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INSTALLATION OF BUILDING STRUCTURES FOR ENGINEERING COMMUNICATIONS

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ANNOTATION: *This article describes in detail the processes of assembling constructions of engineering communications in modern buildings and structures. The stages of assembly - preparation, marking, installation of equipment, reinforcement, testing and commissioning - are consistently described. Recommendations are given on the integral connection of systems with building structures, materials, equipment used, and safety standards. The article is intended for technical specialists, civil engineers, and students of the field, and is prepared based on a practical approach .*

Key words: *Engineering communications, building structures, installation techniques, construction supports, pipeline mounting, utility installation, structural integration, fastening systems, cable trays and ducts, mounting brackets, seismic protection, load-bearing elements, fireproofing of utilities.*

INTRODUCTION

Engineering communications constitute the main vital systems of modern buildings, structures and industrial facilities. Proper installation of these communications is a prerequisite for the safety, convenience and long-term operation of the device. Installation work is one of the important stages of the construction process, during which work is carried out in close connection with building structures.

Classification of engineering communications

Engineering communications are divided into the following main groups:

- **Water supply systems** – cold and hot water for
- **Heat supply systems** – heating and hot water for
- **Water water (sewerage) systems** – internal and external
- **Electricity supply and lighting systems**

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- **Ventilation and air conditioner systems**
- **To the fire against protection systems**
- **Information and communication systems (COMMUNICATIONS, internet, signaling)**

Every one of the system assembly process technician documents and construction construction with coordinated without done is increased .

Construction constructions with integration

Engineering systems often of the building main passes through structures (walls , floors , ceilings) or they with closely connected will be . Therefore :

- Construction in the project in advance *canal* , *mine* , *passage places* , *brackets* (kreplenia) in the eye is being held .
- Systems *hide* (e.g. ventilation) between the pipes and the ceiling) aesthetic and technician to the reasons according to done is increased .
- Temperature expansion , tremor and sinkholes into account received *compensatory devices* is installed .

Montage technology and methodological stages

4.1. Preparation stage

- Project estimate documents study
- Materials and equipment placement
- Workers and of experts qualification check
- Construction the area preparation (construction) supply , security measures)

4.2. Marking and measurement

- Laser target signs using pipes , cables directions is marked
- Montage brackets place is marked
- Measurement accuracy high in accuracy to be (± 3 mm) from not to exceed necessary)

4.3. Pipe and cable lines installation

- Pipes cutting , bending , preparation (welding , plastic) connection , press-fitting)

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- Cable and cable trays installation
- Insulation to make (heat , acoustic) or to the fire resistant)

4.4. Equipment assembly

- Pumps , filters , meters , valves , automatic management equipment
- Every one equipment technician passport and project according to is installed

4.5. Reinforcement and additional constructions

- On the wall , on the ceiling or independent to the support fastening
- If necessary assembly platforms , iron carcasses will be built

4.6. Testing and check

- Hydraulic test (pressure with)
- Electricity insulation test (megometer) via)
- Gas in the pipes density and leak control
- Acting and to exploitation submission

In the montage applicable equipment

Tools and equipment	**Purpose**
Electricity welding apparatus	Pipes connect
Plastic pipe welder	Polypropylene pipes for
Laser target marker	Correct direction designation
Press-crimp device	Fittings connect for
Pipe bend lathe	External pipes for
Pumped test apparatus	Pressure under test

Construction-normative documents

Montage works following normative to documents appropriate is done :

- **Uzbekistan construction standards (UzKMQ)**
- **SNiP** , **GOST** , **ISO** standards
- **Technical regulations** and **exploitation passports**
- Construction control documents (act , deed , test) protocol)

Security and quality control

- Every one assembly process technician control under to be condition
- At altitude in the works height equipment (rope , belt , cable) is used
- Electricity and gas in the assembly certified experts participation will
- Every one test result writing in the act reflection delivered

Conclusion

Engineering communications assembly is construction technological and engineering in the basics thorough planned , to standards suitable accordingly execution need was responsible is the stage . Every one system separately to the complexities has and they constructions with appropriate in a way integration to do necessary . Qualified assembly works of the building service the deadline extends , safety provides and exploitation expenses reduces .

