

Slip Resistance - Shod (DIN 51130)

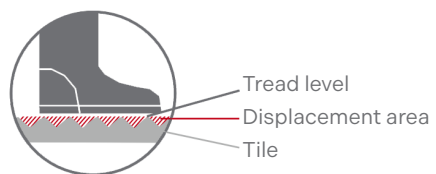
In accordance with BGR 181

Working rooms and areas are classified according to five assessment groups on the basis of the extent of the risk of slipping. Coverings belonging to group R9 are subject to the lowest requirements, while the most stringent requirements apply to group R13 coverings. Working rooms + areas where a displacement space is necessary under the tread level in order to discharge substances that are particularly conducive to slipping are indicated by 'V' in conjunction with a number specifying the minimum volume of the displacement space. V ratings are particularly important for areas where water is likely to be present, e.g. swimming pools, shower areas, reception areas and outdoor areas etc. V ratings are classified as V0 being the lowest and V10 as the highest.

Test method

DIN 51130 - Testing of floor covering; determination of slip resistance; work rooms and work areas subject to pronounced risk of slipping.

Designation of displacement space	Minimum volume of displacement space below the walking area
V4	4cm ³ /dm ²
V6	6cm ³ /dm ²
V8	8cm ³ /dm ²
V10	10cm ³ /dm ²



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No.	Working rooms & traffic routes	Grestec guideline	Standard guideline	Displacement area (min. volume)
0	General working rooms + areas			
0.1	Entrance areas, indoors	R10	R9	-
0.2	Entrance areas, outdoors	R11	R11/R10	V4
0.3	Stairs, indoors	R10	R9	-
0.4	Stairs, outdoors	R11	R11/R10	V4
0.5	Sloping ramps, inside (e.g. for wheelchairs, levelling slopes)	1 R-group higher for entrance covering		V-value of entrance, covering, where appl
0.6	Sanitary (e.g. toilets, wash-rooms)			
0.6.1	Toilets	R10	R9	-
0.6.2	Changing or wash-rooms	R10	R10	-
0.7	Break rooms (e.g. canteens)	R10	R9	-
0.8	Medical rooms	R10	R9	-
1	Manufacture of margarine, edible fats + oils			
1.1	Fat melting	R13	R13	V6
1.2	Edible-oil refinery	R13	R13	V4
1.3	Manufacture and packing of margarine	R12	R12	-
1.4	Manufacture & packing of edible fat, bottling of edible oil	R12	R12	-
2	Milk treatment + processing, cheese production			
2.1	Processing of fresh milk, including buttery	R12	R12	-
2.2	Cheese production storage and packaging	R11	R11	-
2.3	Ice cream manufacture	R12	R12	-
3	Manufacture of chocolates + confectionery			
3.1	Sugar boiling plant	R12	R12	-
3.2	Cocoa production	R12	R12	-
3.3	Preparation of raw mass	R11	R11	-
3.4	Production of slabs, hollow moulded forms & chocolate	R11	R11	-

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4	Manufacture of breads + pastries (bakeries/cake manufacturers)			
4.1	Preparation of dough	R11	R11	-
4.2	Areas where fats and liquid mixtures are processed	R12	R12	-
4.3	Washing-up rooms	R12	R12	V4
5	Slaughtering, meat handling, meat processing			
5.1	Abattoir	R13	R13	V10
5.2	Gut cleaning areas	R13	R13	V10
5.3	Meat jointing	R13	R13	V8
5.4	Sausage and cold meats kitchen	R13	R13	V8
5.5	Boiled sausage area	R13	R13	V8
5.6	Preserved sausage areas	R12	R12	V6
5.7	Sausage drying room	R12	R12	-
5.8	Gut storage	R12	R12	-
5.9	Curing, smoking room	R12	R12	-
5.10	Poultry processing	R12	R12	V6
5.11	Slicing and packing	R12	R12	-
5.12	Butchery with shop	R12	R12	V8
6	Handling + processing of fish, manufacture of delicatessen			
6.1	Handling and processing of fish	R13	R13	V10
6.2	Manufacture of delicatessen products	R13	R13	V6
6.3	Manufacture of mayonnaise	R13	R13	V4
7	Preparation + processing of vegetables			
7.1	Manufacture of sauerkraut	R13	R13	V6
7.2	Manufacture of canned vegetables	R13	R13	V6
7.3	Sterilisation areas	R11	R11	-
7.4	Rooms in which vegetables are prepared for processing	R12	R12	V4

