Paint-shops R12 17.1 Wet rubbing down areas R12 V10 18.1 Wet-grinding (for ceramic material) R11 18.1 Wet-grinding (for ceramic material) R11 18.2 Mixers, working with materials such as tar, pitch, graphite, synthetic resins R11 V6 18.3 Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resin R11 V6 18.4 Casting areas R12				
15.5     Dye works for textiles     R11       16     Paint-shops				V10
16     Paint-shops       16.1     Wet rubbing down areas       17     Ceramics industry       17.1     Wet-grinding (for ceramic material)       17.2     Mixers, working with materials such as tar, pitch, graphite, synthetic resins     R11       17.3     Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resin     R11       17.4     Casting areas     R12				
16.1     Wet rubbing down areas     R12     V10       17     Ceramics industry	$\overline{}$		IVII	
17     Ceramics industry       17.1     Wet-grinding (for ceramic material)     R11       17.2     Mixers, working with materials such as tar, pitch, graphite, synthetic resins     R11     V6       17.3     Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resin     R11     V6       17.4     Casting areas     R12		·	R12	V10
17.1     Wet-grinding (for ceramic material)     R11       17.2     Mixers, working with materials such as tar, pitch, graphite, synthetic resins     R11     V6       17.3     Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resin     R11     V6       17.4     Casting areas     R12				
17.3     Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resin     R11     V6       17.4     Casting areas     R12	17.1	Wet-grinding (for ceramic material)	R11	
17.4 Casting areas R12		Mixers, working with materials such as tar, pitch, graphite, synthetic resins		
Ÿ		Presses (Forming), working with materials such as tar, pitch, graphite, synthetic resin		V6
17.5   Glazing areas   R12		•		
	17.5	Glazing areas	R12	