REFERENCES

1. Quvondiqov, Q. (2023). On the Issue of Efficiency in the Transportation of Oil Products by Main Pipeline. International Journal of Trend in Scientific Research and Development (IJTSRD).
2. Quvondiqov, Q. (2021). Suv ta'minoti, oqova suv, gidravlika va suv resurslarini muhofaza qilish sohalarida yangi yutuqlar. X МЕЖДУНАРОДНАЯ НАУЧНО-ПРАКТИЧЕСКАЯ КОНФЕРЕНСИЯ.
3. Quvondiqov, Q. (2022). Gidtrotransport tizimlaridagi adgeziyani dispers sistemalarni modifikaцyalash orqali kamaytirish. Scienceweb academic papers collection.
4. Quvondiqov, Q. (2023). Magistral va undan tarqalagn quvurlar tizimini gidravlik hisoblash. ELEKTRON HISOBLASH MASHINALARI UCHUN YARATILGAN DASTURNING RASMIY RO‘YXATDAN O‘TKAZILGANLIGI TO‘G‘RISIDAGI GUVOHNOMA O‘ZBEKISTON RESPUBLIKASI ADLIYA VAZIRLIGI,№ DGU 24340, Talabnoma kelib tushgan sana: 03.04. 2023 Talabnoma raqami: DGU 2023 2692.
5. Quvondiqov, Q. (2018). TTYMI talabalar turar joyidagi suv ta’minoti tizimlarining muammolari. Scienceweb academic papers collection.

6. Quvondiqov, Q. (2022). Quduqning siljishga, ag‘darilishiga va suzib chiqishiga bo‘lgan turg‘unligini hisoblash uchun dastur. Scienceweb academic papers collection.

7. Esanmurodov, S. (2023). On the Issue of Efficiency in the Transportation of Oil Products by Main Pipelines. International Journal of Trend in Scientific Research and Development (IJTSRD).

8. Quvondiqov, Q. (2021). Обоснование проведения реконструкции Бектемириских канализационных очистных сооружений г. Чирчика с целью повышения эффективности их работы. Scienceweb academic papers collection.

9. Бабаев, А. Р., & Умаров, У. В. (2023). МАҲАЛЛИЙ ХОМ АШЁЛАРДАН ТАЙЁРЛАНГАН ФИЛЬТРЛАРНИ ЮВИШ. Scientific Impulse, 1(10), 415-422.

10. Javokhir, O., Askar, B., Kuvonchbek, K., & Uchkun, U. (2023). Washing Filters Made From Local Raw Materials. Best Journal of Innovation in Science, Research and Development, 2(6), 281-288.

11. Quvondiqov, Q. (2023). MAHALLIY XOM ASHYOLARDAN TAYYORLANGAN FILTRLARNI YUVISH. Международный современный научно-практический журнал Научный импульс.

12. Quvondiqov, Q. (2023). Neft mahsulotlarini magistral quvurlar orqali tashishda nasos rejimi va nasos stansiyalarida elektr energiyasining xarajatlari. Замонавий архитектура, бинолар ва иншоотларнинг мустаҳкамлиги, ишончлилиги ва сейсмик хавфсизлик муаммолари.

13. Quvondiqov, Q. (2023). Neft va neft mahsulotlarini quvurlar orqali tashishda nasos va quvur liniyasining kombinasiyalashgan xususiyatlari. Замонавий архитектура, бинолар ва иншоотларнинг мустаҳкамлиги, ишончлилиги ва сейсмик хавфсизлик муаммолари.

14. Babayev, A. (2023). NEFT VA NEFT MAHSULOTLARINI MAGISTRAL QUVURLAR ORQALI TASHISHDA NASOS VA QUVUR LINIYASINING UMUMIY XARAKTERISTIKALARI. Замонавий архитектура, бинолар ва иншоотларнинг мустаҳкамлиги, ишончлилиги ва сейсмик хавфсизлик муаммолари.

ISSN 3060-4567

15. Obidjonov, A., Umarov, U., Babaev, A., Quvondiqov, Q., & Umarova, D. (2023). Purification of borehole and domestic waters in rural conditions of Uzbekistan using filters and their hydraulic calculation. In E3S Web of Conferences (Vol. 401, p. 01084). EDP Sciences.

16. Umarov, U., Quvondiqov, Q., Obidjonov, A., Babaev, A., & Ochildiyev, O. (2023). Selecting wastewater treatment filters using local raw materials. In E3S Web of Conferences (Vol. 401, p. 03019). EDP Sciences.