QURILISH PO‘LATLARI VA ALYUMINIY QOTISHMALARINING TARKIBI, TUZILISHI VA XOSSALARINING O‘ZIGA XOS XUSUSIYATLARI

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SamDAQU magistranti

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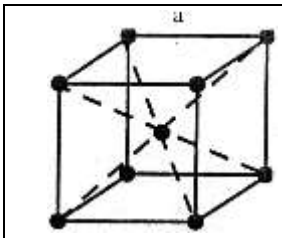
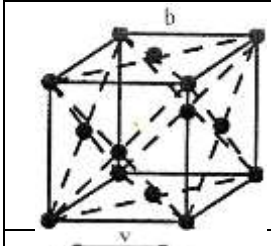
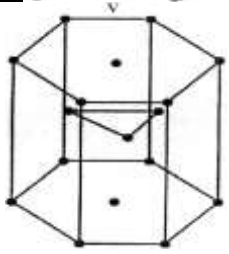
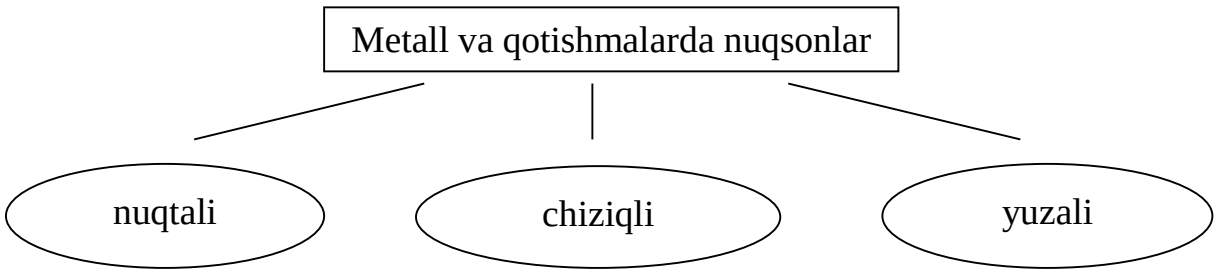
KIRISH Toza metallar va qotishmalarning o‘ziga xos asosiy xususiyati ularning kristall tuzilishga egaligidir. Erigan holatida metall atomlari tartibsiz harakatda bo‘ladi, qattiq holatda esa kristall panjara shaklida bo‘ladi. Panjaraning tuzilishi va undagi atomlarning joylashuvi metall turiga bog`liq bo‘ladi. Eng ko‘p tarqalgan kristall panjara temirda kubli, alyuminiyda esa geksagonal bo‘ladi

Oddiy turdagi kristall panjaralar:

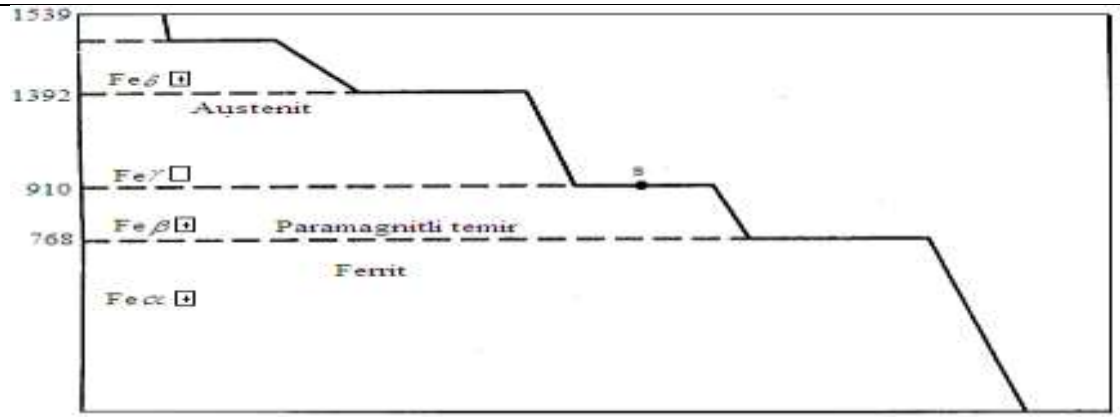
	a-xajmiy markazga ega bo‘lgan kubli
	b-kubli chegara markaziga ega bo‘lgan
	v-geksoganal zich joylashgan

Bu kristall panjaralar mukammal kristall uchun xarakterlidir. Maxsus metall va qotishmalarda turli xildagi nuqsonlar bo‘lishi bilan xarakterlidir.

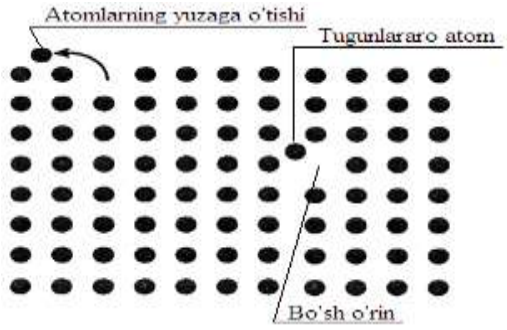


Oddiy nuqtali nuqsonlar atom bog`lari orasidagi va bo‘sh o‘rinli turlarga bo‘linadi. Bo‘sh o‘rinli nuqsonlarga kristall panjarali bo‘sh bog` deyiladi. Atom bog`lari orasidagi nuqsonlar esa bog`lar orasida joylashgan bo‘ladi.

Toza temir uchun sovutish vaqtining harorat o‘zgarishi bo‘yicha nisbiy grafigi.



Bo‘sh o‘rinli va atom bog`lar orasidagi nuqsonlar noldan yuqori haroratda atomlarning issiqlikdan tebranishi natijasida sodir bo‘ladi. Chiziqli nuqsonlarga chetki va vintli joylashuvlar mansub bo‘ladi. Joylashuv kristallanishdagi atomli tekisliklarning to‘g`ri almashishining buzilishi, shuningdek katta bo‘sh o‘rinlarning qo‘shilishidan hosil bo‘ladi.



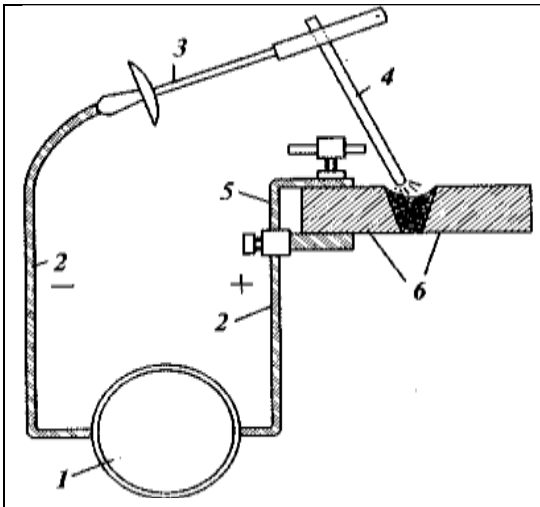
Kristall nuqtali nuqsonlar.

