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BCO
SPECIFICATION FOR OFFICES

Quick Guide to Key Criteria

2014-2019 Comparison

The seventh British Council for Offices (BCO) Guide to best practice in the specification for offices has been published.

We have compared the recommended criteria ranges of the new 2019 guide against the previous 2014 guide in the attached reference document.

OCCUPANCY

	2014	2019	Change
Workplace density (NIA per workspace)	8 - 13m²	8 - 10m²	(3m²)
Means of escape (NIA per person)	6m²	6m² (Part B Building Regulations) 5m² (BS 9999 - with discounted provision)	5m² (BS 9999 - with discounted provision)
Core elements (NIA per person)	10 - 12m²	10 - 12.5m²	0.5m²
On floor services (NIA per workspace)	8 - 10m²	-	
Typical office workspace density - NIA per workspace		10m²	
High density office workspace density - NIA per workspace		8m²	

PLAN EFFICIENCY

	2014	2019	Change
Low rise (up to 9 storeys) NIA:GIA	80 - 85%	80 - 85%	
Target wall to floor ratio		<0.4	New

PLAN DEPTH AND FLOOR TO CEILING/CLEAR HEIGHT

	2014	2019	Change
Deep Plan:			
Window to Window (or atrium)	15 - 21m	15 - 21m	
Window to Core	6 - 12m	6 - 13.5 m	1.5m
Shallow Plan:			
Window to Window (or atrium)	12 - 15m	12 - 15m	
Window to Core	6 - 7.5m	6 - 7.5m	
Floor to Ceiling/Clear Height:			
New-build	2.6 - 2.75m	2.6 - 2.8m	0.05m
New-build deep plan		2.8 -3.2m	New
Refurbishment	2.45m (minimum)	2.45m - 2.8m	0.35m

GRIDS

	2014	2019	Change
Planning grid	1.5m * 1.5m	1.5m * 1.5m	
Column grid	7.5m, 9.0m, 12.0m and 15.0m	9.0m, 10.5m, 12.0m and 15.0m	~~7.5 m~~, 10.5m

CIRCULATION

	2014	2019	Change
Percentage of primary circulation to NIA	15% to 22%	15% to 22%	

TOILET PROVISION

	2014	2019	Change
Typical Office NIA per person	10m²	12.5m²	2.5m²
High density office NIA per person		10m²	New
Male/female ratio	60%/60%	60%/60%	
Unisex	100%	100%	
Distance to travel to toilet		<100m < 40m wheelchair users	New

CYCLING PROVISION AND SHOWERS

	2014	2019	Change
Secure cycle spaces	1 cycle per 10 staff	1 cycle per 10 staff - with ability to extend to 1.5 spaces per 10 staff	Ability to extend by 0.5 spaces per 10 staff
Shower facilities	1 shower per 100 staff	1 shower per 100 staff, or per 10 cycle spaces	Or per 10 cycle spaces
Male/female ratio	60% male/40% female	50% male/50% female	-10% male/+10% female
Secure lockers	1 locker per cycle space	1 locker per 10 staff - or per cycle space	Or per 10 staff

VERTICAL TRANSPORTATION

	2014	2019	Change
Population:			
NIA per person	10-12m²	10-12.5 m²	0.5m²
Car loading	80%	0.21 m² per person with car loading factor of 80%	0.21m² per person
Handling capacity (up-peak)	12% (85/10/5)	12% (85% up/10% down/5% interfloors)	
Average waiting time (morning up-peak)	<25 seconds	<25 seconds <30 seconds where avg. time to destination is <80 seconds	<30 seconds where avg. time to destination is <80 seconds
Morning up peak avg. time to destination		<90 seconds 110 seconds acceptable where avg. waiting time <25 seconds	New
Handling capacity two way lunchtime	13% (45/45/10)	13% (45% up/45% down/ 10% inter floor)	
Average waiting time two way lunchtime	<40 seconds	<40 seconds	
Multiple group population diversification factor		Additional 5 - 20% of the population served by that zone	New
Number of destination input panels		Typically 1 per 60 passengers arriving in a 5 minute period	New
Depth of landing:			
Single passenger		≥1500 mm	New
Passenger lift bank		At least 1.5 x car depth; and not less than 2100mm	New

VERTICAL TRANSPORTATION CONT.

