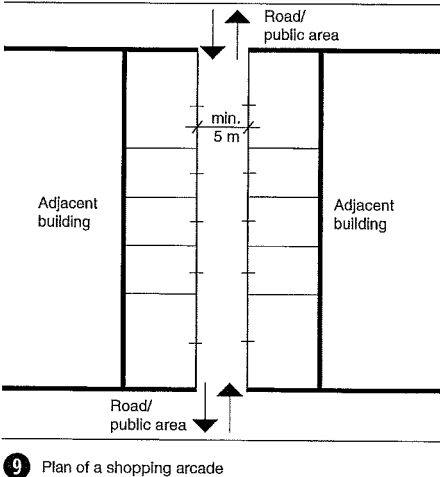
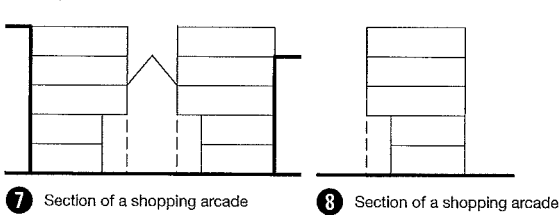
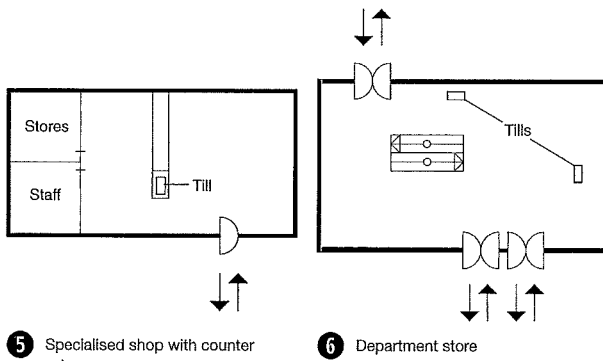
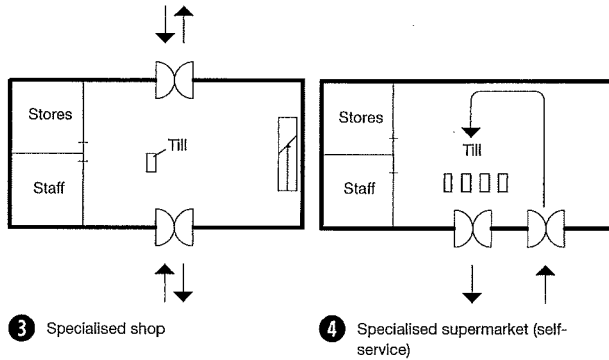
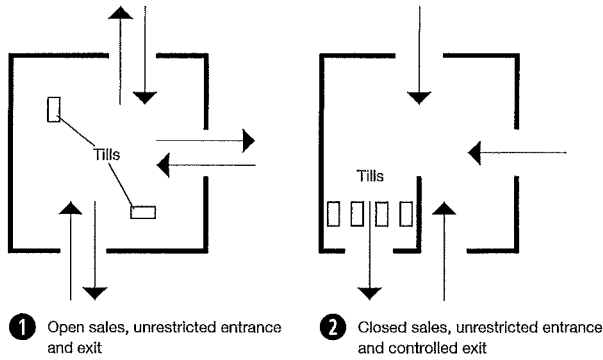


RETAIL OUTLETS

Guidelines and Typologies



Business types

Open sales → ①: unrestricted entrance and exit (specialised shops and retail chains, department stores).

Closed sales → ②: unrestricted entrance, exit only through staffed checkout (specialised supermarkets).

Sales types and typologies

Specialised shops → ③: small shops (50–500m²), mostly only one sector (pharmacy, shoe shop, flower shop), service and consultation → ①.

Specialised retail chains → ④: chain stores, mostly only one sector, presented like specialised shops (jeweller, fashion, shoe shop), open sales → ①.

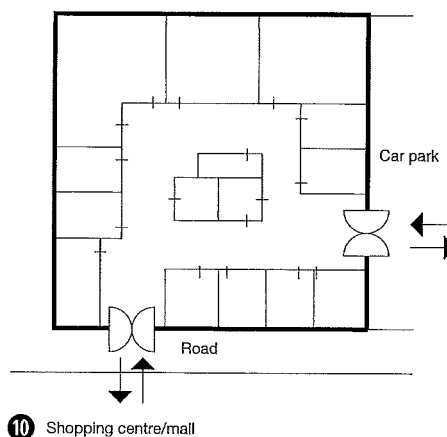
Specialised supermarkets → ⑤: chain stores, small to very large businesses, one or more branches, self-service (pharmacy/drugstore, toys, DIY, electrical goods, groceries, supermarket), closed sales → ②.

Department stores → ⑥: often chain stores, very large shops, mostly multi-storey, various sectors, sections can be rented to other chains (shop-in-shop principle), open sales → ①.

Shopping arcades, shopping centres/malls → ⑦ ⑧: concentration and conglomeration of specialised shops, supermarkets and department stores, on one or more floors, with additional cafés, bars, restaurants.

A shopping arcade → ⑦ is from 10,000 m² in area, usually approx. 20,000–25,000 m² in area, roofed, mostly a 2–3 storey street space with multi-level access, exploiting urban block zones, external access (min. two) via squares, streets or shopping areas, semi-public access routes; no fixed opening times. Smaller shops are often along the internal street, with well-known large-area chains mostly in the corners or at the end of a street as a 'magnet'. Internal streets often lead into squares or courtyards.

A shopping centre/mall → ⑧ is a larger and more elaborate collection of retail outlets, eating places etc. It has fixed opening times, therefore no semi-public access routes; main external access normally from only one road, but additional side access from a car park or multi-storey car park is possible.



Retail

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Self-service shops
BS 9999
DIN 4102
LBO
Retail outlet, trading, business and accident prevention regulations
Workplace and insurance guidelines

RETAIL OUTLETS

Retail Regulations

The provisions of the retail regulations apply to retail outlets whose sales area and shop passages, including building elements, have a total area of $>2,000 \text{ m}^2$.

Sales areas

Those in which goods for sale or other services are offered (except for emergency staircases, staircase extensions and garages). Shop passages do not count as sales areas.

Shop passages

These are roofed or covered routes adjacent to sales areas, which contain customer traffic. They must be at least 5 m wide.

Layout of sales areas

Sales areas, except for catering establishments, may not have a floor level $>22 \text{ m}$ above ground level, or $>5 \text{ m}$ below ground level → 1.

Fire compartments

Sales outlets are to be divided into fire compartments with partitioning walls built like fire walls → 2 – 3.

