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GIDRAVLIK TIZIMDAGI ISHCHI SUYUQLIK IFLOSLANISHINI YUZAGA KELISH SABABLARI VA TA'SIRINING TAHLILI.

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Annotatsiya Ushbu maqolada gidravlik tizimidagi ishchi suyuqliklarning ifloslanish sabablari va ularning tizimga ta'siri tahlil qilinadi. So'nggi paytlarda gidravlik kon mashinalarining ishlashiga ta'sir etuvchi muamolardan gidravlik suyuqlikka mayda o'lchamdagi chang zarralari bilan ifloslanish kuchaymoqda. Detallarning yetarlicha tozalanmaganligi va yuvilmaganligi natijasida metall qirindilar, uzilgan mayda zarra bo'laklari, abraziv, okalin qoldiqlari va boshqalar kelib tushadi. Ishchi suyuqligiga tushish manbalari: quyish, montaj va ta'mirlash ishlari vaqtida, ish jarayonida detallar eskirishi va korroziyasiyasi oqibatida, havodan chang shaklida gidrobaklarning mahkam yopilmaganligi tufayli.

Kalit so'zlar: gidravlik tizim, gidravlik suyuqlik, ishchi suyuqlik, ifloslanish, chang zarralari, abraziv, okalin qoldiqlari, korroziya, chang zarralari, gidrobak.

Аннотация: В данной статье анализируются причины загрязнения рабочих жидкостей в гидравлической системе и их влияние на систему. В последнее время усиливается проблема загрязнения гидравлической жидкости мелкодисперсными частицами пыли, влияющая на работу гидравлических горных машин. В результате недостаточной очистки и промывки деталей в жидкость попадают металлическая стружка, мелкие отломанные частицы, абразив, окалина и другие загрязнения.

Источники попадания в рабочую жидкость: при литье, монтаже и ремонтных работах; в процессе эксплуатации вследствие износа и коррозии деталей; в виде пыли из воздуха при неплотном закрытии гидробаков.

Ключевые слова: гидравлическая система, гидравлическая жидкость, рабочая жидкость, загрязнение, частицы пыли, абразив, остатки окалины, коррозия, частицы пыли, гидробак.

Annotation: This article analyzes the causes of contamination of working fluids in hydraulic systems and their impact on the system. Recently, the problem of contamination of hydraulic fluid with fine dust particles, which affects the operation of hydraulic mining

machines, has intensified. Due to insufficient cleaning and washing of parts, metal shavings, small broken particles, abrasive materials, scale residues, and other contaminants enter the fluid.

Sources of contamination in the working fluid include: during casting, assembly, and repair operations; in the course of operation as a result of wear and corrosion of parts; as dust from the air due to improperly sealed hydraulic tanks.

Key words: hydraulic system, hydraulic fluid, working fluid, contamination, dust particles, abrasive, scale residues, corrosion, dust particles, hydraulic tank.Ф

Kirish.

Gidravlik tizimlar turli sanoat sohalarida, jumladan, mashinasozlik, avtomobilsozlik va aerokosmik sanoatda keng qo‘llaniladi. Bunday tizimlarning ishonchliligi va uzoq muddatli ishlashi ko‘p jihatdan ishlatilayotgan gidravlik suyuqlikning tozaligiga bog‘liq. Ifloslangan suyuqlik tizim komponentlarining ishdan chiqishiga sabab bo‘lishi mumkin.

Gidravlik ishchi suyuqliklarning ifloslanishi, asosan, quyidagi guruhlarga bo’linadi: qattiq zarralar, yumshoq zarralar, suv, havo turlicha ta’sir o’tkazadi.

Gidravlik ishchi suyuqlikda qattiq ifloslovchi zarralarning paydo bo’lishi, saqlash klapanlarining yemirilishi, nasos va dvigatelning abraziv yemirilishi, gidrotaqsimlovchilarning yemirilishi va filtrlar ifloslanishining asosiy sababchisidir.

Muhokama va natijalar

Bu tadqiqotda suyuqliklarning ifloslanish sabablari, ularning gidravlik tizimga ta’siri, ketirib chiqarishi mumkun bo’lgan oqibatlari va oldini olish usullari o’rganildi va quyidakicha xulosaga kelindi;

Gidravlik suyuqliklarning ifloslanish sabablari:

Gidravlik suyuqliklarning ifloslanishi turli omillarga bog‘liq bo‘lib, ular quyidagilardan iborat:

1. Tashqi muhit ta’siri
- Chang, tuproq va boshqa mexanik zarralar tizimga kirishi
- Namlik va suvning gidravlik suyuqlikka tushishi
2. Ichki ifloslanish
- Ishqalanish natijasida paydo bo‘ladigan metall zarrachalari
- Suyuqlikning oksidlanishi va kimyoviy o‘zgarishlar
3. Ishlatish jarayonidagi nosozliklar
- Nosoz filtrlash tizimi