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8	Wet areas in food + drink manufacture			
8.1	Storage and fermenting cellar	R10	R10	-
8.2	Bottling, fruit juice manufacture	R11	R11	-
9	Kitchens, dining rooms			
9.1	Gastronomic kitchens (restaurant and hotel kitchens)			
9.1.1	Up to 100 covers per day	R11	R11	V4
9.1.2	More than 100 covers per day	R12	R12	V4
9.2	Commercial kitchens (homes, schools, nurseries etc.)	R11	R11	-
9.3	Commercial kitchens in hospitals and clinics	R12	R12	-
9.4	Large-scale commercial kitchens (canteens etc.)	R12	R12	V4
9.5	Fast food and snack bar kitchens	R12	R12	V4
9.6	Defrosting and re-heating kitchens	R10	R10	-
9.7	Tea and coffee kitchens, B+B kitchens, ward kitchens	R10	R10	-
9.8	Washing-up areas			
9.8.1	Washing-up areas for 9.1, 9.4, 9.5	R12	R12	V4
9.8.2	Washing-up areas for 9.2	R11	R11	-
9.8.3	Washing-up areas for 9.3	R12	R12	-
9.9	Dining rooms, guest rooms, canteens, serving areas	R10	R9	-
10	Cold storage rooms, deep freeze + depots			
10.1	For non-packaged goods	R12	R12	-
10.2	For packaged goods	R11	R11	-

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No.	Working rooms & traffic routes	Grestec guideline	standard guideline	Displacement area (min. volume)
11	Sales areas + shops			
11.1	Receiving rooms for meats	R11	R11	-
11.1.1	For non-packaged goods	R10	R10	-
11.1.2	For packaged goods	R11	R11	-
11.2	Receiving rooms for fish			
11.3	Serving area for meats and cold cuts			
11.3.1	For non-packaged goods	R11	R11	-
11.3.2	For packaged goods	R10	R10	-
11.4	Serving area for breads & pastries, non-packaged goods	R10	R10	-
11.5	Serving area for dairy products, non-packaged goods	R10	R10	-
11.6	Serving area for fish			
11.6.1	For non-packaged goods	R12	R12	-
11.6.2	For packaged goods	R11	R11	-
11.7	Serving areas other than 11.3 - 11.6	R10	R9	-
11.8	Meat preparation room			
11.8.1	For meat preparation other than covered in 5	R12	R12	V8
11.8.2	For meat processing other than covered in 5	R11	R11	-
11.9	Flower arranging rooms and areas	R11	R11	-
11.10	Sales areas with fixed ovens			
11.10.1	For the production of breads and pastries	R11	R11	-
11.10.2	For the baking of prepared breads and pastries	R10	R10	-
11.11	Sales areas with fixed deep-fat fryers or grills	R12	R12	V4
11.12	Sales areas, customer-frequented areas	R10	R9	-
11.13	Preparation areas for food for self-service sale	R10	R10	-
11.14	Cash till, packing areas	R10	R9	-
11.15	Sales areas outdoors	R11	R11/ R10	V4

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No.	Working rooms & traffic routes	Grestec guideline	Standard guideline	Displacement area (min. volume)
12	Public health service rooms			
12.1	Disinfection areas (wet)	R11	R11	-
12.2	Sterilisation areas	R10	R10	-
12.3	Excrement areas, sink rooms, unclean nursing rooms	R10	R10	-
12.4	Pathology rooms	R10	R10	-
12.5	Rooms for medicinal baths, hydrotherapy, fango prep	R11	R11	-
12.6	Wash-rooms (operating theatres, plaster casting rooms)	R10	R10	-
12.7	Sanitary rooms, ward bathrooms	R10	R10	-
12.8	Rooms for medical diagnosis & therapy, massaging room	R10	R9	-
12.9	Operating theatres	R10	R9	-
12.10	Wards with hospital rooms and corridors	R10	R9	-
12.11	Medical practices, day clinics	R10	R9	-
12.12	Dispensing chemists	R10	R9	-
12.13	Laboratories	R10	R9	-
12.14	Hairdressers	R10	R9	-
13	Laundries			
13.1	Rooms with centrifugal/continuous-run washing machines	R10	R9	-
13.2	Rooms where laundry is removed from the machine wet	R11	R11	-
13.3	Rooms for ironing and pressing	R10	R9	-
14	Feed concentrate production			
14.1	Dry feed production	R11	R11	-
14.2	Feed concentrate production using fat and water	R11	R11	V4