The permissible areas of fire compartments on each floor are:

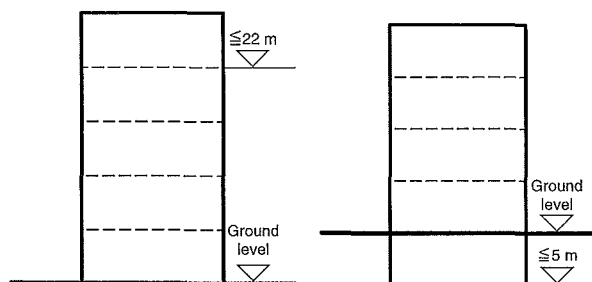
	with sprinkler system	without sprinkler system
ground floor sales outlets	10,000 m^2	5,000 m^2
other sales outlets	5,000 m^2	1,500 m^2 *

* If the sales areas extend over more than three floors and the total area of all floors within a fire compartment is not more than 3,000 m^2

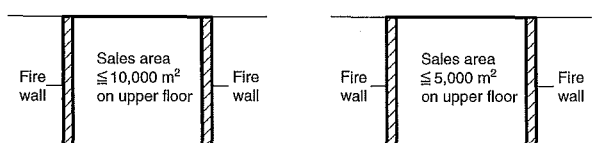
Retail

RETAIL OUTLETS

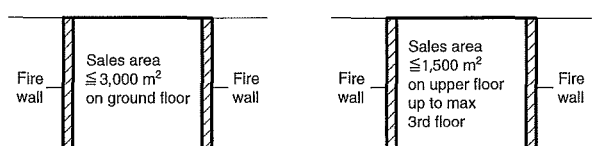
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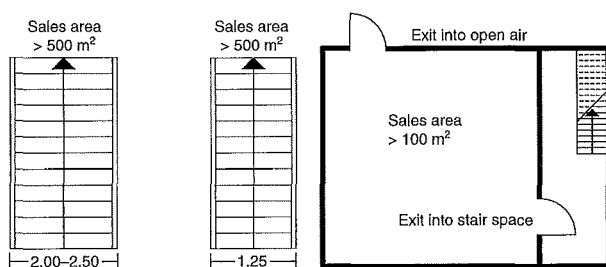
1 Layout of sales areas



2 Size of fire compartments with sprinkler system

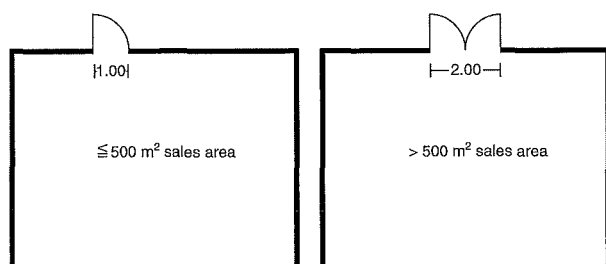


3 Size of fire compartments without sprinkler system

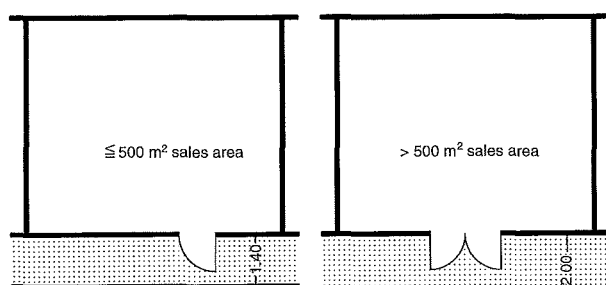


4 Width of emergency stairways

5 Minimum two exits/escape routes



6 Width of exits, depending on size of sales areas



7 Width of emergency corridors

Emergency stairways

Emergency stairways for customers must be at least 2.0 m wide and may not exceed a width of 2.5 m. A width of 1.25 m is adequate if the stairway is provided for sales areas $<500 \text{ m}^2$ in total → 4.

Exits

Every sales area, occupied room and shop passage must have a min. 2 exits leading to the open air or into an emergency stairway. One exit is sufficient for sales areas $<100 \text{ m}^2$ in total → 5. Exits from a floor of a sales outlet into the open air or into an emergency stairway must have a width of 30 cm per 100 m^2 of sales area, and be min. 2 m wide, but for exits from sales areas $<500 \text{ m}^2$, a width of 1 m is sufficient → 6. An exit leading into a corridor may not be wider than the corridor, and an exit leading into an emergency stairway may not be wider than the stairway.

Escape routes

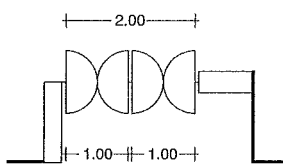
For every sales area, occupied area and shop passage, min. two escape routes must be provided on the same floor, if possible going in opposite directions, leading to exits into the open air or to an emergency stairway. These must be accessible within a distance of 25 m from every point of a sales area (or 35 m for other areas or shop passages). The doors must open in the direction of escape and be without thresholds. A main entrance or a shop passage must be provided within 10 m (linear distance) of every point in a sales area.

Emergency corridors

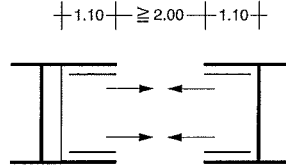
For customers these must be at least 2 m wide. A width of 1.40 m is sufficient if corridors are intended for sales areas $<500 \text{ m}^2$ → 7.

RETAIL OUTLETS

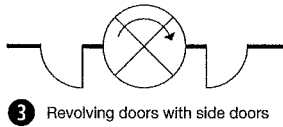
Entrances and Shop Windows



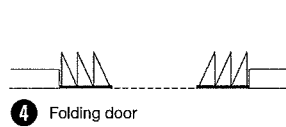
1 Opening or revolving door with a clear opening height of 2.20 m