Yuzali nuqsonlar o‘ta yirik tuzilishli metallarda masalan, donalar chegarasida ya’ni fazoda turli shaklda joylashgan kristallar guruhida sodir bo‘ladi. Metallarning barcha fizik-mexanik xossalari va ularning o‘ziga xos xususiyatlari kristall tuzilish natijasida sodir bo‘ladi. Metallarning yuqori mustahkamlikka ega ekanligi kristall panjaralarining ma’lum joylaridagi mavjud ushlab qoluvchi atomlar, ya’ni kuchlarning mavjudligi bilan tushuntiriladi. Nuqsonlar sonining ortishi metall mustahkamligining ma’lum qiymatgacha kamayishi kuzatiladi.

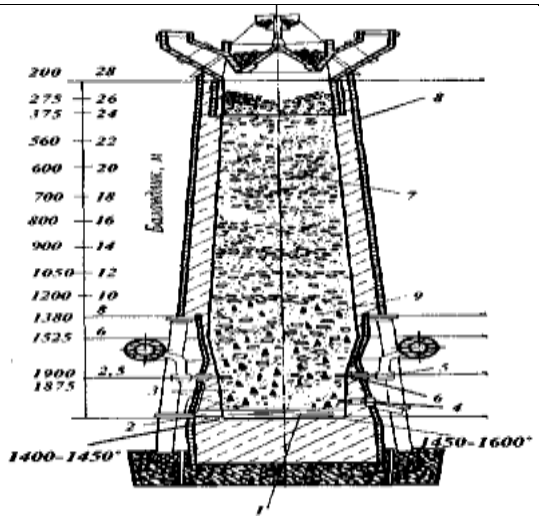
Qurilishda qo‘llaniladigan metallar

Suyuq cho‘yan (14200S) o‘choqning quyi qismidagi tarnov orqali qoliplarga quyiladi.Temir sanoatida suyuq cho‘yanni bosim ostida va markazdan qochirma (quvurlar, halqalar va h.k.) usullar bilan qoliplash texnologiyasi keng tarqalgan. Qolipga quyilgan cho‘yan

to‘la qattiq holatga o‘tishining boshlang‘ich daqiqalarida biroz kengay-sada, ammo soviganda 1 % ga kirishadi. Qotayotgan cho‘yanni 980–1050°S da 2–3 soat chiniqtirilsa, biroz qayishqoq xususiyatga ega bo‘ladi. Bunday cho‘yanni qotish jarayonida ikki po‘lat g‘o‘la orasidan siqib o‘tkazilsa, yupqa tasmasimon holatga o‘tadi. Keyin uni to‘la qotishidan oldin teshish, kesish yoki egish mumkin bo‘ladi.



Elektr yoy bilan payvandlash: 1-generator; 2-elektr simi; 3-elektr ushlagich; 4-elektrod; 5-qisgich; 6-payvandlanadigan temir.



Domna o‘chog‘i: 1–suyuq cho‘yan; 2–cho‘yan eritmasi tushadigan tarnov; 3– suyuq toshqol; 4–suyuq toshqol uchun tar-nov; 5–furma; 6–yoqilg‘i; 7–ruda; 8– flyus; 9–cho‘yan tomchilari.

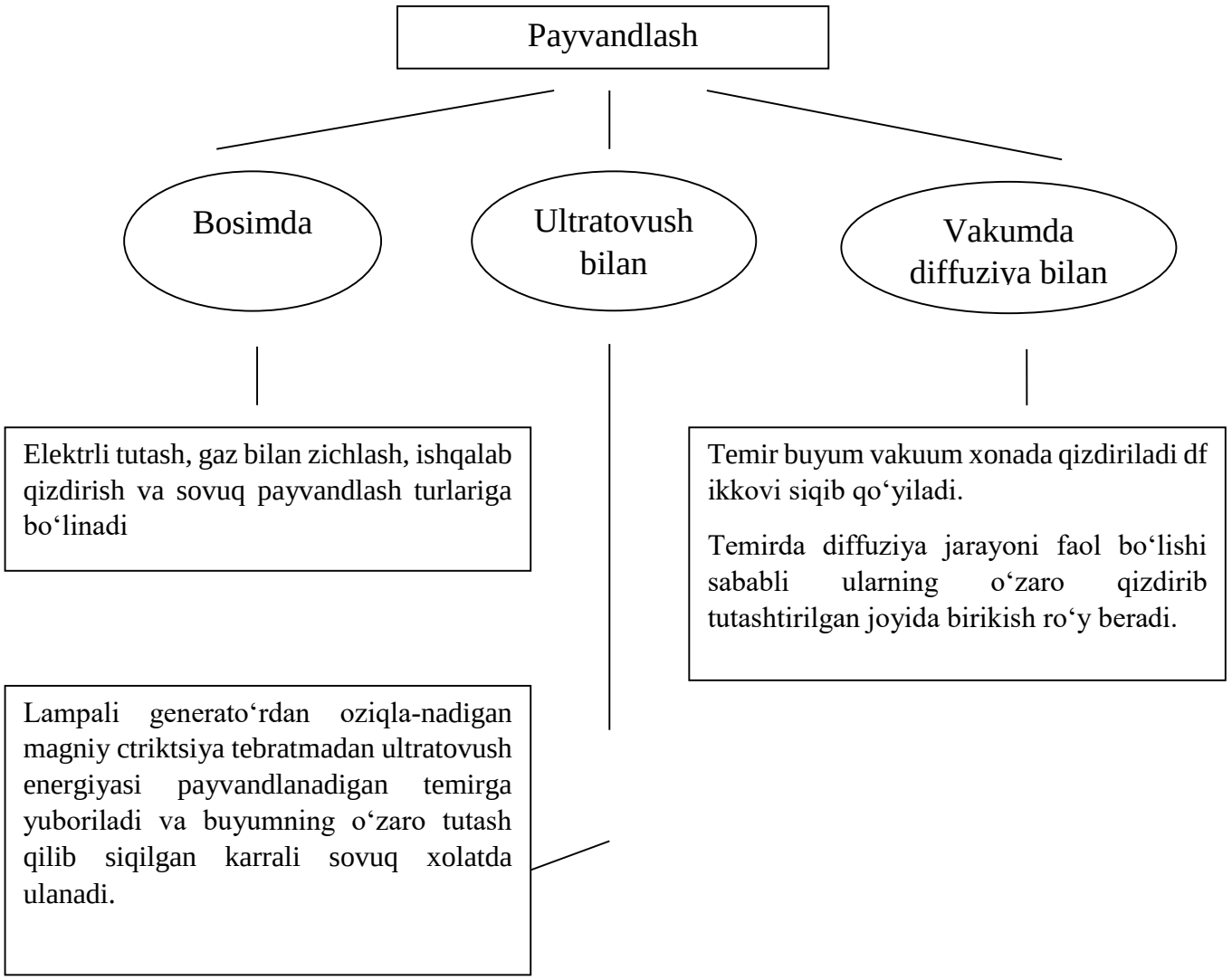
Po‘lat ishlab chiqarish. Po‘lat konvertor, marten yoki elektr o‘choklarida olinadi. **Konvertor usulga** ko‘ra o‘choqdagi erigan cho‘yanni boyitilgan kislorodli havo bilan tozalanadi. Oksidlash jarayonida po‘lat chalaoksidlar bilan to‘yingan bo‘ladi. Po‘lat xossalarini yaxshilash maqsadida eritmaga 51, Mp, A1 va boshqa moddalar qo‘shiladi. **Marten usulida** po‘lat olish uchun o‘choq olov bilan qizdirilib, qayta ishlangan cho‘yan, po‘lat parchalari va flyus eritiladi. Yoqilg‘i sifatida gaz yoki suyuq ashyo ishlatiladi. Eng yuqori sifatli po‘lat olishda kislorod-konvertor usuli keng ishlatiladi. Bu usulga ko‘ra, kislorod suyuq cho‘yanning ustki qismidan haydaladi va po‘latning sifatli bo‘lishligini ta’minlaydi. Po‘latni **elektr toki** bilan eritib olish usuli cho‘yan aralashmasining oksidlanishini tezlatishda hamda chala oksidlanishining oldini olishda qo‘llaniladi.