Gidravlik tizimga ifloslanishning ta’sir

Ishchi suyuqlikning ifloslanishi gidravlik tizimga bir necha salbiy ta’sir ko‘rsatishi mumkin:
- Ishqalanish va sinish – ifloslangan suyuqlik gidravlik nasos, klapan va silindrlarni tezroq ishdan chiqaradi.
- Tizim samaradorligining pasayishi – kiruvchi zarralar oqimning buzilishiga olib keladi, natijada tizim ish faoliyati pasayadi.

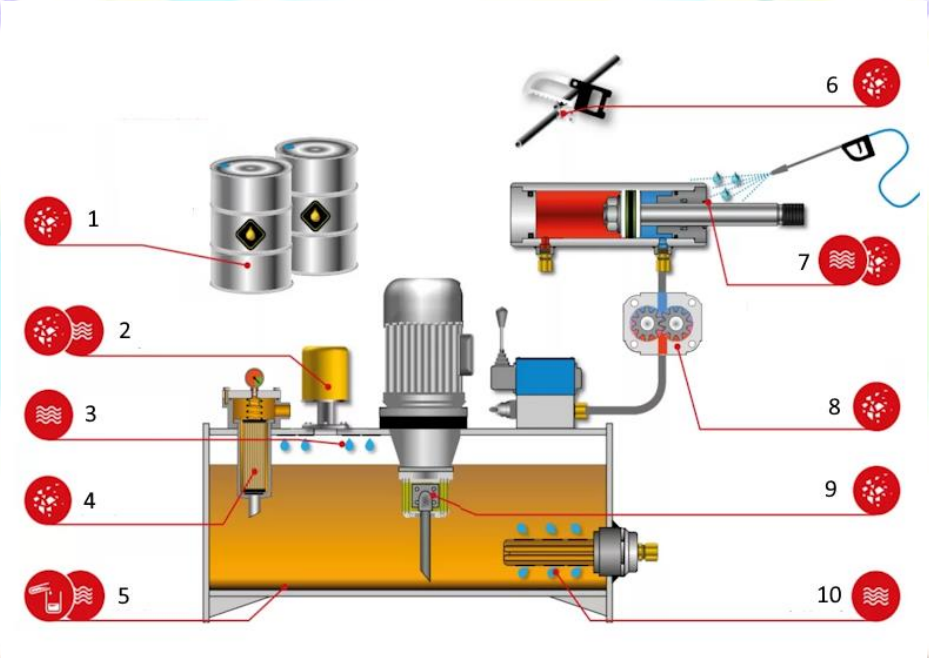
- Tizimning to‘liq ishdan chiqishi – jiddiy ifloslanish gidravlik tizimning butunlay ishdan chiqishiga sabab bo‘lishi mumkin.
- Mexanik aralashmalar konsentratsiyasining oshishi – adgez, abraziv va errozion yemirilishlarga olib keladi;
- suv konsentratsiyasining oshib ketishi korroziyaga olib keladi;
- havo (gaz) konsentratsiyasining oshib ketishi kavitatsion yemirilishga olib keladi;

Oldini olish choralari

Gidravlik suyuqliklarning ifloslanishini oldini olish uchun quyidagi choralar ko‘rilishi lozim:

- Yuqori samarali filtrlash tizimlaridan foydalanish.
- Gidravlik tizimni rejalashtirilgan texnik xizmat orqali muntazam tekshirib borish.
- Ishchi suyuqlik sifatini doimiy nazorat qilish va kerak bo‘lsa, almashtirish.
- Gidravlik komponentlarni to‘g‘ri saqlash va muhit ta’siridan himoya qilish.

Quyida ishchi suyuqligi sifatiga ta’sir ko’rsatuvchi asosiy omillar keltirilgan.



1 – filtrlanmagan yangi moy; 2 – havo almashinishda chang va suvning kirishi; 3 – kondensat ; 4 – filtrlanish xususiyati patligi; 5 – bak tubida chang zarrachalarning qolishi; 6 – ta’mirlash va montaj ishlarida ifloslanish; 7 – gidroslindrning chang ushlagich zichlagichining nosozligi tufayli chang va suvlarning kirishi; 8 – detallarning ishqalanishi tufayli yemirilishi; 9– gidronasoslarning yemirilishi; 10 – moyi

Xulosa

Gidravlik tizimlarning ishonchli va uzoq muddatli ishlashi uchun ishchi suyuqliklarning tozaligini ta’minlash muhim ahamiyatga ega. Suyuqlikning ifloslanishi tizimga jiddiy zarar yetkazishi mumkin, shuning uchun unga to‘g‘ri texnik xizmat ko‘rsatish va nazorat qilish zarur. Maqolada ifloslanishning asosiy sabab va oqibatlari ko‘rib chiqildi hamda ularning oldini olish choralari taklif etildi

ADABIYOTLAR RO‘YXATI

1. Абдуазизов Н.А., Джураев Р.У., Жураев А.Ш. Исследование влияния температуры и вязкости рабочей жидкости гидравлических систем на надежность работы горного оборудования // – Горный вестник Узбекистана. – Навои, 2018. – №3. – С. 58-60.