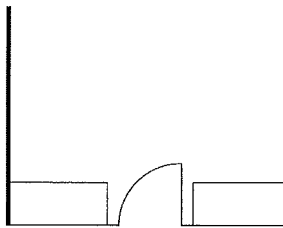
2 Sliding door



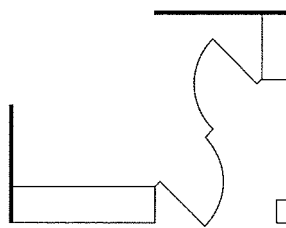
3 Revolving doors with side doors



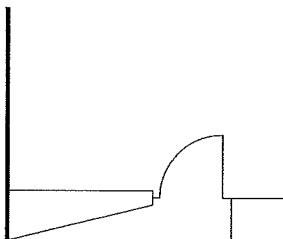
4 Folding door



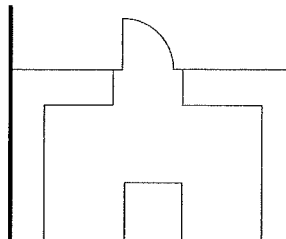
5 Simple single-leaf entrance



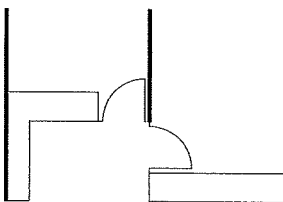
6 Corner entrance



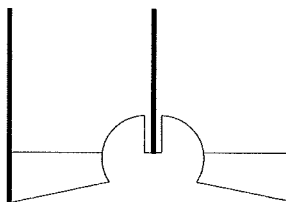
7 Funnel-shaped entrance



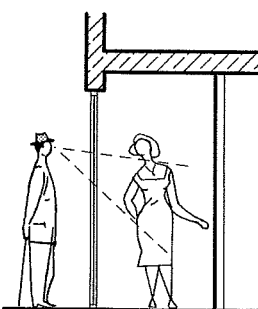
8 Recessed entrance



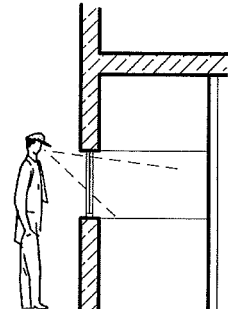
9 Offset entrance



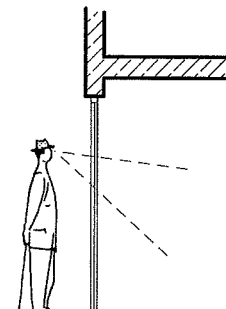
10 Small funnel-shaped entrance



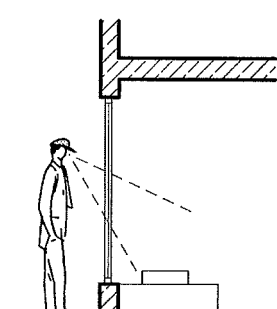
11 Shop window as display area



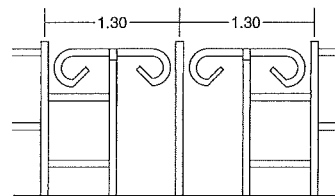
12 Variant of → 11 with parapet (e.g. jeweller)



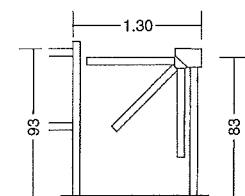
17 Shop window with view into shop



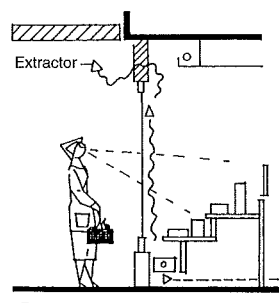
18 Variant of → 17 with parapet (e.g. book shop)



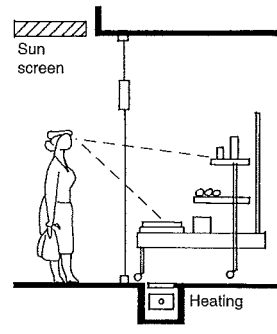
13 Rounded turnstile



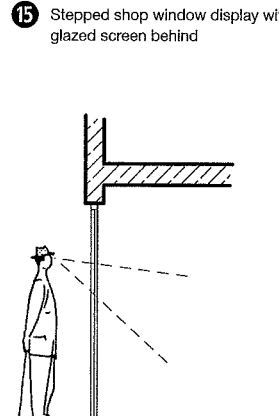
14 Three-arm turnstile



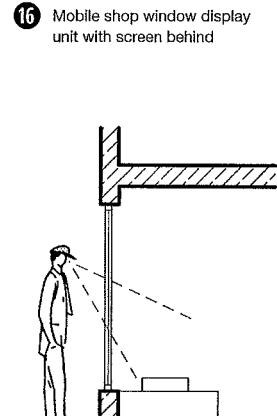
15 Stepped shop window display with glazed screen behind



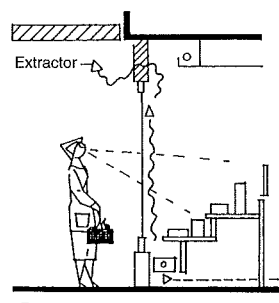
16 Mobile shop window display unit with screen behind



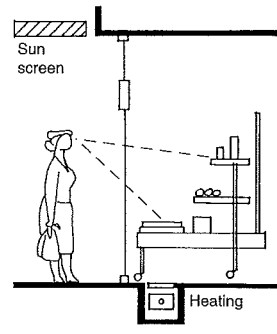
17 Shop window with view into shop



18 Variant of → 17 with parapet (e.g. book shop)



15 Stepped shop window display with glazed screen behind



16 Mobile shop window display unit with screen behind

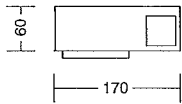
Retail

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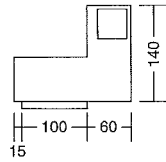
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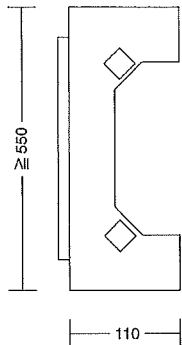
Checkout and Waiting Zones



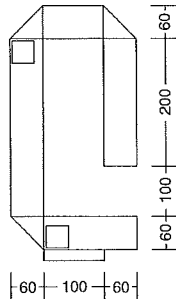
1 Single cash desk, straight



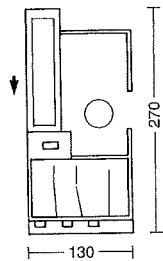
2 Single cash desk, angled



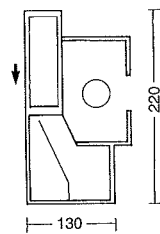
3 Area or floor cash desk



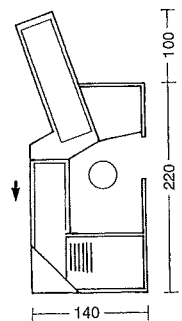
4 Island cash desk with large packing area



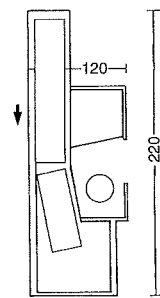
5 Checkout desk in self-service supermarket