Po‘lat xossalarini yaxshilash maqsadida, uning tarkibiga legirlovchi qo‘shilmalar qo‘shiladi va legirlangan po‘lat hosil bo‘ladi. Legirlovchi qo‘shilmalar po‘lat xossalariga har xil ta’sir ko‘rsatadi. Jumladan, xrom po‘latning o‘tga, eyilishga, zararli muhitdazanglashiga chidamliligini, nikel qayishqoqligini va mustahkamligini oshiradi. Xrom bilan nikel zarbdagi qayishqoqligini oshiradi. Marganets oz miqsorda qo‘shilsa po‘latdagi oltingugurtni

zararsizlantiradi, ko‘p qo‘shilsa po‘latning qattiqligini va eyilishiga bardoshliligini oshiradi. Shuningdek, zarbdagi qayishqoqligini kamaytiradi. Kremniy qattiqligi va mustahkamligini oshiradi, plastikligini, bolg‘alanishini, payvandlanishini va zarbga qarshiligini kamaytiradi.

Barcha legirlovchi qo‘shilmalar po‘latning qizishini tezlashtiradi.

Po‘latdagi legirlovchi qo‘shilmalarning miqdoriga ko‘ra, ko‘p legirlangan, legirlangan va kam legirlangan po‘lat turlari farqlanadi.



Uglerod miqdoriga ko‘ra po‘latlar kam uglerodli-0,09-0,22%, o‘rtacha uglerodli-0,25-0,55% va yuqori uglerodli- 0,6-1,2% bo‘ladi. Qurilishda kam uglerodli po‘latlar ishlatiladi. O‘rtacha uglerodli po‘latlar asosan mashinasozlikda ishlatiladi. Yuqori uglerodli po‘latlar asbobsozlikda qo‘llaniladi. Qurilish va mashinasozlikda ishlatiladigan po‘latlar konstruksion po‘latlar guruhiga mansub bo‘ladi. Mexanik xarakteristikalari bo‘yicha konstruksion po‘latlar ettita markaga bo‘linadi: $Cm0; Cm1; Cm2; Cm3; Cm4; Cm5$ va $Cm6$. Asosiy qurilish po‘latlari

*Cm*3 va *Cm*5 bo‘lib, ulardan yuk ko‘taruvchi metall konstruksiyalar va temir-beton uchun armaturalar tayyorlanadi. *Cm*4 va *Cm*6 po‘latlardan bolt, shurup va boshqalar tayyorlanadi.

Kafolatlangan xossalari bo‘yicha oddiy sifatli uglerodli po‘latlar *A,Б* va *B* guruhlarga bo‘linadi. Po‘latlarni markalashda bu harflar oldinda, qaynash darajasi esa ohirida qo‘yiladi: sokin-*сп*, yarim sokin-*пс*, qaynaydigan-*кп*. Misol uchun *АСт3пс,ВСт4пс*. A guruhi bo‘yicha kafolatlangan mexanik xossali, *Б* guruhi bo‘yicha kimyoviy tarkibi, *B* guruhi bo‘yicha mexanik xossasi va kimyoviy tarkibi o‘rnatiladi.

Foydalanish vaqtidagi harorat va qo‘llanilishdagi zarbiy qovushqoqlik talablari bo‘yicha uglerodli po‘latlar oltiga bo‘linadi, misol uchun *ВСт3кп2* (markalashdagi oxirgi qiymat ko‘rsatkichi). Po‘latlarni fizik-mexanik xossalarini yaxshilash uchun tarkibiga maxsus ligerlovchi qo‘shimchalar qo‘shiladi, bunday po‘latlar *ligerlangan po‘latlar* deyiladi. Ta’sir etish xarakteri nisbati bo‘yicha ligerlovchi qo‘shimchalar nikelli va xromli guruhlarga bo‘linadi. Bu guruhga kiruvchi kimyoviy elementlar va ularning shartli belgilanishi jadvalda ko‘rsatilgan.

Ligerlovchi qo‘shimcha sifatida ishlatiladigan materiallar

Nikel guruhi		Xrom guruhi	
Material nomi	Shartli belgisi	Material nomi	Shartli belgisi
Nikel	*H*	Xrom	*X*
Marganets	*Г*	Titan	*T*
Mis	*Д*	Alyuminiy	*Ю*
Kobalt	*К*	Volfram	*В*
Azot	*А*	Vanadiy	*Ф*
		Kremniy	*С*
		Stirkoniy	*Ц*
		Niobiy	*Б*
		Bor	*Р*
		Molibden	*М*

Uglerodli po‘latlarga qaraganda ligerlangan po‘latlar yuqori zarbiy qovushqoqligi, korroziyaga chidamliligi, yaxshi payvandlanishi bilan ajralib turadi. Ligerlangan po‘latlarning kamchiligi uglerodli po‘latlarga qaraganda tannarxining yuqoriligidir.

Ligerlangan po‘latlar asosan quyidagi ko‘rsatkichlari bilan tavsiflanadi.

1.Ligerlovchi qo‘shimchalar miqdori bo‘yicha –ligerlangan 2,5% gacha, o‘rtacha ligerlangan 2,5 dan 10% gacha, yuqori ligerlangan 10% dan yuqori.

2. Ishlatilish joyiga ko‘ra- konstruksion-qurilish va mashinasozlik po‘latlari, asbobsozlik, maxsus zanglamaydigan, kislotaga chidamli, issiqqa chidamli.

