ARCH 348
CHP 5. SANITARY FITMENTS & PIPING IN BUILDINGS

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SANITARY FITMENTS

Grouped in two categories:

a) Ablution fitments
   • Wash basins
   • Bath tubs
   • Shower trays
   • Kitchen sinks

b) Soil fitments
   • Water closets
   • Urinals
SANITARY FITMENTS

Wash Basin:

- Taps or mixers can be either fitted on the walls or on the wash basins
- A mixer valve is used when hot and cold water is available
- The object of a water (or running) trap is to avoid bad odours from the sewer
- Flexible connections are used to connect the taps or mixers to water supply pipes
- Cock valves are used to cut off the water for repair and maintenance work.

Sectional view
SANITARY FITMENTS

Water Trap

Overflow facility

Trapped water Rubber seal
SANITARY FITMENTS

Details of wash basin installation:
SANITARY FITMENTS

Installation dimensions:
SANITARY FITMENTS

Single-trunk basin-mixer

Şekil 390. TEK GÖVDELI ANKASTRE LAVABO BATARYASI
SANITARY FITMENTS

Various Bathroom Fitments

Source: F. Hall, Building Services and Equipment, Longman, 1992
SANITARY FITMENTS

A wall-mounted bath-mixer

Şekil 417 A. BANYO BATARYASI
SANITARY FITMENTS

Kitchen Sink

Sizes

<table>
<thead>
<tr>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>915 mm</td>
<td>457 mm</td>
</tr>
<tr>
<td>1066 mm</td>
<td>457 mm</td>
</tr>
<tr>
<td>1372 mm</td>
<td>457 mm</td>
</tr>
<tr>
<td>1600 mm</td>
<td>534 mm</td>
</tr>
</tbody>
</table>

Single drainer
Double drainer

Swivel nozzle supply fitting
Drainer
Drawer
Sliding doors

Fig. 10.20 Stainless steel sink

Source: F. Hall, Building Services and Equipment, Longman, 1992
SANITARY FITMENTS

Useful dimensions:
Form E

* 30.600 gr / 9.350 gr
  * (Bzk. DETAY IX, IVA, ŞEKIL 2, Sayfa 68-69)
  * 90 veya 45 dönme
  * Kapsülten rezervuar.
  * GÖKSU Rezervuarı kullanılır.

ARTİMDA GÖKSU Rezervuar İç Takımı

Form G

* 18.000 gr / 6.250 gr
  * (Bzk. DETAY IX, IVA, ŞEKIL 2, Sayfa 68-69)
  * Kapsülten rezervuar (ARTİMDA Bergama İç Takımı kullanılır).
SOIL AND WASTE SYSTEMS

The design of sanitary pipework systems:

A sanitary pipework system should contain the minimum amount of pipework necessary to carry away the foul water from the building quickly and quietly. It should not create a nuisance or risk to health, nor damage to the fabric, but it must prevent air from the drain or sewer from entering the building under all circumstances.

Traps and discharge pipes to sanitary appliances:

Every sanitary appliance should be fitted with a trap either as an integral part of the appliance or attached to and immediately beneath its outlet. All traps should be accessible and provided with adequate means of cleaning and for this purpose there is an advantage in providing traps which are capable of being readily removed or dismantled.
The minimum internal diameters of traps to various appliances are as follows:

<table>
<thead>
<tr>
<th>Domestic Appliance</th>
<th>Minimum Installation dia.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash Basin</td>
<td>32 mm (1 ¼”)</td>
</tr>
<tr>
<td>Bidet</td>
<td>32 mm (1 ¼”)</td>
</tr>
<tr>
<td>Sink</td>
<td>40 mm (1 ½”)</td>
</tr>
<tr>
<td>Bath/shower tray</td>
<td>40 mm (1 ½”)</td>
</tr>
<tr>
<td>Wash Tub</td>
<td>50 mm (2”)</td>
</tr>
</tbody>
</table>
Connection of Washing Appliances:

[Diagram of washing appliance connection with annotations: air gap, washing machine hose, running trap, washing machine hose]
Connection of Washing Appliances:

- Washing machine hose
- Air gap

- Ventilating pipe to atmosphere
- Water-tight connection
Flow in waste pipes:

32 mm pipe:

An air pocket forms between the water attempting to remain in the trap and the waste water flowing towards the stack. The static pressure of this air is below atmospheric pressure, and the water in the trap is pushed away from the trap, leaving an inadequate or non-existent seal. (also noise is created!) The problem is avoided by using 32 mm pipes only when the length is restricted to 1.70 m at a slope of 20 mm/m run.
50 mm pipe:

The sloping waste-pipe can be up to 3 m long if its diameter is raised to 50 mm. This allows aeration from the stack along the top of the sloping section.
If the waste pipes are longer than 3 m with bends and even vertical parts, they are added a 25 mm open vent pipe as shown above.
WASTE WATER DRAINAGE

Basic Layouts

1½" Waste Branches
Washbasin
Tub
Toilet
3" Soil Vent

Bath & Kitchen Back to Back
1. TOILET 4
1. BATHTUB 2
1. WASH BASIN 1
1. KITCHEN SINK 3
1. AUTO WASHER 2

3" Soil Vent
1½" Waste Branches
Washbasin
Tub
Toilet

1½" Waste & Vent

3" Real Increaser

1. TOILET 4
1. BATHTUB 2
1. WASH BASIN 1
1. KITCHEN SINK 3
1. AUTO WASHER 2

3" Soil Vent
Washbasin
Tub
Toilet
3" Real Increaser

Bath with ½" Bath & Kitchen Remodeled
1. BATHTUB 2
1. KITCHEN SINK 6
2. TOILETS 2

Rough plumbing for a DWV system

How the Genova plumb line/degree mark system works
SOIL VENT PIPE  A vertical wide pipe into which toilet and other waste appliances discharge which is ventilated at its upper end to prevent syphonage.

INSPECTION CHAMBER  Another term for a manhole located over an underground drainage installation to allow access for cleaning and other maintenance.

DRAIN  Underground system of piping to discharge water and sewage away from the building.

WASTE PIPE  A pipe to carry water away from a basin, bath or sink.

GULLEY  A fitting of the underground surface water or waste water drain over which downpipes or other above ground drainage discharge. There are various types e.g. open gulley, back inlet gulley.