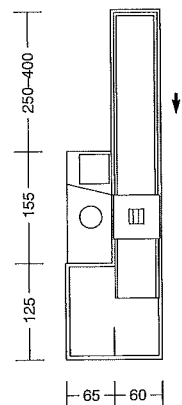
6 Variant of 5



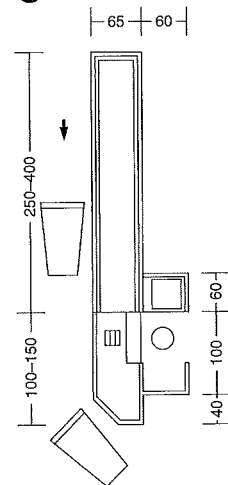
7 Variant of 5



8 Variant of 5



9 Checkout with before- and after-sale conveyor belt



10 Repacking checkout

Types of checkout

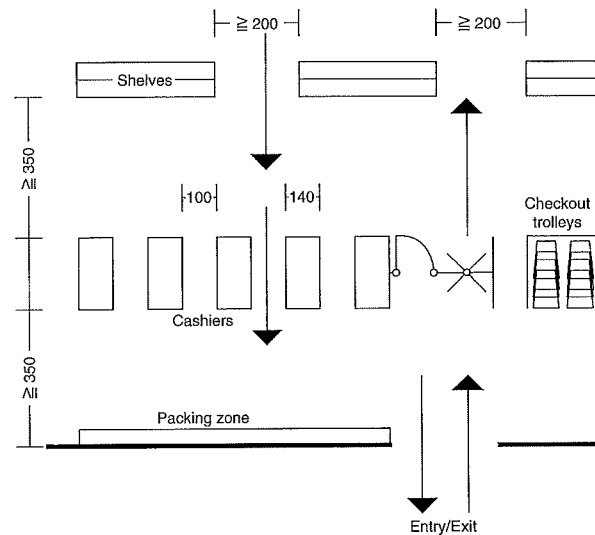
According to the product and shop type, there are various types of checkout: single, area and central cash desks and rows of checkouts.

Row of checkouts

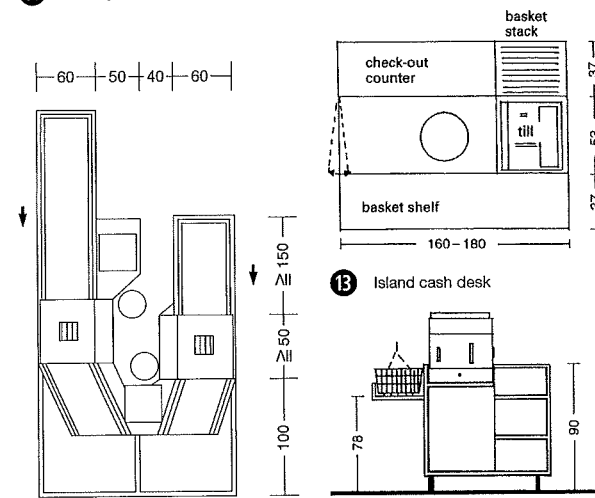
In specialised supermarkets (self-service area), these form the only exit from all shops with a closed sales area. The passing width between the checkouts should be sufficiently wide that shopping trolleys, pushchairs and wheelchairs can pass through, i.e. min. 1 m. Checkouts are mostly equipped with a conveyor belt (sometimes a before- and after-sale belt) and stationary scanner. Self-checkouts are also available as complete products.

Single, area, floor and central cash desks

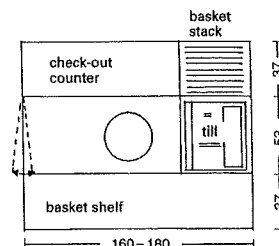
In specialised shops, specialised retail chains and department stores with open sales, depending on the functional organisation of the shop, cash desks can be arranged as single, by area, by floor or centrally. Department stores with different specialised sections have mostly area cash desks, specialised retail chains often have cash desks on each floor or grouped centrally, specialised small shops mostly have single cash desks.



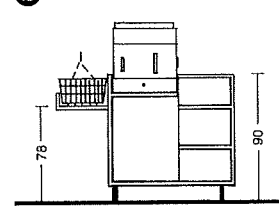
11 Waiting zone, self-service area



12 Double checkout



13 Island cash desk



14 Section through small island cash desk

Retail

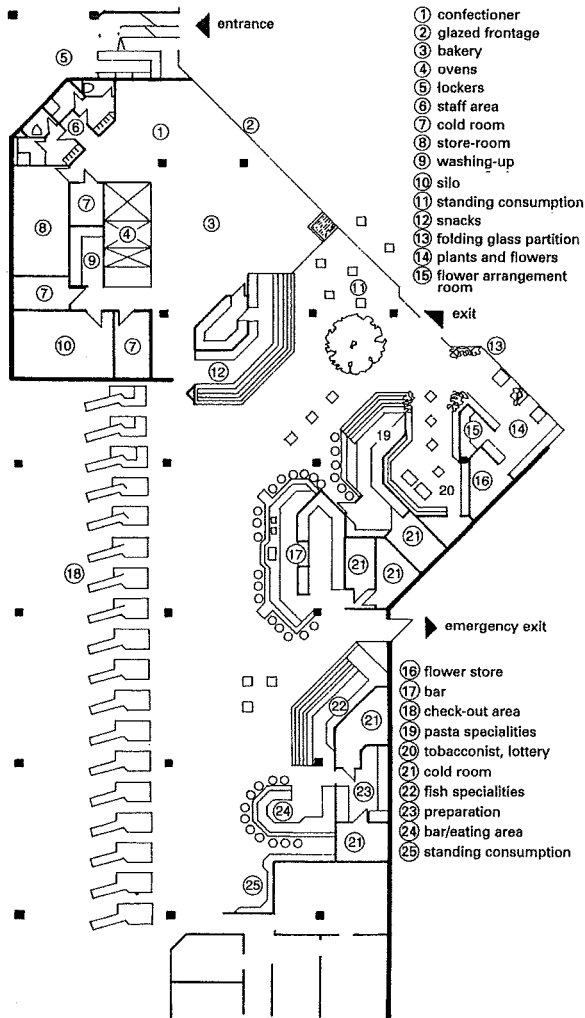
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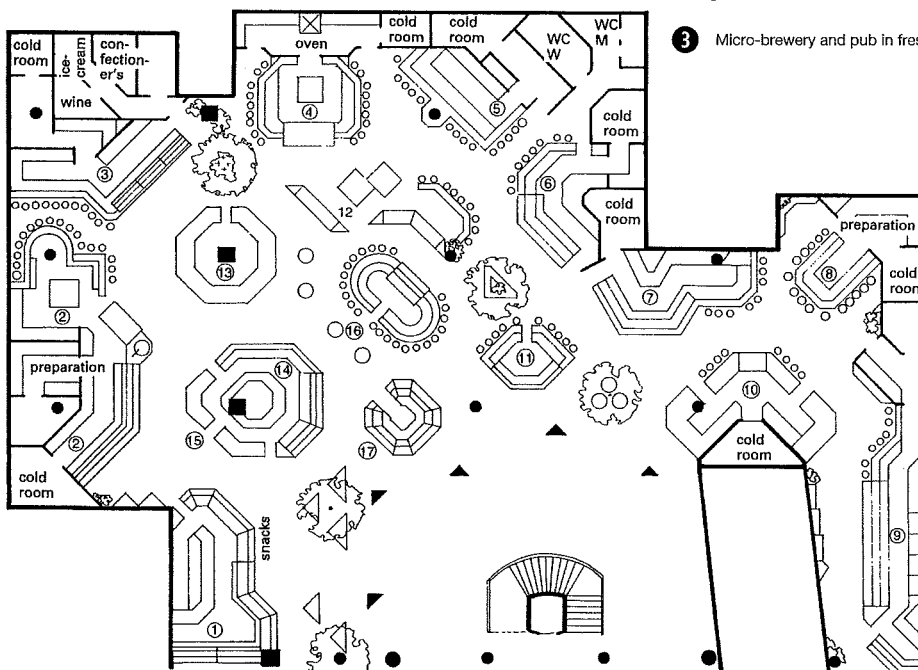
Waiting Zones – Examples

