

PERANCANGAN SISTEM INSTALASI PEMIPAAN AIR BERSIH PADA GEDUNG PERKANTORAN X 37 LANTAI

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ABSTRAK

Plumbing merupakan salah satu utilitas bangunan yang harus di perhatikan dalam pembangunan suatu gedung karena sistem plumbing dapat mendistribusikan air bersih yang diperlukan oleh penghuni didalam gedung tersebut. Perancangan instalasi air bersih, dengan memperhatikan jumlah pemakaian air bersih, volume tangki air penampung, kapasitas pompa, *head* pompa, daya pompa dan *net positive suction head* (NPSH). Untuk dapat memenuhi kebutuhan air bersih dalam perancangan gedung 37 lantai dengan total penghuni 6.975 orang, di perlukan kebutuhan air bersih sebesar 358 m³/hari. Volume tangki penampungan air yang disediakan untuk *reservoir* bawah (*Ground Water Tank*) sebesar 120 m³ dan *reservoir* atas (*Roof Tank*) sebesar 30 m³. Hasil perancangan instalasi air bersih, pipa yang di gunakan memiliki diameter dalam sebesar 138 mm dan diameter luar sebesar 200 mm, kapasitas pompa transfer sebesar 1,35 m³/menit dengan daya pompa sebesar 54 kW.

Kata Kunci : Perancangan, Sistem pemipaan, Instalasi air bersih

DESIGN OF CLEAN WATER PIPING INSTALLATION SYSTEM IN OFFICE BUILDING X 37 FLOORS

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ABSTRACT

Plumbing is one of the building utilities that must be considered in the construction of a building because the plumbing system can distribute clean water needed by residents in the building. The design of clean water instalasi should pay attention to the amount of clean water needs, the volume of the reservoir water tank, pump capacity, pump head, pump power and net positive suction head (NPSH). To be able to meet the needs of clean water in the design of gedung 37 floors with a total population of 6,975 people, clean water needs of 358 m³/ day. The capacity of the water reservoir tank provided for the lower water tank (Ground Water Tank) is 120 m³ and the upper water tank (Roof Tank) is 30 m³. As a result of the design of the clean water installation, the pipe used has an inner diameter of 138 mm and an outer diameter of 200 mm, the transfer pump capacity is 1.35 m³/ minute with a pump power of 54 kW.

Keywords: *Planning, System piping, Installation clean water*