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1. General

The installation of sanitary facilities must be performed according to industry standards by personnel who are qualified for the tasks assigned to them, and qualified to install the equipment described in Sections 2 to 7 of this document.

When submitting its bid, the company must provide the authorisations and certifications of the installers and of the site manager, for the installation of Geberit and Geberit Silent pipes (supply and waste) and Optipress and Profix PE and stainless steel pipes, and for insulating the pipes. Geberit requirements must be strictly followed for the installation of all supply and waste pipes and for the installation of Geberit-brand bathroomware.

2. Standardisation of bathroomware

The brands and types of equipment described below are imposed by UNOG. No changes may be considered to the list of equipment described below without the consent of the head of the mechanics subunit and the primary contact person during the work phase.

BATHROOMWARE / FITTINGS	BRAND	TYPE
Urinals with full electronic control (inlet seal, suction trap, etc.)	Laufen Taro-Nova	Tamaro UR 60 standard
Installation kit for fully pre-assembled wall-mounted urinal (without inlet seal and trap)	Combifix	Combifix UR 60
Shower tray, white, ceramic	Laufen	
Ceramic bowl, to be embedded at the base	Laufen	Pro S
Hand basin	Moderna	620x490 standard
Aerator, 7 litres/minute, anti-limescale	Néoperl	
Hand basin installation frame	Montagefix	
Hand basin mixer	Milor	Milor S 150
Hand basin mixer with temperature control unit	KWC	Electronic WT60
Electronic soap dispenser	DMP Electronics	Quarry SOAP
Hand basin mixer with electronic unit	DMP Electronics	Quarry Tap Mix art.27606
Control tap with chrome compression fittings	Standard	S 75 mm ½
Bottle trap with seal to be inserted, rubber nipple, chrome	Standard	Standard 1¼ x1¼
Mirror with set of clips	Elite-Plus	60 cm x 45 cm
Corner hand basin 50 cm	Rénova	Rénova+
Hand basin, to be embedded at the base	Laufen	Pro A 1196.6
Disabled hand basin, ceramic, with hand basin mixer	Moderna Médical	Modern single-hole tap Médical S 150 mm with swivel spout, lever arm, pop-up drain stopper
Chrome grab bar		One fixed and one mobile

BATHROOMWARE / FITTINGS	BRAND	TYPE
Toilet, wall-mounted pan, ceramic, for disabled persons	Moderna	Moderna UP
Mounting for wall-mounted disabled toilet, control with visible cistern rear entrance in centre	Duravit	Architect series
Disabled toilet seat with white lid	Rondessa	Ref: 351.113
Toilet with wall-mounted ceramic pan, recessed flush, standard white	Moderna	Moderna UP
Installation kit for wall-mounted pan	Combifix	
Toilet seat with white lid	Rondessa	Ref: 351.113
Toilet-roll holder	Chic	Chic chrome
Spare toilet roll holder	Chic	Chic chrome
Toilet brush holder	Chic	Chic chrome
Water point, stainless steel, with cup holder with grille	Franké	Franké 50x40, C4 rim
Wall-mounted mixer, chrome/white	Milor	E 153 mm, S175
Trap	Geberit	Geberit vertical inlet vertical outlet
Cold water dispenser with KWC push tap	Xinox	Aquina
Urinal partitions in a synthetic material	Geberit	Geberit 74x44
Shower push-button with recessed mechanical mixer	Similar	Similar Touche
Hand-held shower head	Similar	Simijet Multi
Swivel bracket, chrome	Similar	Similar
Shower hose, length: 1.8 m ½", ½"	Similar	Similar
Diverter to be recessed, chrome		Tri-Uno
Connection elbow, chrome		Fix-Fit
Floor grilles	Geberit	Trap grille, Casa/Varino
Feed tanks	Nussbaum	Shut-off valves with vent, PN16-bronze 90 °C
Floor shut-off valves	Nussbaum	
Butterfly valves	Sapag	Threaded, JMC type, with MC reducing bushing
"Fire" valve, 2"	Sicli	PN16 with Storz connector
Vertical pipes carrying potable water (hot water, cold water, circulation)		Optipress (stainless steel 14401)
Pipes in false ceilings Metal-polyethylene composite PE-X	Geberit	Geberit Mepla
Pipes supplying bathroomware (final section)	Geberit	PE pipe
Insulation of accessible vertical pipes carrying potable water	PIR	Rigid foam sheath with hard PVC lining or a sheet of hammered (stucco) aluminium.
Insulation of non-accessible vertical pipes (in false ceilings, raised floors and service ducts)	Armaflex	Thickness of 11 mm to 19 mm, synthetic rubber, SH-Armaflex
Waste pipes	Geberit	Geberit, type: Silent PE-S2
Strong sound insulation	Armaflex	SH-Armaflex
Lead-free sound insulation	Geberit	Geberit Silent