3 Micro-brewery and pub in fresh food supermarket

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1 Checkout waiting zone



2 Fresh food supermarket at Hamburg main station

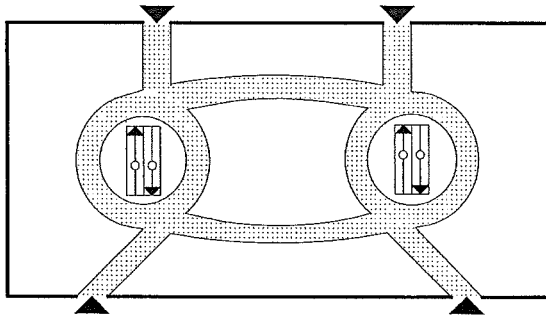
Operator:	Floor space (incl. ancillary areas)
① bakery with eating area	≈ 64 m ²
② butcher's with steak and drinks bar	≈ 89 m ²
③ local specialities	≈ 50 m ²
④ Italian specialities	≈ 54 m ²
⑤ Japanese specialities	≈ 43 m ²
⑥ fish specialities	≈ 43 m ²
⑦ cheeses/salads	≈ 45 m ²
⑧ Mexican specialities	≈ 46 m ²
⑨ cold meat specialities	≈ 68 m ²
⑩ fruits/salads/juices	≈ 42 m ²
⑪ coffee and ice-cream	≈ 20 m ²
⑫ wine merchant, tasting	≈ 28 m ²
⑬ confectioner's	≈ 35 m ²
⑭ coffee roasting	≈ 28 m ²
⑮ tea merchant	≈ 23 m ²
⑯ champagne bar and delicatessen	≈ 21 m ²
⑰ chocolates	≈ 25 m ²
total	≈ 724 m ²
General circulation space and WCs	≈ 95 m ²

Design: Maier and Pistor

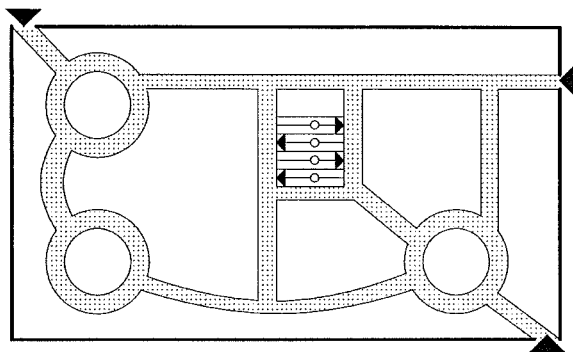
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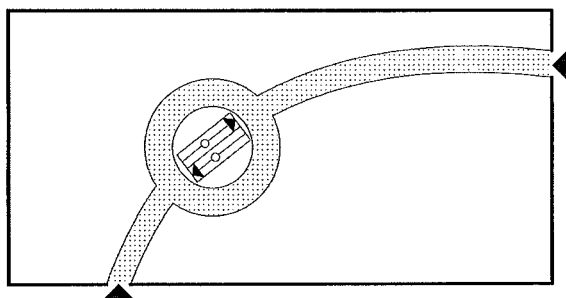
Routeing, Escalators



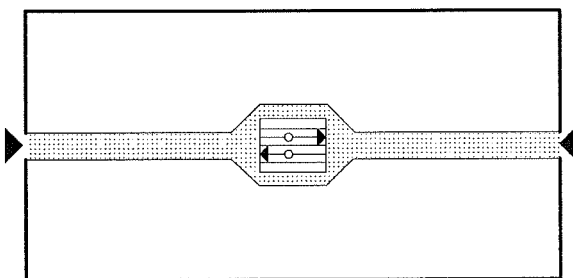
1 Centric routeing (variant 1)



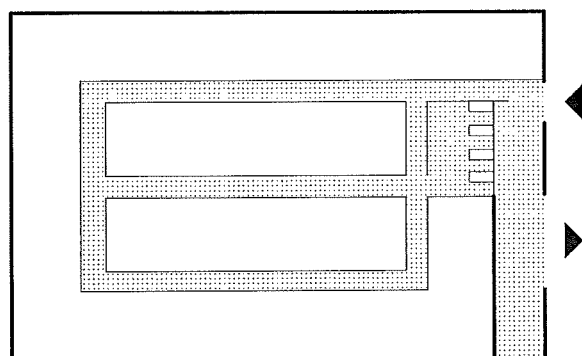
2 Centric routeing (variant 2)



3 Polygonal routeing



4 Routeing in a single loop



5 Routeing in a self-service supermarket

Routes and escalators serve above all to highlight the promotion of goods and special offers. The larger the area of a retail outlet, the more important is the routeing concept. It can be put into practice through different means on the floor of the shop: lighting, fittings and positioning of the goods on offer. The location of the goods is determined by the intention to encourage customers to buy by displaying, as they pass by, shelves, stock and thus all the product ranges → 1 – 2.

The following variants are common for vertical escalator access in shops:

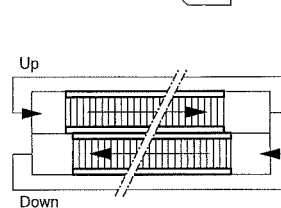
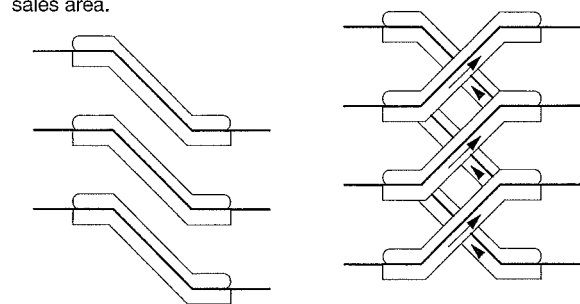
Double criss-cross: → 7

The direction of travel of this escalator is 180°.