	Work Areas	R Value	V Value
18	Treatment and processing of glass and stone		
18.1	Stone cutting, stone grinding areas	R11	
18.2	Glass moulding of hollow glass, container glass, structural glass	R11	
18.3	Grinding areas for hollow glass, sheet glass	R11	
18.4	Processing of insulating glass working with desiccants	R11	V6
18.5	Packaging, dispatch of sheet glass Working with anti-blocking agents	R11	V6
18.6	Etching and acid polishing units for glass	R11	
19	Cement works		
19.1	Cement washing area	R11	
20	Storage rooms		
20.1	Storage rooms for oils and fats	R12	V6
20.2	Storage rooms for packaged foods	R10	
20.3	Storage rooms outdoors	R11 or R10	V4
21	Chemical and thermal treatment of iron, metal and glass		
21.1	Pickling shops	R12	
21.2	Hardening shops	R12	
21.3	Laboratories	R11	
22	Metal workshops		
22.1	Electroplating rooms	R12	
22.2	Grey iron processing	R11	V4
22.3	Mechanical processing areas (e.g. lathe shop, milling shop), punching department, pressroom, drawing mill (pipes, wires) and areas with increased use of oil and lubricating materials	R11	V4
22.4	Part cleaning areas, steaming areas	R12	
23	Vehicle maintenance workshop		
23.1	Repair and maintenance shop	R11	
23.2	Repair and inspection pit	R12	V4
23.3	Car wash, washing areas	R11	V4
24	Aircraft maintenance workshops	IXII	V 4
24.1	Hangars	R11	
24.2	Repair hangars	R12	
24.3	Washing areas	R11	V4
25	Sewage works		
OF 1			
25.1	Pumping rooms	R12	
25.1	Pumping rooms  Rooms for sludge de-watering facilities	R12 R12	
	Rooms for sludge de-watering facilities		
25.2	Rooms for sludge de-watering facilities Rooms for raking facilities	R12	
25.2 25.3	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms	R12 R12	
25.2 25.3 25.4	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations	R12 R12 R12	
25.2 25.3 25.4 26	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas	R12 R12 R12	
25.2 25.3 25.4 26 26.1	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment	R12 R12 R12	
25.2 25.3 25.4 26 26.1 26.2	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks	R12 R12 R12 R12 R12	
25.2 25.3 25.4 26 26.1 26.2 27	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas	R12 R12 R12	
25.2 25.3 25.4 26 26.1 26.2 27 27.1	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas	R12 R12 R12 R12 R12 R12	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather	R12 R12 R12 R12 R12 R12 R9	V4
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10	V4 V4
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors	R12 R12 R12 R12 R12 R12 R9	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens	R12 R12 R12 R12 R12 R12 R10 R9 R10 R11 or R10 R11 or R10	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls	R12 R12 R12 R12 R12 R12 R10 R9 R10 R11 or R10 R9	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29 29.1 29.2 29.3	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs	R12 R12 R12 R12 R12 R12 R10 R11 or R10 R11 or R10 R9 R9 R9	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 29.3 29.1 29.2	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10 R11 or R10 R9 R9 R9 R9 R10	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 29.2 29.1 29.2 29.3 29.4 29.5	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10 R11 or R10 R9 R9 R9 R9 R10 R10 R10	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29 29.1 29.2 29.3 29.4 29.5	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10 R11 or R10 R9 R9 R9 R9 R10 R10 R10 R10	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29 29.1 29.2 29.3 29.4 29.5 29.6	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10 R11 or R10 R9 R9 R9 R9 R10 R10 R10 R10 R10	
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29 29.1 29.2 29.3 29.4 29.5 29.6 29.7 29.8	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork Special rooms for woodwork etc.	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10 R11 or R10 R9 R9 R9 R9 R10 R10 R10 R10 R10 R10 R10	V4
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29.1 29.2 29.3 29.4 29.5 29.6 29.7 29.8	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork Special rooms for woodwork etc. Playgrounds	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10 R11 or R10 R9 R9 R9 R9 R10 R10 R10 R10 R10	
25.2 25.3 25.4 26 26.1 28 28.1 28.2 28.3 29 29.1 29.2 29.3 29.4 29.5 29.7 29.7 29.8	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork Special rooms for woodwork etc. Playgrounds Outside traffic routes	R12 R12 R12 R12 R12 R12 R10 R10 R11 or R10	V4 V4
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29.1 29.2 29.3 29.4 29.5 29.6 29.7 30.3	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork Special rooms for woodwork etc. Playgrounds Outside traffic routes Paths	R12 R12 R12 R12 R12 R12 R9 R10 R11 or R10 R11 or R10 R9 R9 R9 R9 R10 R10 R10 R10 R10 R10 R10	V4
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29.1 29.2 29.3 29.4 29.5 29.6 29.7 29.8 30.3 30.1 30.2	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork Special rooms for woodwork etc. Playgrounds Outside traffic routes Paths Loading ramps	R12 R12 R12 R12 R12 R12 R19 R10 R11 or R10 R11 or R10	V4 V4
25.2 25.3 25.4 26 26.1 28 28.1 28.2 28.3 29 29.1 29.2 29.3 29.4 29.5 29.6 29.7 29.8 29.7 29.8 29.3 29.4 29.3 29.3 29.4 29.5 29.6 29.7 29.8 29.3 29.3 29.4 29.5 29.6 29.7 29.8 29.3 29.3 29.4 29.5 29.3 29.3 29.3 29.3 29.4 29.5 29.5 29.6 29.7 29.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork Special rooms for woodwork etc. Playgrounds Outside traffic routes Paths Loading ramps covered	R12 R12 R12 R12 R12 R12 R19 R9 R10 R11 or R10	V4 V4 V4
25.2 25.3 25.4 26 26.1 26.2 27 27.1 28 28.1 28.2 28.3 29 29.1 29.2 29.3 29.4 29.5 29.6 29.7 29.8 29.7 29.8 29.7 29.8 29.3 29.4 29.3 29.4 29.5 29.3 29.4 29.5 29.3 29.3 29.4 29.3 29.4 29.5 29.3 29.3 29.4 29.5 29.3 29.3 29.3 29.4 29.5 29.3 29.3 29.4 29.5 29.3 29.3 29.3 29.4 29.5 29.5 29.6 29.7 29.8 29.9 29.8 29.9 29.0 20.0 20	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork Special rooms for woodwork etc. Playgrounds Outside traffic routes Paths Loading ramps covered not covered	R12 R12 R12 R12 R12 R12 R10 R10 R11 or R10	V4 V4
25.2 25.3 25.4 26 26.1 28 28.1 28.2 28.3 29 29.1 29.2 29.3 29.4 29.5 29.6 29.7 29.8 29.7 29.8 29.3 29.4 29.3 29.3 29.4 29.5 29.6 29.7 29.8 29.3 29.3 29.4 29.5 29.6 29.7 29.8 29.3 29.3 29.4 29.5 29.3 29.3 29.3 29.3 29.4 29.5 29.5 29.6 29.7 29.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8 20.8	Rooms for sludge de-watering facilities Rooms for raking facilities Standing areas of workplaces, working and maintenance platforms Fire stations Vehicle standing areas Rooms for hose servicing equipment Banks Reception areas Parking areas Garages, multi-storey and underground car parks not subject to the effects of the weather Garages, multi-storey and underground car parks subject to the effects of the weather Parking areas outdoors Schools and kindergardens Entrance areas, corridors, recreation halls Classrooms, group rooms Stairs Toilets, washrooms Cookery rooms in schools Kitchens in kindergardens Machine rooms for woodwork Special rooms for woodwork etc. Playgrounds Outside traffic routes Paths Loading ramps covered	R12 R12 R12 R12 R12 R12 R19 R9 R10 R11 or R10	V4 V4 V4

## Porcelain Enamel Institute (PEI) Rating

PEI rating refers to surface abrasion test of glazed tiles. The test, resistance to surface abrasion of glazed tiles intended for use on floors, is conducted according to EN 10545-7 which is a requirement of EN11441, Ceramic tiles – Definitions, classification, characteristics and marking.

PEI rating is only given to glazed tiles, full body or through body porcelain without glazing are not given this rating. Unglazed, full body floor tiles are tested for resistance to deep abrasion of unglazed tiles: the test value is removed volume, in cubic millimetres and the test method is EN10545-6.

PEI rating indicates the wear resistance of the glazed tile surface and this value can be used to determine suitability of the floor tile for specific uses. The recommendations for suitability of the tile using the PEI Ratings are as follows:

Class 0 - No Foot Traffic:

Wall tile only and should not be used on floors.

Class 1 - Very light traffic:

Very low foot traffic, bare foot only. (Master Ensuite, spa bathroom).

Class 2 - Light Traffic:

Slipper or soft-soled shoes. Second level main bathroom areas, bedrooms.

Class 3 - Light to Moderate Traffic:

Any residential area with the possible exception of some entries and kitchens if extremely heavy or abrasive traffic is anticipated.

Class 4 - Moderate to Heavy Traffic:

High foot traffic, areas where abrasive or outside dirt could be tracked. Residential entry, kitchen, balcony, and countertop.

Class 5 - Heavy Traffic:

Ceramic tile suggested for residential, commercial and institutional floor subjected to heavy traffic.