Agar tarkibida ligerlovchi qo‘shimcha 0,3% dan kam bo‘lsa, markada ligerlovchi qo‘shimcha belgisi qo‘yilmaydi. Markadagi A harfi po‘latning yuqori sifatliligini bildiradi.

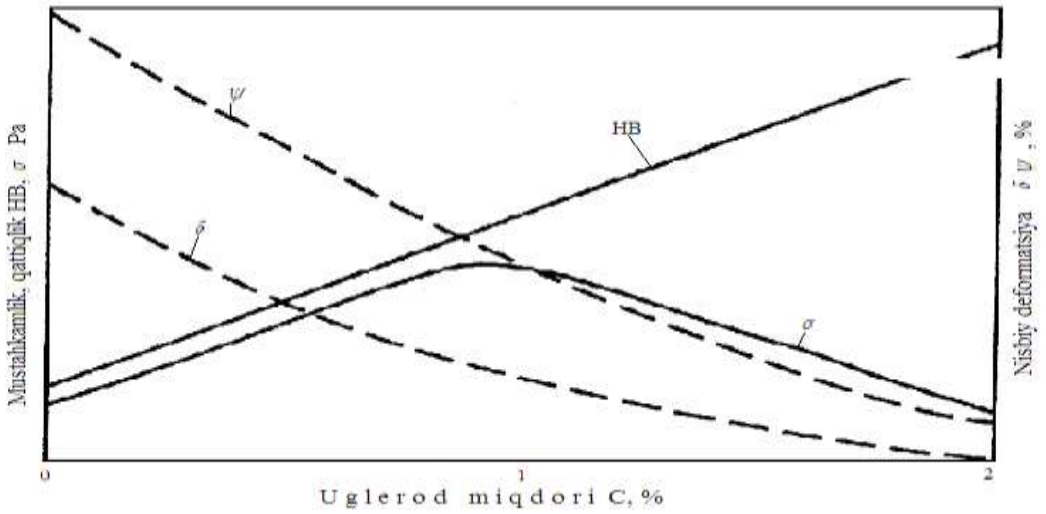
Qurilishda 18Γ, $09\Gamma2$, $10\Gamma2C1$, $20XT2C$ kabi kam ligerlangan po‘latlar qo‘llaniladi.

Ayrim qurilish po‘latlarining mexanik xarakteristikalari jadvalda ko‘rsatilgan.

Ayrim qurilish po‘latlarining mexanik xarakteristikalari

Po‘lat markasi	Uglerod miqdori, %	Mustahkamlik darajasi σ_B, MPa	Oquvchanlik darajasi, $\sigma_m(\sigma_{0,2})$	Nisbiy uzayish σ, %	Brinel bo‘yicha qattiqligi, *HB*, MPa
BCm3кп	0,14-0,22	370-470	220-240	24-27	1200
BCm3cn	-	380-490	230-250	23-26	-
BCm5cn	0,28-0,37	500-640	270-290	17-20	1500
$10\Gamma2C1$	0,12	480-520	340-380	21	1100
$30XT2C$	0,26-0,35	882	588	6	1500

Po‘latlarning mexanik xarakteristikalariga tarkibidagi uglerod miqdori ta’sir etadi. Uglerod miqdorining ortishi bilan ularda qattiqlik ortadi, plastiklik kamayadi. Po‘latda egiluvchanlik kam o‘zgaradi. Egiluvchanlik moduli $2\cdot10^5$-$2{,}06\cdot10^5$ MPa atrofida bo‘ladi. Uglerod miqdori 0,8-1,0% gacha bo‘lganda mustahkamlik darajasi ortadi, so‘ngra kamayadi

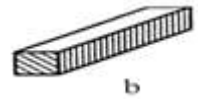
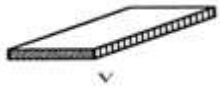


Uglerod miqdorini po‘latning mexanik xossalariga ta’siri.

Qurilishda po‘latlar zavodlarda tayyorlangan prokatlangan buyumlar shaklidaqo‘llaniladi.

Prokatlangan profillar ro‘yxati *sortament* deb ataladi. Qurilishda po‘latdan kalonna, balka, ferma kabi yuk ko‘taruvchi konstruksiyalar, temir-beton konstruksiyalar uchun armatura, deraza va eshik kesakilari tayyorlaniladi.

Prokatlangan profilli po‘latlarning sortamenti

 a	a-dumaloq
 b	to‘rtburchak
 v	tekis
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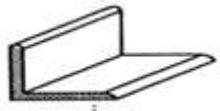
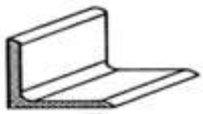
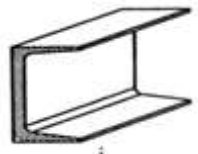
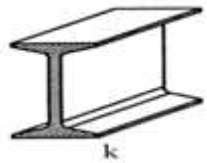
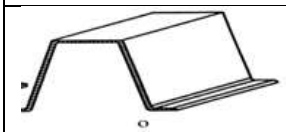
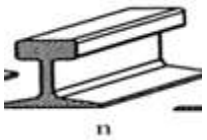
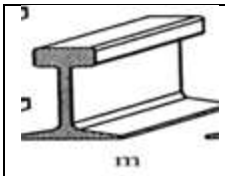
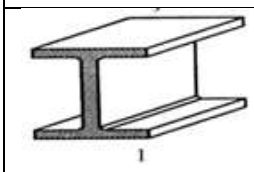
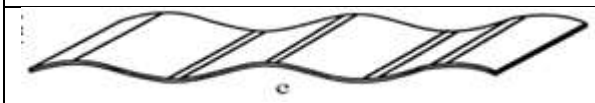
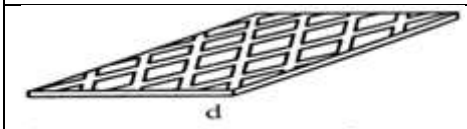
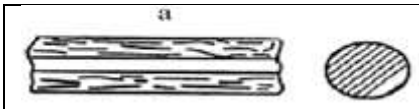
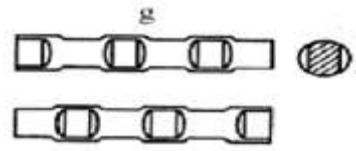
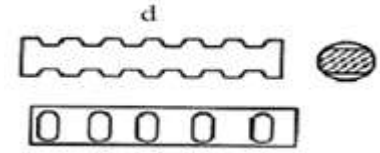
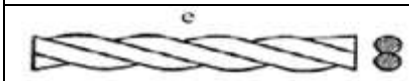
 i	teng burchakli
 z	teng burchakka ega bo‘lgan
 i	shveller
 k	qo‘shtavr
 o	shaxta mahkamlash balkasi
 n	rels balkasi

	kran osti balkasi
	payvandli tavr
	to‘lqinli
	qovurg`ali

Armatura buyumlarining turlari

	a-qizdirib tortilgan A-1 sinfiga mansub simli armatura;
	b- qizdirib tortilgan A- II sinfiga mansub qovurg`ali armatura;
	v- qizdirib tortilgan A- III sinfiga mansub qovurg`ali armatura;
	g-to‘rt tamoni yapaloq;
	d-huddi shu ikki tamoni yapaloq;
	e-to‘qilgan, buramali;