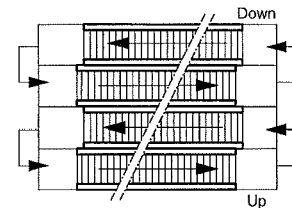
Parallel layout: → 6

Escalators in the same direction lie above one another.

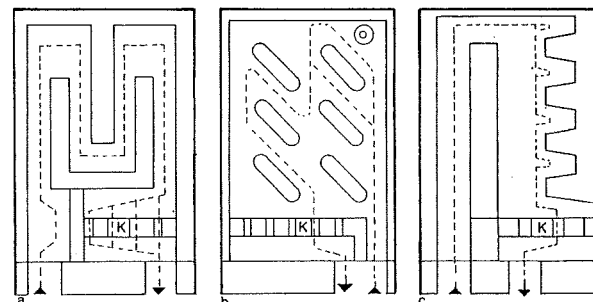
The rule of thumb is one escalator for every approx. 1000 m² of sales area.



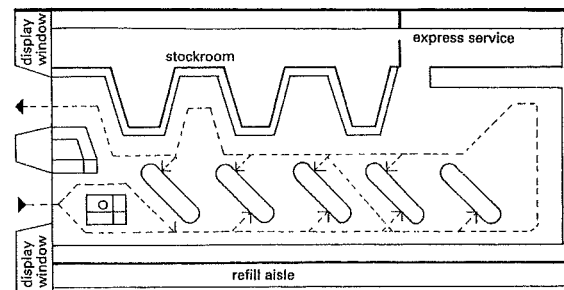
6 Single parallel escalators



7 Double criss-cross escalators



8 Routes should include corner areas; separate entrance and exit in a and c, doubled in b. K = checkout



9 The shop should be clearly laid out for customers and control (checkout), so the customer is not forced to make diversions → 8 a

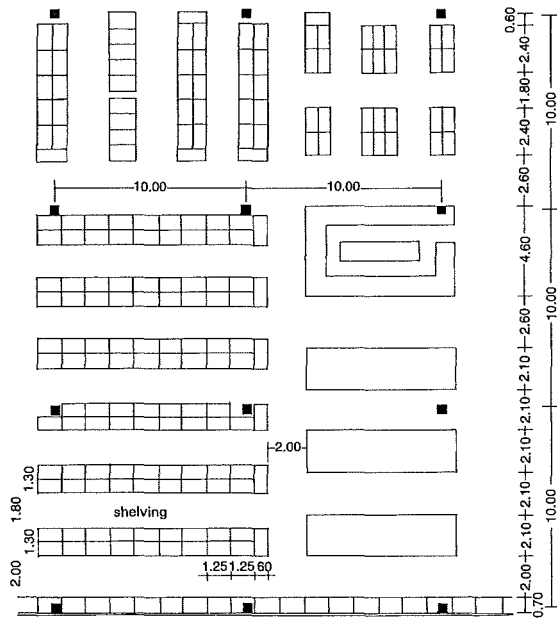
Retail

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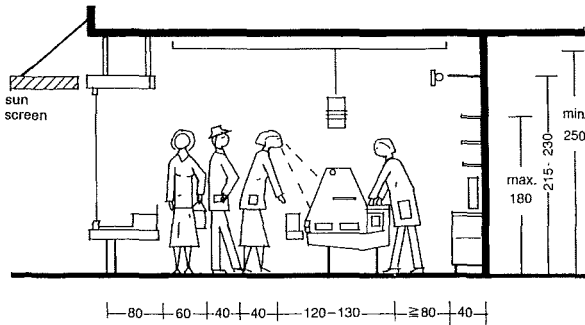
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Food shops
Self-service shops

RETAIL OUTLETS

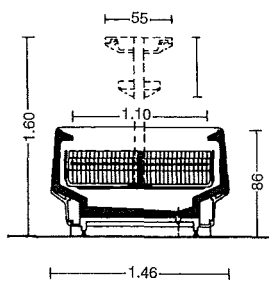
Fittings – Dimensions



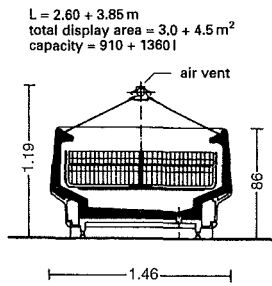
1 Dimensions of the counters and shelves, column grid 10 x 10 m



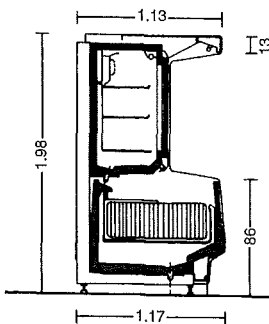
2 Minimum width of a shop ≥ 4.0 m, better 5.0 m



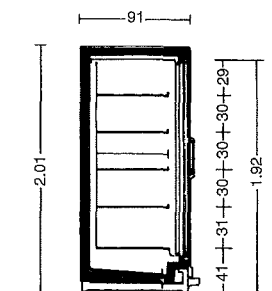
3 Refrigerated display case with upper shelves



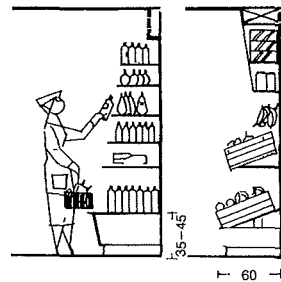
4 Refrigerated display case without upper shelves



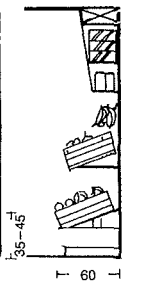
5 Vertical refrigerated display case with upper shelves



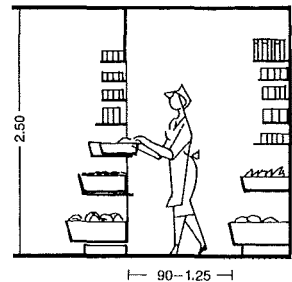
6 Refrigerated display cabinet



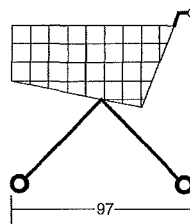
7 Wall shelves for bottles



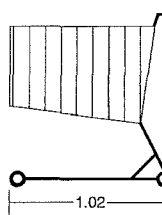
8 Wall shelves for fruit and vegetables (goods to restock)