	2014	2019	Change
Passenger lift group		Sum of the depth of the facing cars	New
Goods		≥ internal car depth	New
Shuttle Lifts:			
Handling capacity		15% for 5 minute period - up-peak 95% up and 5% down; two way 50% up and 50% down	New
Ride Quality (Passenger Lifts):			
Vibration peak to peak: Horizontal Vertical		 8 - 10mg 10 - 12mg	New
Goods Passenger Lifts:			
Travel time from main goods access to highest floor		50 - 60 seconds	New
Rated load		1600 - 3000kg	New
Recommended provision : All offices Up to 10,000m² 10,000m² to 30,000m² > 30,000m²		 1 goods lift 1 to 2 goods lifts 2 goods lifts Additional goods lifts, as appropriate	New
Escalators:			
Inclination		30° (35° where space constraints dictate)	New
Nominal speed		0.5m/s standard 0.65m/s for high travel distances	New
Step width		1000mm where associated with public circulation	New
Ride quality and noise: Noise level Step band vibration Hand rail vibration		 55dB LA max (fast) 10mg 35mg	New

RAISED FLOORS OVERALL

	2014	2019	Change
Typical floors - new-build	150mm	150mm	
Typical floors - refurbishment	100mm (minimum)	100mm minimum	
Trading floors	300 - 500mm	300 - 500mm	
Point load		3.0 kN/m² over an area of 25mm x 25mm	New
Uniformly distributed load		8 kN/m²	New
Air leakage		1.5 l/s/m² based on floor at 25 Pa cavity pressure	New
Fire performance		Class O	New

STRUCTURAL LOADING

	2014	2019	Change
Imposed load			
General Office Areas - Ground floor and below ground office floors	3.0 kN/m²	3.0 kN/m²	
General Office Areas - Above ground floor	2.5 kN/m²	2.5 kN/m²	
High load areas (over 5% of each sub-lettable floor area)	7.5 kN/m²	7.5 kN/m²	
Partitions	0.5 - 1.2 kN/m²	0.5 - 1.2 kN/m²	
Car parking	2.5 kN/m²	2.5 kN/m²	
Loading bays	5.0 - 10 kN/m²	5.0 - 10 kN/m²	
Plant room	7.5 kN/m²	7.5 kN/m²	
Retail space	4.0 kN/m²	4.0 kN/m²	
Cafes/restaurants/ lounges		2.5 - 4.0 kN/m² depending on flexibility of use	New
Balconies/terraces		Same as rooms they access, but minimum 4.0 kN/m²	New
Permanent load			
Floors, Ceilings & Services	0.85 kN/m²	0.85 kN/m²	
Floor vibration			
General office		6 - 8	New
Dealing floor		4	New

COOLING AND SMALL POWER LOADS

	2014	2019	Change
Cooling loads			
Solar Loads - target not to exceed		50 - 65 W/m² - averaged over the 4.5m deep perimeter zone for each façade	New
On floor equipment per workplace		100 W per workplace +10 W/m²	New
On floor equipment cooling loads			
Typical office	20 - 25 W/m²		
On floor peak		20 W/m²	
Terminal unit		17 W/m²	New
Central Plant		14 W/m²	New
High density office			
On floor peak		23 W/m²	(2 W/m²)
Terminal unit		20 W/m²	New
Central Plant		16 W/m²	New
SER equipment		10 kW (per tenancy area of around1,000m²)	New
Lighting cooling loads		6 W/m² for Cat A & B (assuming daylight dimming)	New

COOLING AND SMALL POWER LOADS CONT.

