

# COMMERCIAL CARPET CUSHION GUIDELINES



## HOW ARE CONTRACT CARPET CUSHION GUIDELINES DETERMINED

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## WHO USES THESE GUIDELINES?

Based on extensive testing in the field and laboratory, the Carpet Cushion Council, the national trade association for the carpet cushion industry, establishes the minimum recommended criteria for selecting the proper separate carpet cushion for use in commercial carpet installations.

These guidelines, which continue to be re-evaluated by the Council for improved carpet cushion performance, assist in the selection of carpet cushion for installation in commercial settings, i.e. office buildings, hospitals, hotels, etc.



By considering the amount of foot traffic expected, architects, interior designers, specifiers and facility managers can select the appropriate grade of carpet cushion to meet their needs.

## SELECTING THE CORRECT CARPET CUSHION



### Separate carpet cushion is the right choice for most contract installations.

When compared with direct glue-down methods, tests prove that carpet installed over a properly selected separate cushion is the most economical form of carpet installation.

**Direct glue-down is more costly!** Based on a national survey of 57 carpet manufacturers, the median cost of direct-stick installation is about \$1 a square yard more than carpet with separate cushion when all expense factors—floor preparation, initial installation, carpet removal and floor repair—are considered.

**Superior life expectancy with separate cushion.** Independent tests prove that a properly specified cushion will add appreciably to the life of the installation, depending on the type of carpet and the area covered.

**Carpet cushion improves maintenance.** Controlled laboratory tests, following procedures outlined in ASTM F904-79, proved dirt pick-up using normal vacuuming methods ranged from 16 percent to 55 percent greater in carpet depending on the type tested over separate cushion, as compared to direct-stick.

**Carpet with cushion is quieter.** Research on floor sound absorption and impact noise substantiates that areas with carpet and cushion are significantly quieter than those in which carpet is installed without cushion.

**Visual attractiveness is enhanced.** A leading fiber manufacturer recommends installing a good grade of cushion to reduce "uply-out" and loss of fabric attractiveness throughout the life of the carpet.

**Cushion is comfortable!** There is absolutely no other way to secure the underfoot feeling of comfort and luxury that a cushion provides. Don't do it any other way.

**Many cushioning materials and weights are available for contract use.** Generally, carpet cushions are manufactured of fiber materials, sponge rubber or flexible polyurethane foam. The type of cushion you select will depend on the specific wear and comfort requirements of the installation. Any cushion manufacturer offering cushion certified as meeting CCC guidelines will be glad to assist you with your decision.

# MINIMUM RECOMMENDED CRITERIA FOR SATISFACTORY CARPET CUSHION PERFORMANCE IN CONTRACT INSTALLATIONS

TYPES OF CUSHION	CLASS I MODERATE TRAFFIC	CLASS II HEAVY TRAFFIC	CLASS III EXTRA HEAVY TRAFFIC
<b>Commercial Application</b>  Minimum recommended criteria for satisfactory carpet cushion performance in contract installations	<b>Office Buildings:</b> Executive or private offices, conference rooms <b>Health Care:</b> Executive, administrative <b>Schools:</b> Administration <b>Airports:</b> Administration <b>Retail:</b> Windows and display areas <b>Banks:</b> Executive areas <b>Hotels/Motels:</b> Sleeping rooms <b>Libraries/Museums:</b> Administration	<b>Office Buildings:</b> Clerical areas, corridors (moderate traffic) <b>Health Care:</b> Patients' rooms, lounges <b>Schools:</b> Dormitories and classrooms <b>Retail:</b> Minor aisles, boutiques, specialty <b>Banks:</b> Lobbies, corridors (moderate traffic) <b>Hotels/Motels:</b> Corridors <b>Libraries/Museums:</b> Public Areas (moderate traffic) <b>Convention Centers:</b> Auditoriums	<b>Office Buildings:</b> Corridors (heavy traffic), cafeterias <b>Health Care:</b> Lobbies, corridors, nurses' stations <b>Schools:</b> Corridors, cafeterias <b>Airports:</b> Corridors, public areas, ticketing areas <b>Retail:</b> Major aisles, check outs, supermarkets <b>Banks:</b> Corridors (heavy traffic), teller windows <b>Hotels/Motels:</b> Lobbies and public areas <b>Libraries/Museums:</b> Public Areas <b>Country Clubs:</b> Locker rooms, pro shops, dining areas <b>Convention Centers:</b> Corridors and lobbies <b>Restaurants:</b> Dining areas and lobbies
<b>FIBER</b>			
Rubberized Hair	Wt. 40 oz. Th: .27" D = 12.3	Wt. 40 oz. Th: .3125" D = 12.3	Wt. 50 oz. Th: .375" D = 11.1
Rubberized Jute	Wt. 32 oz. Th: .25" D = 10.3	Wt. 40 oz. Th: .25" D = 12.3	Wt. 40 oz. Th: .34" D = 11.1
Synthetic Fibers	Wt. 22 oz. Th: .25" D = 7.3	Wt. 28 oz. Th: .3125" D = 7.3	Wt. 36 oz. Th: .35" D = 8.0
Resinated Recycled Textile Fiber	Wt. 24 oz. Th: .25" D = 7.3	Wt. 30 oz. Th: .30" D = 7.3	Wt. 38 oz. Th: .375" D = 8.0
<b>RUBBER</b>			
Flat Rubber	Wt. 62 oz. Th: .150" CR @ 25% = 3.0 psi min. D = 21	Wt. 62 oz. Th: .150" CR @ 25% = 3.0 psi min. D = 21	Wt. 62 oz. Th: .150" CR @ 25% = 4.0 psi min. D = 26
Rippled Waffle	Wt. 56 oz. Th: .270" CR @ 25% = 0.7 psi min. D = 16	<b>NOT RECOMMENDED FOR USE IN THIS CLASS</b>	
Textured Flat Rubber	Wt. 56 oz. Th: .220" CR @ 25% = 1.0 psi min. D = 18	Wt. 64 oz. Th: .235" CR @ 25% = 1.5 psi min. D = 22	Wt. 80 oz. Th: .250" CR @ 25% = 1.75 psi min. D = 26
Reinforced Rubber	Wt. 64 oz. Th: .235" CR @ 25% = 2.0 psi min. D = 22 CR @ 65% = 50.0 psi min.	Wt. 64 oz. Th: .235" CR @ 25% = 2.0 psi min. D = 22 CR @ 65% = 50.0 psi min.	Wt. 54 oz. Th: .200" CR @ 25% = 2.0 psi min. D = 22 CR @ 65% = 50.0 psi min.
<b>POLYURETHANE FOAM</b>			
Grafted Prime Polyurethane*	D = 2.7 Th: .25" CFD @ 65% = 2.5 psi min.	D = 3.2 Th: .25" CFD @ 65% = 3.5 psi min.	D = 4.0 Th: .25" CFD @ 65% = 5.0 psi min.
Densified Polyurethane*	D = 2.7 Th: .25" CFD @ 65% = 2.4 psi min.	D = 3.5 Th: .25" CFD @ 65% = 3.3 psi min.	D = 4.5 Th: .25" CFD @ 65% = 4.8 psi min.
Bonded Polyurethane**	D = 5.0 Th: .375" CFD @ 65% = 5.0 psi min.	D = 6.5 Th: .25" CFD @ 65% = 10.0 psi min.	D = 8.0 Th: .25" CFD @ 65% = 8.0 psi min.
Mechanically Fruited Polyurethane***	D = 13.0 Th: .30" CFD @ 65% = 9.7 psi min.	D = 15.0 Th: .223" CFD @ 65% = 49.9 psi min.	D = 19.0 Th: .183" CFD @ 65% = 30.5 psi min.