Alyuminiy qotishmalari

Mustahkamligining kichikligi hisobiga sof alyuminiy kamdan-kam hollarda ishlatiladi. Qurilishda alyuminiy qotishmalari keng qo‘llaniladi. Alyuminiy qotishmalari quyma va bosim ostida ishlov berilgan guruhlarga bo‘linadi. Quyma qotishmalar qurilishda chegaralangan holda qo‘llaniladi, ulardan faqat quyma buyumlar olinadi. Bu qotishmalarning vakili silumin-kremniyli

alyuminiy qotishmasidir. Quyma qotishmalar *AL* harfi bilan belgilanadi. Harfdan keyingi son qotishmaning shartli raqami hisoblanadi. Masalan, AL_2 AL_3 va boshq.

Bosim ostida ishlov berilgan qotishmalar 2 guruhga bo‘linadi.

1. Termik ishlov berilmasdan deformatsiyalangan:

a) magniyli alyuminiy qotishmasi; belgilanishi Amg3, Amg5, Amg6. Sonlar magniy miqdorini % da ko‘rsatadi;

b) marganetsli alyuminiy qotishmalari; belgilanishi AMg.

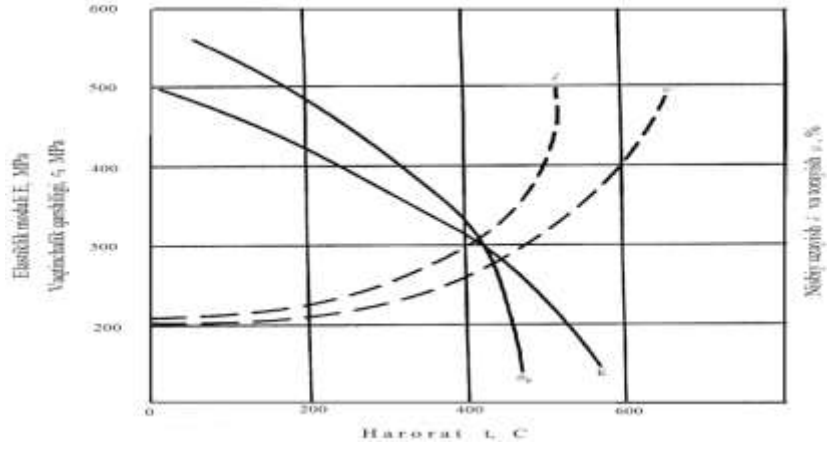
2. Ishlov berish orqali deformatsiyalangan:

a) misli, magniyli, kremniyli va marganetsli alyuminiy qotishmalari: AV-T, AV-T1 bu yerda T harfi termik mustahkamlik; (1 raqami tabiiy eskirish); dyuralyuminlar- D1-T, D16-T, D-harfdan keyingi son qotishmaning shartli raqami.

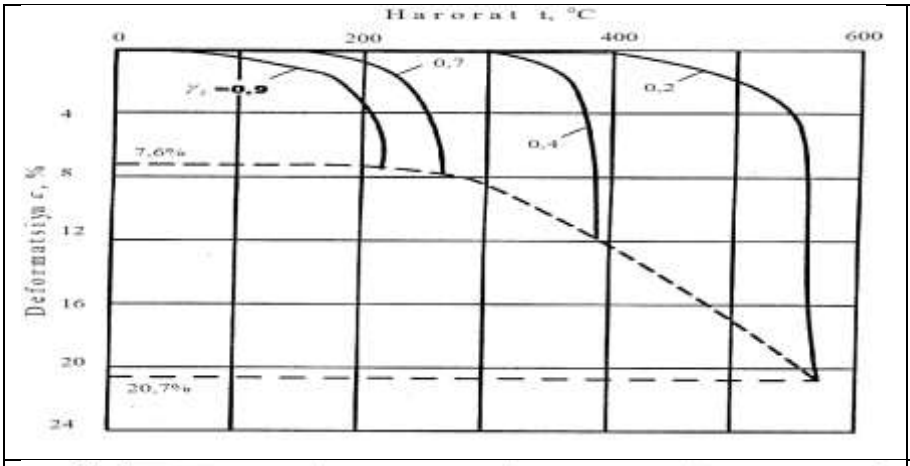
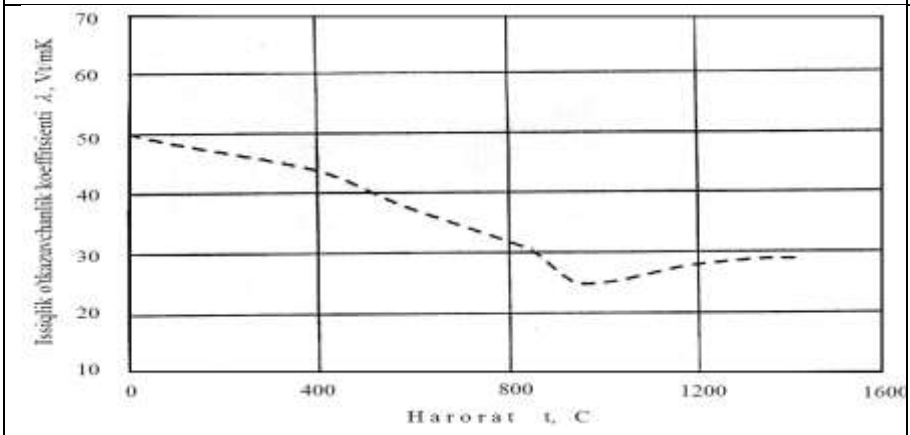
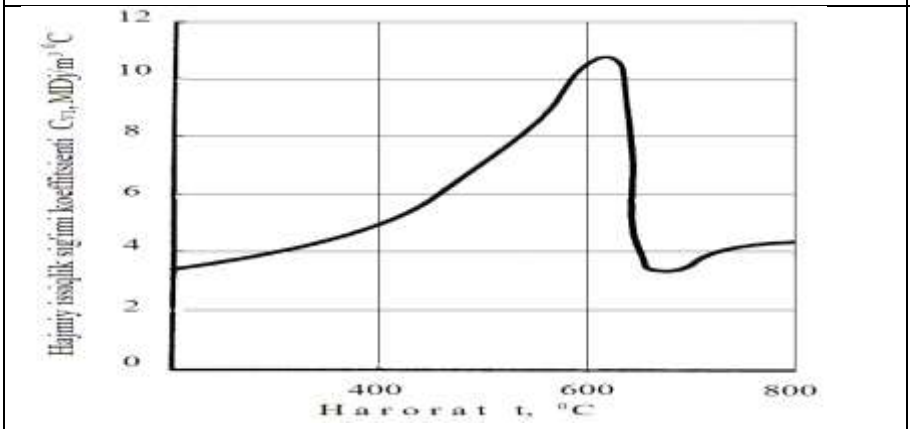
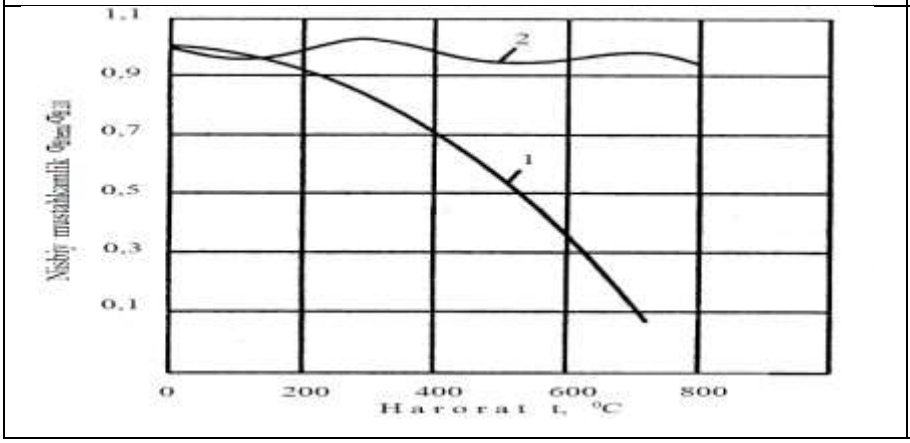
b) sinkli, magniyli, alyuminiyli va kremniyli yuqori mustahkam alyuminiy qotishmalari-V92T,V92-P va boshq.V harfi qotishmaning yuqori mustahkamligini bildiradi, sonlar qotishmaning shartli raqami.