Clamps for vertical wastewater pipes	Geberit	Geberit, type: Silent, soundproof seal, neutral
Lacquered zinc-plated trough	Geberit	
Mounting part for trough, synthetic material	Müpro	

3. Feed tanks

- Feed tanks must be installed on a horizontal plane.
- A gate valve must be installed close to the feed tank to isolate it. A ball valve must be used, operated with a wheel. The valve diameter must be suited to the maximum usable water flow rate for the feed tank.
- The straight valves isolating each supply pipe must be fitted with a Nussbaum brand bronze vent, PN 16, 90 °C. Their diameters must be suited to the maximum usable water flow rate.
- A PVC or copper drain collection tray, must be installed under each feed tank and connected to the sewer with a removable Geberit pipe with trap (material to be submitted to UNOG for approval).

4. Hot water supply, cold water supply and loop pipes

- The pipes used as supply pipes from the feed tanks must have an appropriate diameter based on the maximum usable water flow rate. The materials used must be either metal/polyethylene composite PE.X Geberit mepla piping or equivalent, or stainless steel (Optipress). The material must be submitted to UNOG for approval.
- Each pipe must be attached using anti-vibration clamps. An attachment point must be made every 1 lm.
- The hot water and loop pipes must be placed side by side and insulated together.
- A control valve must be installed on each loop pipe at the feed tank outlet.
- A embedded valve must be provided to isolate each item of bathroomware. This valve must be installed close to each item of bathroomware.
- Two isolation valves (one for hot water, one for cold water) must be installed for each bathroom: quarter-turn valves for supply pipes passing through false ceilings or accessible service wells, embedded valves for bathrooms where the pipes are not accessible.
- The hand basin mixers must be fitted with Néoperl aerators, 7 litres/minute.

5. Pipe insulation

- Exposed pipes passing through the building (equipment rooms, corridors, offices, etc.) must be insulated with preformed PIR sheaths tied on with galvanised wire. Preformed PIR sheaths fitted to pipes with a diameter of between 3/8" to 50 mm must be 30 mm thick. For pipes with a cross-section of more than 50 mm, 50 mm thick sheaths must be used. Depending on the application, Armaflex-type 19 mm insulation may be used, with the consent of the Project Manager. Both types of insulation must be covered with a sheet of rigid PVC or a sheet of hammered (stucco) aluminium. The choice of covering will be made in conjunction with the manager of the mechanics subunit or the contact person during the work phase.

- Pipes passing through service wells, false ceilings or raised floors may be insulated with Armaflex sheaths of inner diameter suited to the diameter of each type of pipe and 19 mm to 25 mm thick, depending on the pipe diameters.
- Evacuation pipes passing near conference rooms must be Geberit Silent+ Geberit Isol type.
- All evacuation pipes passing through service ducts where there is a risk of freezing must be insulated with 19 mm thick Armaflex, and covered with a PVC wrapper.

6. Wastewater pipes

- The wastewater pipes must be Geberit Silent PE-S2 pipes with a cross-section appropriate for each item of bathroomware. The wastewater columns must be mounted using Geberit Silent clamps with neutral soundproof seals. The distance between two clamps must be less than or equal to ten times the diameter of the pipe being installed.
- The wastewater pipes must be sound insulated using lead-free insulation (suitable for Geberit pipes) and strong sound insulation, SH-Armaflex type, for uPVC ducts.
- Horizontal pipes must be fitted with a lacquered zinc-plated trough, which must be attached using a Müpro clamp made of synthetic material.

7. Heating cable

A self-regulating heating cable must be installed on hot water pipes in situations where a loop circuit is not possible. A heating cable to maintain a hot water temperature of 55 °C must be installed between the pipe and the insulation. The box used for the electrical connection must be installed in an accessible place.