**Footnotes:**  
 Maximum thickness for any product is 3/8"  
 D - Denotes Density in lbs./cu.ft.  
 Cr. - Denotes weight in ounces/sq. yd.  
 CR - Denotes Compression Resistance in lbs./sq. in. as measured by ASTM D-2676  
 CFD - Denotes Compression Force Deflection as measured by ASTM D-3574

All thicknesses, weights and densities allow a 5% manufacturing tolerance

- \* - Polymer densities
- \*\* - Particle size not to exceed 1/2"
- \*\*\* - Ash content = 50% max.

**Labeling for traffic makes contract cushion selection easier.**



To help you compare various types of cushion, the Carpet Cushion Council has established recommended minimum contract cushion criteria for three levels of traffic. Any cushion type and grade certified as meeting CCC's guidelines for cushion being installed at a particular traffic level can be expected to perform satisfactorily at that level under normal conditions, when used with a carpet made for the same specified traffic. Red Label, Commercial - Moderate Traffic • Green Label, Commercial - Heavy Traffic • Blue Label, Commercial - Extra Heavy Traffic.

# GLOSSARY

## PRODUCT DEFINITIONS

**Bonded Polyurethane** — Cushion produced by grinding flexible polyurethane foam into small particles and bonding them together with a chemical adhesive.

**Compression Force Deflection** — Measurement of polyurethane cushions load-bearing characteristics. The result shows the reaction to loading applied over time such as when a person stands on it.

**Compression Resistance** — Measurement of rubber cushion's load-bearing characteristics. This indicates the product's response to immediate loading such as that experienced when it is stepped upon.

**Densified Polyurethane** — Flexible polyurethane foam cushion having modified, elongated cells.

**Flat Rubber** — Natural or synthetic rubber cushion with a flat finished appearance on both sides.

**Grafted Prime Polyurethane** — Flexible polyurethane foam cushion formulated with added reinforcement for increased load-bearing.

**Mechanically Frothed** — Cushion of polyurethane chemicals and reinforcing filler frothed with air into the reacting mixture.

**Reinforced Rubber** — Open-celled rubber cushion reinforced with solid rubber particles (usually from recycled tires).

**Resinated Recycled Textile Fiber** — Needle-punched synthetic fibers recycled from textile processes.

**Rippled Rubber** — Natural or synthetic rubber cushion produced to give an appearance of bubbles on the surface and usually containing non-woven or paper scrim on the top side.

**Rubberized Hair** — Needle-punched felt of clean, virgin wool fiber coated with slat-grade resin on top and bottom.

**Rubberized Jute** — Needle-punched felt of jute fiber coated on both sides with fluid latex and embossed.

**Synthetic Fibers** — Non-woven, needle-punched felt made principally or plus industrial scrap synthetic carpet material with no outside additives.

**Textured Rubber** — Natural or synthetic rubber cushion produced with a fine-textured appearance on the bottom and non-woven or paper backing on the top.

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The information contained in this brochure was prepared by the Carpet Cushion Council to assist carpet system specifiers in their decisions based on traffic and usage expectations.

For additional information about separate carpet cushion, write to:

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