	2014	2019	Change
Small power and lighting loads			
Allowance per workplace		100 W per workplace +10W/m²	New
On floor small power loads			
Typical office			
On floor peak		20 W/m²	New
Riser		18 W/m²	New
High density office			
On floor peak		23 W/m²	New
Riser		20 W/m²	New
SER equipment		15 kW (per tenancy area of around 1,000m²)	New
Lighting load allowance		8 W/m² (including Cat B allowance)	New

LIGHTING

	2014	2019	Change
Well daylit office space average daylight factor	2% - 5%	2% - 5%	
Target for shallow plan		>80% of floor area well daylit	New
Target for deep plan		> 45% of floor area well daylit; typically, 50% of space with view of daylight	New
Average maintained illuminance		300 - 500 lux	New
VDU Use	300 - 500 lux	-	Removed
Room surface illuminance: Ceiling Wall		 > 100 lux > 150 lux	 New New
Lighting people: Mean cylindrical illuminance Modelling ration		 > 150 lux @ 1.2m and 1.6m above ffl 0.3 to 0.6 @ 1.2m and 1.6m above ffl	 New New
Paper based tasks			
Paper based tasks	500 lux	-	Removed
Uniformity: Immediate surround Task	 0.4	 > 0.4 > 0.6	 New > 0.2
Maximum unified glare rating (UGR)	19	19	
Lighting Energy Use		8 - 18 kWhr/m²/year	New

COMFORT

	2014	2019	Change
Airtightness	Not more than 3.5m³/hr/m² for building at 50pa	Air leakage of not more than 3.5m³/hr/m² - 7m³/hr/m² for naturally ventilated buildings - at 50 Pa test pressure differential	

COMFORT CONT.

	2014	2019	Change
Airtightness - naturally ventilated buildings	Not more than 7m³/hr/m² for building at 50pa	Air leakage of not more than 3.5m³/hr/m² - 7m³/hr/m² for naturally ventilated buildings - at 50 Pa test pressure differential	
Outdoor air	12-15 l/s per person	Minimum 12 l/s per person + 10% spare. 1.6 to 1.8 l per m² for a range of solutions	(3 l/s per person), + 10% spare
Indoor air quality: CO^2 Filtration		 < 1000 ppmv EU7 standard - minimum, add gaseous filtration if required	 New New
Zoning (terminal control unit): Perimeter zone Internal zone		 6m wide by 4.5m deep 50 to 70m²	 New New
Air conditioned space:			
Summer	24°C ± 2°C	24°C ± 2°C	
Winter	20°C ± 2°C	20°C ± 2°C	
Thermal comfort		PMV 0 to -0.5 PPD < 10%	New
Humidity		30-50% RH where required	New
Mixed Mode/Natural Vent:			
Summer	Not to exceed 25°C for more than 5% of occupied hours. Not to exceed 28°C for more than 1% of occupied hours	Not to exceed 25°C for more than 5% of occupied hours. Not to exceed 28°C for more than 1% of occupied hours	
Winter	20°C ± 2°C	20°C ± 2°C	

PUBLIC HEALTH

	2014	2019	Change
Water storage		15 l/per person per day - based on effective density +5 l/per person per day where a kitchen is expected	New

NOISE CRITERIA

	2014	2019	Change
External Noise Intrusion:			
Open plan	NR40 (LeqT)	NR40 (LeqT)	
Speculative	NR38 (LeqT)	NR38 (LeqT)	
Cellular offices/ meeting rooms	NR35 (LeqT)	NR35 (LeqT)	
Regular individual noise events - aircraft/trains		Open plan < 55dBLA01.1 Cellular and meeting rooms < 50dBLA01.1	New
Rain noise		< 60dBLAeq.T in heavy rainfall	New

NOISE CRITERIA CONT.

	2014	2019	Change
Building Services:			
Open Plan	NR 40	NR 40	
Speculative offices	NR 38	NR 38	
Cellular Offices	NR 35	NR 35	
Reception areas		NR 40	New
Lift Lobbies		NR 40	New
Circulation Space		NR 40	New
Toilets		NR 45	New
Loading Bays		NR 55	New
Underground car parks		NR 55	New

SUSTAINABILITY

	2014	2019	Change
BREEAM target rating for new and refurbished offices	Minimum: 'Excellent' or 'Very Good'. Best Practice: 'Outstanding'	Excellent (minimum Very Good)	~~Best Practice Outstanding~~

Note: The cells marked (-) indicate that data of that detail was not included within the publication

For further details please speak to your Gardiner & Theobald expert, or contact Gavin Murgatroyd, Member of the BCO Technical Affairs and contributing author to the guide:

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