2. Djuraev Rustam Umarkhanovich, Mustafaev Oybek Bobomuradovich, Ismatov Adxam Alibek ogli. he 8 th International scientific and practical conference “Modern science: innovations and prospects”(May 1-3, 2022) SSPG Publish, Stockholm, Sweden. 2022. 459 p.

3. B.R Toshov, A.D Nietbaev, A.A Ismatov. Vintsimon harakatda qattiq jismning ixtiyoriy nuqtasining harakat tenglamasi va tezligi, Educational Research in Universal Sciences, c-473-476.

4. Karshibaev A. I., Zokhidov O.U. Research of potential and effectiveness of renewable energy application at mining enterprises of the Republic of Uzbekistan. Australian Journal of Science and Technology, Volume 4; Issue 4; December 2020.

COMPETENCIES NEEDED TO ACQUIRE THE ENGINEERING PROFESSION

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Abstract. The engineering profession demands a wide range of competencies that extend beyond technical knowledge. This article examines the essential skills, attitudes, and knowledge required for success in engineering. It emphasizes the integration of technical expertise, problem-solving abilities, communication skills, teamwork, ethical responsibility, and lifelong learning. The study also highlights the importance of adaptability in the face of technological change and globalization. By analyzing these competencies, the article aims to provide a framework for preparing future engineers for the dynamic challenges of their professional careers.

Keywords: Engineering profession, competencies, problem-solving, communication skills, teamwork, professional ethics, adaptability.

INTRODUCTION

The twenty-first century has been marked by rapid technological advancements, digital transformation, and global integration. In such a context, the engineering profession plays a pivotal role in shaping economies, infrastructure, and innovation. However, to succeed in this field, engineers must possess not only technical expertise but also a wide range of personal and professional competencies. These competencies determine their ability to address complex problems, work in interdisciplinary teams, and adapt to rapidly evolving technologies. Understanding the competencies required in engineering is crucial for both educational institutions that prepare future specialists and employers who seek highly qualified professionals capable of contributing to sustainable development.

MATERIALS AND METHODS

One of the most fundamental competencies required in engineering is technical expertise. Engineers must have strong knowledge of mathematics, physics, computer science, and specialized areas of engineering such as civil, mechanical, electrical, or

software engineering. Technical competence is the foundation upon which all other skills are built, as it enables engineers to design, analyze, and implement solutions that meet practical needs. However, technical knowledge alone is insufficient without the ability to apply it to real-world problems [1].

Equally important is problem-solving ability. Engineering is essentially the application of scientific principles to solve human challenges. Engineers must be able to identify problems, gather data, analyze options, and design efficient and effective solutions. This competency requires creativity, critical thinking, and innovation, as engineers often face unprecedented situations where traditional approaches are inadequate. Problem-solving also involves an iterative process of testing, evaluating, and refining solutions, which demands patience and resilience.

RESULTS AND DISCUSSION

In addition to technical and analytical skills, engineers must develop strong communication skills. Engineering solutions often need to be explained to non-specialists, such as clients, policymakers, or the general public. The ability to present complex technical information clearly and persuasively is vital. Engineers must also be proficient in technical writing, as they are frequently required to produce reports, proposals, and documentation that form the basis for decision-making. Effective communication within teams is equally essential, as engineering projects are collaborative endeavors that require coordination among multiple stakeholders [2].

Teamwork and collaboration represent another indispensable competency in engineering. Modern engineering projects are rarely the work of individuals; instead, they involve interdisciplinary teams where each member brings unique expertise. Engineers must therefore learn to cooperate, share responsibility, resolve conflicts, and respect diverse perspectives. Teamwork skills enhance not only productivity but also creativity, as collective brainstorming often generates innovative ideas that individuals working alone might overlook.

Professional ethics and responsibility are also central to the engineering profession. Engineers are entrusted with designing systems, structures, and technologies that directly affect human lives and the environment. They must uphold the highest ethical standards, ensuring safety, sustainability, and fairness in their work. This includes respecting

intellectual property, avoiding conflicts of interest, and considering the broader societal impact of engineering solutions. Ethical decision-making builds trust between engineers and the communities they serve, reinforcing the profession's integrity [3].