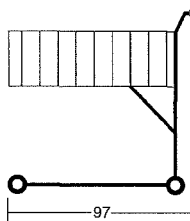
9 Wall with drawers, passage for restocking (sliding baskets are exchanged)



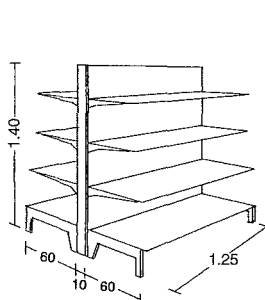
10 Small shopping trolley (e.g. drugstore)



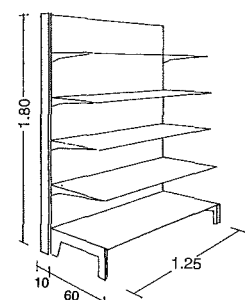
11 Large shopping trolley (e.g. large supermarket chain)



12 Shopping trolley (e.g. DIY store)



13 Island shelf unit



14 Wall shelf unit

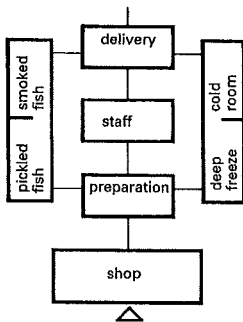
Retail

RETAIL OUTLETS

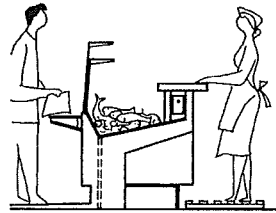
Guidelines and typologies
Retail regulations
Entrances and shop windows
Checkout and waiting zones
Waiting zones – examples
Routeing, escalators
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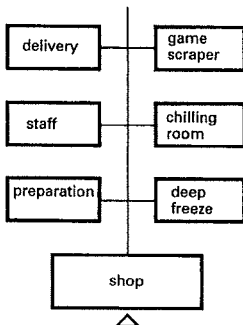
Food Shops



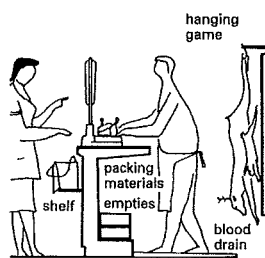
1 Traffic scheme for fishmonger



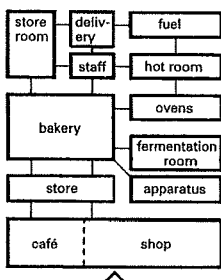
2 Fish display case with cooler and extraction



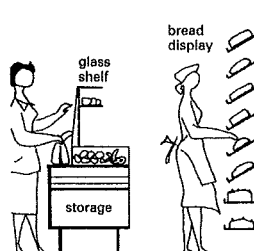
3 Traffic scheme for game and poultry dealer



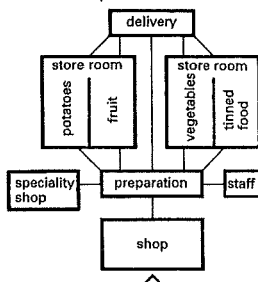
4 Solid counter with marble and tiled worktop



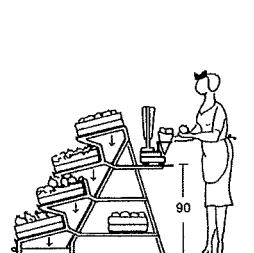
5 Traffic scheme for bakery. Storerooms should be well ventilated, possibly with vapour extraction.



6 Sales counter with screen

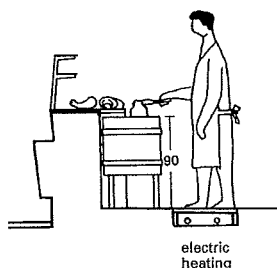


7 Sales scheme for greengrocer; small storeroom, as mostly delivered daily

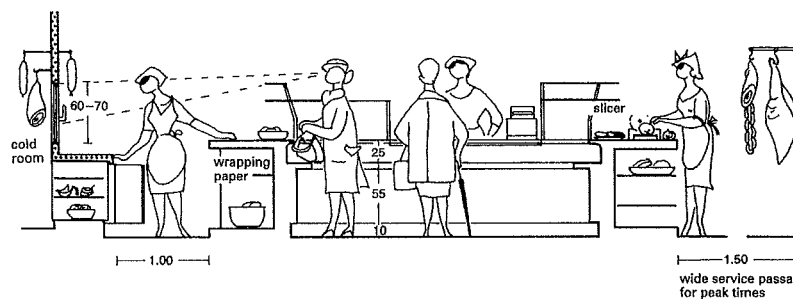


8 Counter with mounting for boxes and wire baskets; draining shelf and dirt drawer

9 Pavement sales to 'passers-by' on wheeled stand or at shop front with goods displayed for advertising purposes



10 Counter with chopping block for butcher



11 Normal counter for butcher → 2 and for fishmonger

Fishmonger

Because fresh fish do not keep very long, they are stored cool, but smoked fish have to be stored dry. The goods are odour-intensive, so the shops are accessed through control doors or protective curtains. Walls and floors must be easy to clean. Take into account bulk deliveries in the design. Consider an aquarium (display advertising). → 1 – 2

Game and poultry dealer

This business is often combined with a fishmonger. Storage for only a day's needs. A workroom must be provided with plucking machine and game scraper. Because poultry is susceptible to odour, it must be stored separately in the shop and the cold room.

Counter worktops and walls (marble, tiles, mosaic, plastic) must be washable. Provide plenty of refrigerated display cases or cabinets. → 3 – 4.

Greengrocer

Fresh vegetables, unprocessed or kitchen-ready, must be stored cool, but not chilled. Potatoes are stored in dark rooms and sold from the deposit-bearing containers they are delivered in (baskets, crates, boxes). Protective sliding inserts are provided under storage trays. Greengrocers → 7 – 8 can possibly be combined with flower shops. Self-service shops offer pre-packed goods in transparent packs.