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15	Manufacture of leather goods, textiles			
15.1	Water workshops in tanneries	R13	R13	-
15.2	Areas with fleshing machines	R13	R13	V10
15.3	Areas where glued leather occurs	R13	R13	V10
15.4	Grease rooms for the manufacture of seals	R12	R12	-
15.5	Dye works for textiles	R11	R11	-
16	Paint-shops			
16.1	Wet rubbing down areas	R12	R12	V10
17	Ceramics industry			
17.1	Wet-grinding (for ceramic material)	R11	R11	-
17.2	Mixers, working with material e.g. tar, pitch, graphite	R11	R11	V6
17.3	Presses (forming), e.g. working with (tar, pitch, graphite)	R11	R11	V6
17.4	Casting areas	R12	R12	-
17.5	Glazing areas	R11	R11	-
18	Treatment + processing of glass + stone			
18.1	Stone cutting, stone grinding areas	R11	R11	-
18.2	Glass moulding of hollow/container/structural glass	R11	R11	-
18.3	Grinding areas for hollow glass, sheet glass	R11	R11	-
18.4	Processing of insulating glass, working with desiccants	R11	R11	V6
18.5	Packaging/dispatch of sheet glass, anti-blocking agents	R11	R11	V6
18.6	Etching and acid polishing units for glass	R11	R11	-
19	Cement works			
19.1	Cement washing area	R11	R11	-

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No.	Working rooms & traffic routes	Grestec guideline	Standard guideline	Displacement area (min. volume)
20	Storage rooms			
20.1	Storage rooms for oils and fats	R12	R12	V6
20.2	Storage rooms for packaged foods	R10	R10	-
20.3	Storage rooms outdoors	R11	R10/R11	V4
21	Chemical + thermal treatment of iron, metal + glass			
21.1	Pickling shops	R12	R12	-
21.2	Hardening shops	R12	R12	-
21.3	Laboratories	R11	R11	-
22	Metal workshops			
22.1	Electroplating rooms	R12	R12	-
22.2	Grey iron processing	R11	R11	V4
22.3	Mechanical processing areas, punching department, press-room, drawing mill + areas with increased use of oil and lubricating materials.	R11	R11	V4
22.4	Part cleaning areas, steaming areas	R12	R12	-
23	Vehicle maintenance workshop			
23.1	Repair and maintenance shops	R11	R11	-
23.2	Repair and inspection pit	R12	R12	V4
23.3	Car wash, washing areas	R11	R11	V4
24	Aircraft maintenance workshops			
24.1	Hangars	R11	R11	-
24.2	Repair hangars	R12	R12	-
24.3	Washing areas	R11	R11	V4
25	Sewage works			
25.1	Pumping rooms	R12	R12	-
25.2	Rooms for sludge de-watering facilities	R12	R12	-
25.3	Rooms for raking facilities	R12	R12	-
25.4	Standing areas, working and maintenance platforms	R12	R12	-

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26	Fire stations			
26.1	Vehicle standing areas	R12	R12	-
26.2	Rooms for hose servicing equipment	R12	R12	-
27	Banks			
27.1	Reception areas	R10	R9	
28	Parking			
28.1	Garages, multi-storey/underground car parks not subject to the effects of weather	R10	R10	-
28.2	Garages, multi-storey/underground car parks subject to the effects of the weather	R11	R10/R11	V4
28.3	Park areas outdoors	R11	R10/R11	V4
29	Schools + kinder-gardens			
29.1	Entrance areas, corridors, recreation halls	R10	R9	-
29.2	Classrooms, group rooms	R10	R9	-
29.3	Stairs	R10	R9	-
29.4	Toilets, wash-rooms	R10	R10	-
29.5	Cookery rooms in schools	R10	R10	-
29.6	Kitchens in kinder-gardens	R10	R10	-
29.7	Machine rooms for woodwork	R10	R10	-
29.8	Special rooms for woodwork etc.	R10	R10	-
29.9	Playgrounds	R11	R10/R11	V4
30	Outside traffic routes			
30.1	Paths	R11	R10/R11	V4
30.2	Loading ramps	R11	R10/R11	
30.2.1	Covered	R11	R10/R11	V4
30.2.2	Not covered	R11	R11/R12	V4
30.3	Sloping ramps (e.g. for wheelchairs, loading bridges)	R11	R11/R12	-
30.4	Refuelling areas			-
30.4.1	Refuelling areas, covered	R11	R11	