In the current era of rapid technological change, adaptability and lifelong learning are essential competencies. New materials, technologies, and methodologies continuously reshape the engineering landscape. Engineers must remain flexible and open to new knowledge, updating their skills through continuing education, professional development courses, and independent learning. Lifelong learning ensures that engineers remain competitive and capable of addressing emerging global challenges, such as climate change, digitalization, and sustainable energy development.

Finally, engineers must also cultivate leadership and project management skills. As they advance in their careers, many engineers take on responsibilities that involve supervising teams, managing budgets, and coordinating large-scale projects. Leadership requires the ability to inspire others, make informed decisions under pressure, and maintain accountability. Project management competencies, such as planning, scheduling, and risk assessment, enable engineers to deliver successful outcomes within constraints of time and resources.

In the modern era of rapid digitalization, one of the indispensable competencies for engineers is digital and technological literacy. Contemporary engineering projects rely heavily on advanced software, simulation tools, and data-driven approaches. Competence in computer-aided design (CAD), programming, and data analytics has become just as essential as traditional technical knowledge. Engineers must not only know how to use these tools but also understand their limitations and potential biases in order to apply them critically and effectively. The growing importance of artificial intelligence, machine learning, and automation in engineering underscores the need for professionals who are digitally fluent and capable of integrating cutting-edge technologies into their work [4].

Another vital competency is a strong orientation toward sustainability and environmental responsibility. Engineers are at the forefront of developing solutions to some of the most pressing global issues, such as climate change, resource depletion, and pollution. This requires an understanding of sustainable design principles, life-cycle assessment, and renewable energy technologies. Engineers must be able to evaluate the environmental

impact of their projects and make decisions that balance economic feasibility with ecological stewardship. A sustainability mindset ensures that engineering solutions are not only technically effective but also ethically and environmentally sound, thus contributing to long-term societal well-being.

Equally significant is the ability to work in an increasingly interconnected world, which demands intercultural competence and global collaboration. Engineering teams are often international, bringing together individuals from diverse cultural, educational, and professional backgrounds. Effective collaboration in such environments requires sensitivity to cultural differences, openness to diverse perspectives, and the ability to communicate across linguistic and cultural barriers. Engineers must cultivate a global outlook, understanding that their work impacts communities worldwide and that solutions must often be designed with international contexts in mind.

Beyond technical and intellectual skills, engineers must also develop emotional intelligence and resilience. The profession often involves working under pressure, managing tight deadlines, and confronting unforeseen challenges. Emotional intelligence—the ability to understand and regulate one's own emotions as well as empathize with others—enables engineers to maintain effective interpersonal relationships and manage conflicts constructively. Resilience, in turn, allows them to recover from setbacks, adapt to change, and remain focused on long-term goals. Together, these competencies ensure that engineers can thrive not only in stable circumstances but also in times of uncertainty and crisis.

Finally, the engineering profession increasingly values innovation and entrepreneurial competencies. Engineers are no longer confined to implementing existing technologies; they are expected to generate new ideas, develop novel products, and even create startups that bring innovative solutions to market. Entrepreneurial skills such as opportunity recognition, business planning, and risk management complement traditional engineering expertise. By fostering an innovative mindset, engineers can contribute to economic growth, technological progress, and societal transformation, positioning themselves as leaders in shaping the future [5].

CONCLUSION

The engineering profession requires a multifaceted set of competencies that extend far beyond technical expertise. Future engineers must combine problem-solving,

communication, teamwork, ethics, adaptability, and leadership to succeed in their roles. Educational institutions should incorporate these competencies into curricula to ensure graduates are well-prepared for the demands of the profession. Employers, in turn, must foster environments that encourage continuous learning and professional growth. Ultimately, the success of engineers depends on their ability to integrate these competencies in addressing complex global challenges and contributing to technological progress and societal well-being.

REFERENCES

1. Crawley, E. F., Malmqvist, J., Östlund, S., Brodeur, D. R., & Edström, K. (2014). Rethinking Engineering Education: The CDIO Approach. Springer.
2. National Academy of Engineering (2004). The Engineer of 2020: Visions of Engineering in the New Century. Washington, DC: The National Academies Press.
3. Passow, H. J. (2012). Which ABET competencies do engineering graduates find most important in their work? Journal of Engineering Education, 101(1), 95–118.
4. Graham, R. (2018). The Global State of the Art in Engineering Education. MIT School of Engineering.
5. Davis, M. (2017). Thinking Like an Engineer: Studies in the Ethics of a Profession. Oxford University Press.

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