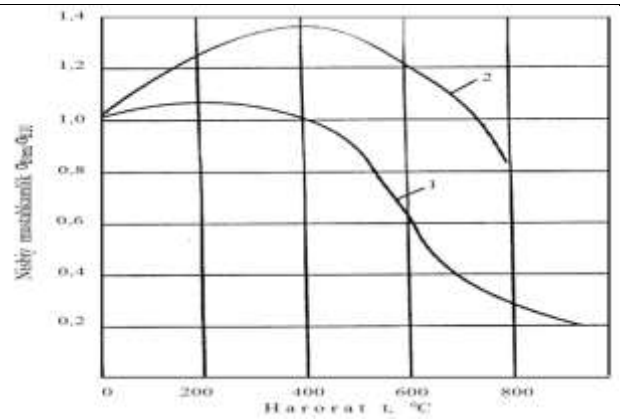
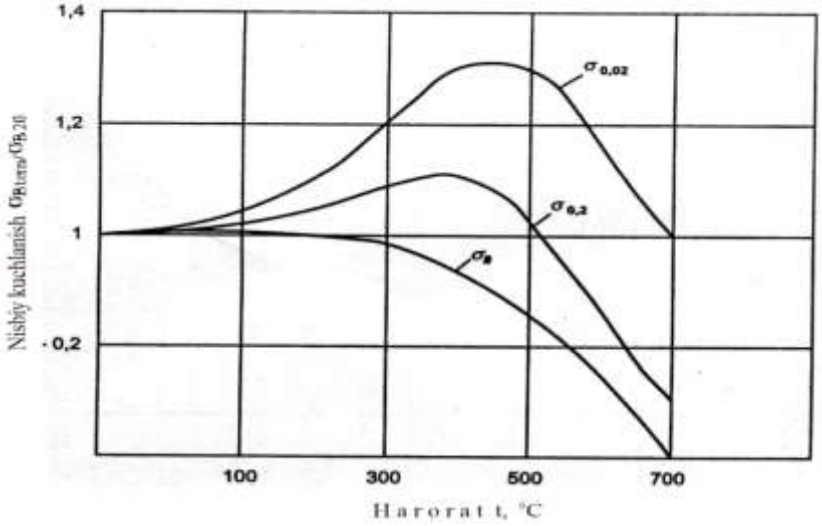
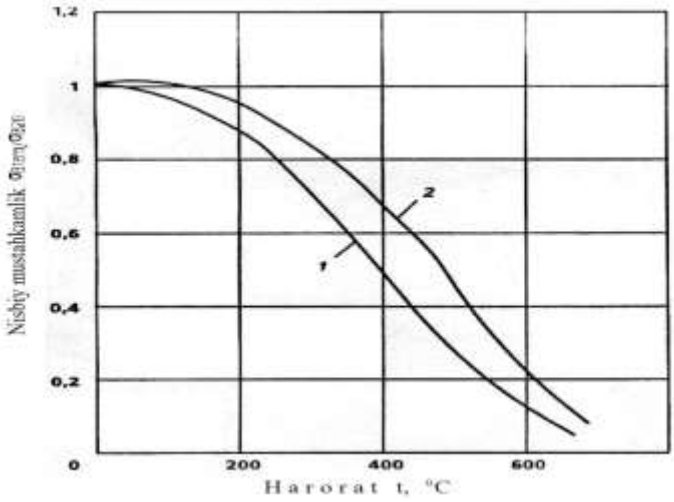
Metall va qotishmalarning yong‘in sharoitidagi holatlari