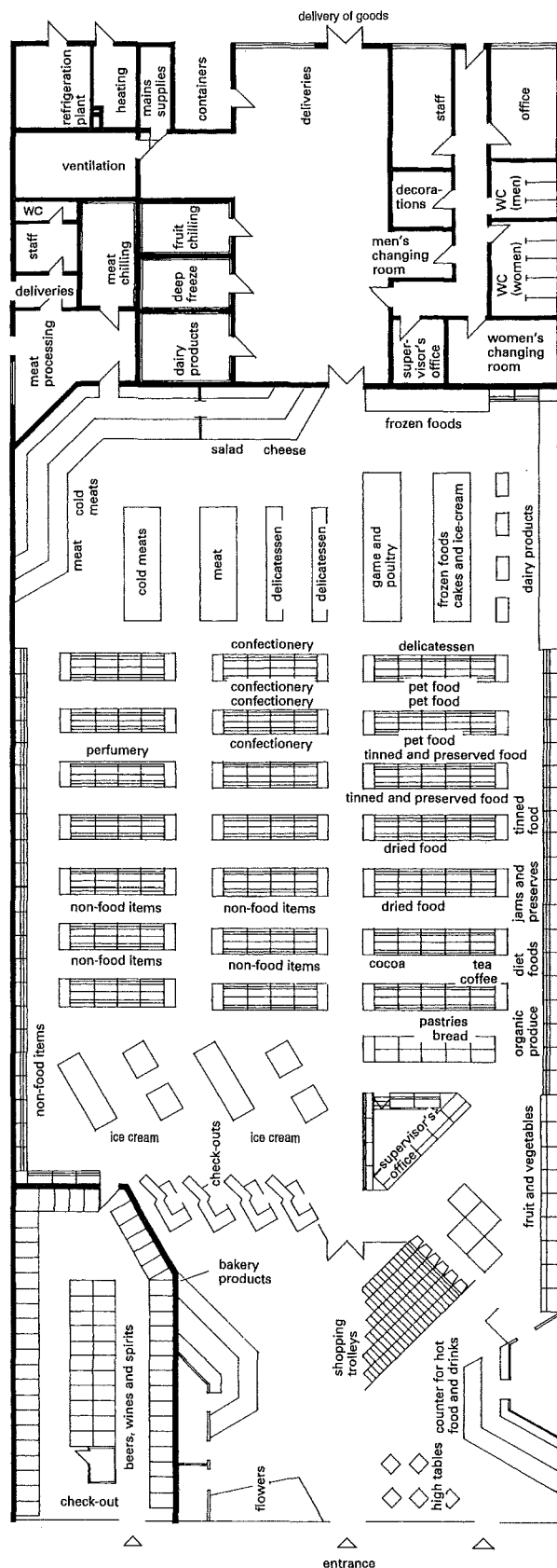
Butcher

Work steps: 1. delivery of live animals, 2. slaughter, 3. butcher, 4. process, 5. cool/store, 6. sell → 10 – 11. A single-storey shop is advantageous, possibly with hanging and sliding rail system, because sides of pork or quarters of beef weigh 50 kg. Processing and cold rooms must be 1.5–2 times the size of the shop. Walls: tiled, mosaic etc. and washable. Counter tops: marble, glass, ceramic.

Retail

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1 Supermarket

RETAIL OUTLETS

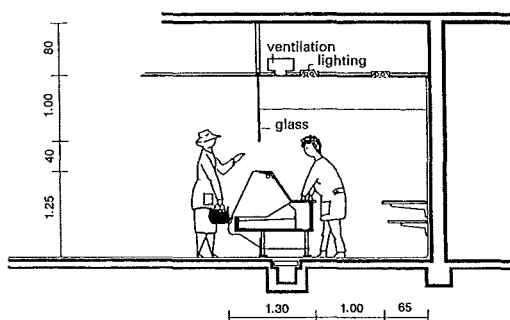
Self-Service Shops

Self-service shops mostly sell food. The staff is responsible for advice, assistance and service. The butchery, cold meats, fruit and vegetable sections are staffed. The goods are displayed clearly in packaging according to type. It is important to design practical routing. The round trip starts at the basket stack or trolley park and ends at the checkout or packing table. Wall shelves extend up to reach height (top shelf is 1.80 m high and lowest 0.30 m above the floor).

Important design parameters	up to 399 m ²	400–499 m ²	500–599 m ²	600–799 m ²	800–899 m ²	1000–1499 m ²
1. full-time staff needed range	10.6 7–14	12.9 10–16	15.3 12–18	17.7 16–20	22.1 18–25	30.2 25–33
2. fresh and cold meat department						
a) turnover share (%)	22 19–28	21 20–32	20 20–28	19 17–25	18 16–24	17 14.5–24
b) counter length (m)	6.50 6.0–7.0	7.60 7.0–8.2	8.75 7.5–9.0	9.08 1.5–10.5	9.75 9.0–10.5	11.75 10.0–13.5
c) preparation room (m ³)	14 8–20	19 13–25	24 18–30	26 20–32	30 23–38	36 23–50
d) cold room (m ³)	11 7–15	13.5 9–18	15 10–20	15 10–20	22 14–30	25 16–35
3. dairy and fats department						
a) cool wall shelves (running m)	6.75 6.3–7.3	8.0 6.5–9.5	8.75 7.5–11	10.25 9–12	11.25 10–13.5	15.7 12–18.5
b) cold room (m ²)	6.0 4.0–8.0	7.6 5.0–10.5	10.0 8.0–12.0	12.0 8.0–15.5	13.0 8.0–18.0	15.0 10.0–20.0
4. frozen food (without ice cream)						
a) normal island (m)	5.5 5.0–6.0	6.1 5.5–7.0	7.5 6.5–8.5	8.75 7.5–10.0	10.1 7.5–12.0	13.5 12.0–15.0
b) wide island (m)	3.85 2.6–4.6	4.1 3.0–5.0	5.5 4.0–7.0	6.75 4.0–7.5	7.75 5.5–10.0	8.75 6.0–10.0
c) cabinets (m)	2.4 2.3–2.5	2.75 2.3–3.2	3.6 3.2–4.0	4.4 4.0–4.8	5.8 5.0–6.5	6.6 5.5–8.0
d) freezer room (m ²)	2.4 2.0–2.8	3.25 2.0–4.5	5.0 4.0–6.0	5.75 4.0–7.5	8.25 6.0–10.5	8.5 6.0–11.0
5. fruit and veg wall shelving (with 2 shelves) (m)	6.5 5.0–8.0	7.5 6.5–8.5	7.5 7.0–8.0	8.75 7.0–10.5	10.0 8.0–12.0	10.75 9.0–12.5
6. no. cash desks						
– at checkout	2.5 2–3	2.9 2–3	3.4 3–4	3.9 3–4	4.9 4–5	6.3 6–7
– in the departments	0.2 0–1	0.3 0–1	0.4 0–1	0.5 0–1	1.3 1–2	1.3 1–2
7. no. shopping trolleys required	85 70–100	105 85–130	120 100–160	150 100–200	180 150–220	240 200–300

Note: first line = average values; second line = range of the parameter

2 Planning data for the design and fitting out of self-service shops and supermarkets



3 Service counter in self-service shop, section