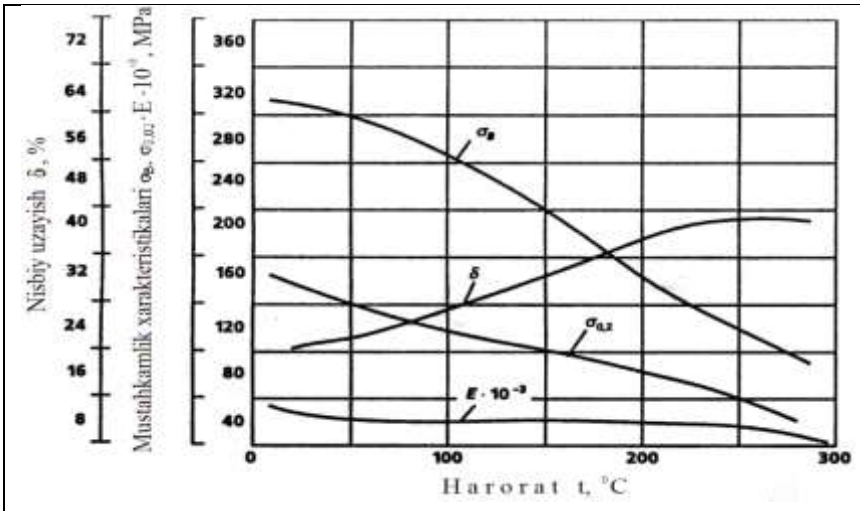
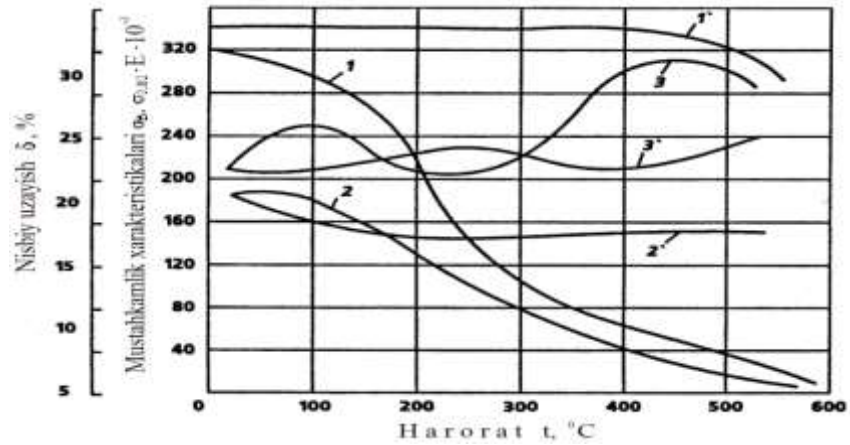
Absolyut noldan erish nuqtasigacha bo‘lgan harorat oralig`ida barcha turdagi metallar hajmining o‘zgarishi taxminan bir xil 6-7,5% atrofida bo‘ladi. Bir xil xaroratda agar ular bir xil gomologik haroratda bo‘lsa barcha metallar uchun atomlarning xarakatchanligi va ular orasidagi masofa va mos ravishda bog`larning bo‘shashishi bir xil darajada kechadi. Gomologik harorat nisbiy harorat bo‘lib, Kelvin shkalasi bo‘yicha erish haroratining (Tpl) bir qismini anglatadi. Misol uchun temir va alyuminiy 0,3Tpl da bir xil atomlararo bog`larning mustahkamligiga va bir xil mustahkamlikka ega bo‘ladi. Yuz gradusli shkalada temir uchun 331^0C, alyuminiy uchun 38^0C bo‘ladi. Haroratning ortishi mustahkamlik va egiluvchanlikni kamayishiga va plastiklikni ortishiga olib keladi. Bunday munosabatning umumiy xarakteri St3 markali sovutib tortilgan armatura simlari uchun ko‘rsatilgan.



Harorat ta’sirida St3 po‘latining fizik-mexanik xossalarining nisbati

	Standart tartib bo‘yicha V-II klassdagi armaturaning harorat ta’sirida yoyiluvchanlik deformatsiyasining ortishi
	Po‘latni harorat bo‘yicha issiqlik o‘tkazish koeffitsenti nisbati
	Harorat ta’sirida po‘latlarning hajmiy issiqlik sig`imining nisbati.
	St3 markali qizdirib tayyorlangan AI sinfdagi armaturani qizdirilganda mustahkamligining o‘zgarishi. 1-issiq holida; 2-sovutilgandan so‘ng.

	Kam ligerlangan 25G2S po‘latni qizdirilganda mustahkamligining o‘zgarishi; 1-issiq holida; 2-sovutilgandan so‘ng
	20GS markadagi termik mustahkam po‘latni qizdirilganda mexanik xarakteristikalarining o‘zgarishi; $\sigma_{0.02}$ -nisbiy egiluvchanlik darajasi; $\sigma_{0.2}$ -nisbiy oquvchanlik chegarasi; σ_B - buzilishdagi vaqtinchalik qarshiligi.
	Sovutib tortilgan simni qizdirilganda nisbiy mustahkamligining o‘zgarishi. 1-oddiy V1; 2-yuqori mustahkam VII.

	AD 31-T1 qotishmasini qizdirilganda mexanik xossalarining o‘zgarishi.
	Amg-b qotishmasini qizdirilganda va sovutilgan holida mexanik xossalarining o‘zgarishi.

Xarorat ta’siriga metallarning chidamliligini oshirish usullari

Metallarning yong`in sharoitidagi xossalarini vaqtincha uzayishini ta’minlash (iqtisodiy jixatdan o‘zini oqlaydigan holatda) quyidagicha amalga oshiriladi:

1. Yong`in ta’siriga chidamli material va buyumlarni tanlash. Bunda alyuminiy qotishmalari o‘rniga kam ligerlangan uglerodli po‘latlarni ishlatish afzal hisoblanadi. Armatura tanlovida esa parchinlangan va termik ishlov berilganlarini tanlamaslik maqsadga muvofiq.

2. Xaroratga chidamli maxsus tayyorlangan metall buyumlari.

3. Yong`indan himoyalovchi issiqlik qatlamlari bilan himoyalangan metall buyumlari.

REFERENCES

1. Dustkobilovich R. O., Laylo A. Types of modern lectures in higher education, technology of their design and organization //Проблемы современной науки и образования. – 2020. – №. 12-1 (157). – С. 41-46.
2. Рахимов О. Д., Манзаров Ю. Х., Ашурова Л. Ўзбекистон олий таълим тизимида дастлабки форсайт тадқиқотлар //Современное образование (Узбекистан). – 2021. – №. 4 (101). – С. 16-22.

3. Rakhimov O. D., Kh M. Y., Ashurova L. Initial foresight studies in the higher education system of Uzbekistan //Modern education (Uzbekistan).–2021. – 2021. – Т. 4. – №. 101. – С. 16-22.
4. Рахимов О. Д., Эшмухамедов Л. М., Ашурова Л. МУСТАҚИЛ ТАЪЛИМНИ РАҚАМЛИ ТЕХНОЛОГИЯЛАР АСОСИДА ТАШКИЛ ЭТИШ ТЕХНОЛОГИЯСИ: Рахимов Октябр Дусткабилович, Қарши муҳандислик-иқтисодиёт институти “Экология ва меҳнат муҳофазаси” кафедраси профессори Эшмухамедов Латиф Маҳмаюсуфович, Қарши муҳандислик-иқтисодиёт институти “Экология ва меҳнат муҳофазаси” кафедраси ассистенти Ашурова Лайло, Қарши муҳандислик-иқтисодиёт институти “Экология ва меҳнат муҳофазаси” кафедраси ассистенти //Образование и инновационные исследования международный научно-методический журнал. – 2022. – №. 6.
5. Rakhimov O. et al. Methodology for using forsight technology in training future ecologists in Uzbekistan //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 462. – С. 03048.
6. Rakhimov O., Ashurova L., Artikbekova F. Hydraulic transport in small livestock farms //E3S Web of Conferences. – EDP Sciences, 2021. – Т. 274. – С. 03003.
7. Rakhimov O. D., Ashurova L. THE MAIN FACTORS AND CRITERIA OF QUALITY EDUCATION //GOLDEN BRAIN. – 2023. – Т. 1. – №. 31. – С. 163-169.
8. Ashurova L. METHODOLOGY OF USING TELECOMMUNICATION STUDY PROJECTS IN INDEPENDENT EDUCATION //Educational Research in Universal Sciences. – 2023. – Т. 2. – №. 17. – С. 135-140.
9. Ashurova L. ON THE TECHNOLOGY FOR THE DEVELOPMENT OF SCIENTIFIC AND CREATIVE ACTIVITY IN STUDENTS //Innovative Development in Educational Activities. – 2023. – Т. 2. – №. 23. – С. 294-298.
10. Rakhimov O. D., Sh F. S., Ashurova L. Foresight as a technology for forecasting the development of the use of digital technologies in the higher education sector of Uzbekistan //The phenomenon of market economy: from the origins to the present day. Development institutions and information technologies in innovative solutions. – 2022. – С. 167-175.
11. Husanovich S. B., Ravshanovich B. Z., Laylo A. ANALYSIS OF DEVELOPMENTAL EDUCATION MODELS //Проблемы науки. – 2020. – №. 11 (59). – С. 86-90.
12. Рахимов О. Д., Файзиева Ш. Ш., Ашурова Л. Форсайт как технология прогнозирования развития применения цифровых технологий в секторе высшего образования Узбекистана //Феномен рыночного хозяйства: от истоков до наших

дней. Институты развития и информационные технологии в инновационных решениях. – 2022. – С. 167-175.

13. Shomurotov B. H., Boyirov Z. R., Ashurova L. ANALYSIS OF DEVELOPMENTAL EDUCATION MODELS //Проблемы науки. – 2020. – №. 11. – С. 86-90.
14. Ashurova L., Uralov M. BINO VA INSHOOTLAR XAVFSIZLIGI //FANINI O‘QITISHNING BA’ZI JIHATLARI//Interpretation and researches.–2024.
15. Ashurova L., Uralov M. «BINO VA INSHOOTLAR XAVFSIZLIGI» FANINI O‘QITISHNING BA’ZI JIHATLARI //Interpretation and researches. – 2024.
16. Ashurova L. ZILZILA, KELIB CHIQISH SABABLARI VA OQIBATLARI //GOLDEN BRAIN. – 2024. – Т. 2. – №. 1. – С. 423-431.
17. Ashurova L. FIRES IN TECHNOSPHERE AND PRINCIPLES OF PROTECTION AGAINST THEM //Innovative Development in Educational Activities. – 2023. – Т. 2. – №. 20. – С. 81-86.
18. Laylo A. ISHLAB CHQARISH XONALARI HAVOSINI OPTIMALLASHTIRISH UCHUN KONDITSIONER USKUNASINING ISHINI QIYOSIY TAHLIL QILISH VA UNI MODELLASHTIRISH //Sanoatda raqamli texnologiyalar/Цифровые технологии в промышленности. – 2023. – Т. 1. – №. 1. – С. 184-192.
19. ASHUROVA L. ПРОБЛЕМЫ СОВРЕМЕННОЙ НАУКИ И ОБРАЗОВАНИЯ //ПРОБЛЕМЫ СОВРЕМЕННОЙ НАУКИ И ОБРАЗОВАНИЯ Учредители: Олимп. – С. 41-46.
20. Маматов Ф. М., Шодмонов Г. Д. Обоснование конструктивной схемы комбинированного агрегата для подготовки почвы к посеву бахчевых //European research. – 2018. – №. 1 (35). – С. 10-14.
21. Murtozevich M. F., Halilovich M. S., Dustmurodovich S. G. Dump ripper for soil protection from water erosion //European science review. – 2018. – №. 7-8. – С. 245-246.
22. Мирзаев Б. С., Мардонов Ш. Х., Шодмонов Г. Д. О качестве рыхления почвы рыхлителем с рабочими органами наклонного типа //European research. – 2018. – №. 1 (35). – С. 15-18.
23. Mamatov F. M., Mardonov S. H., Shodmonov G. D. DUMP RIPPER FOR SOIL PROTECTION FROM WATER EROSION //European Science Review. – 2018. – №. 7-8. – С. 245-246.
24. Чуянов Д. Ш. и др. ПОЛИЗ ЭКИНЛАРИ ЭКИШ УЧУН ТУПРОҚНИ ТАЙЁРЛАЙДИГАН КОМБИНАЦИЯЛАШГАН АГРЕГАТ КОРПУСЛАРИНИНГ

ПАРАМЕТРЛАРИ //Инновацион технологиялар. – 2021. – №. Спецвыпуск 1. – С. 146-150.

25. Шодмонов Ғ. Д., ўғли Хидиров М. Қ. АВТОТРАНСПОРТ ЧИҚИНДИ ГАЗЛАРИ ЗАРАРЛИЛИГИНИ КАМАЙТИРИШНИНГ ЗАМОНАВИЙ УСУЛЛАРИ //INTERNATIONAL CONFERENCES. – 2022. – Т. 1. – №. 18. – С. 140-147.
26. Чуянов Д. и др. КОМБИНАЦИЯЛАШГАН АГРЕГАТ ЮМШАТКИЧЛАРИНИНГ ЎЗАРО ЖОЙЛАШИШИНИ АСОСЛАШ //Innovatsion texnologiyalar. – 2022. – Т. 1. – №. 4. – С. 61-63.
27. Shodmonov G., Xidirov M., Boymurodov S. AVTOMOBILLARNING ELEKTR VA ELEKTRON JIHOZLARINI DIAGNOSTIKALASH //Академические исследования в современной науке. – 2022. – Т. 1. – №. 20. – С. 57-61.
28. Chuyanov D. et al. Parameters of slitter for embedding manure in soil for melon crops //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 401. – С. 04048.
29. Чуянов Д. Ш., Шодмонов Г. Д. ОПРЕДЕЛЕНИЕ ОПТИМАЛЬНЫХ ПАРАМЕТРОВ СТАЛКИВАТЕЛЯ НАВОЗА //Вестник науки и образования. – 2023. – №. 12 (143)-2. – С. 5-9.
30. Чуянов Д. Ш., Шодмонов Г. Д. ОБОСНОВАНИЕ ОСНОВНЫХ ПАРАМЕТРОВ ЩЕЛЕВАТЕЛЯ ДЛЯ ЗАДЕЛКИ НАВОЗА //Educational Research in Universal Sciences. – 2023. – Т. 2. – №. 14. – С. 1017-1023.
31. Dostmurodovich G. S. ECONOMIC ANALYSIS OF FUNDS IN THE FIELD OF LABOR PROTECTION //INTERNATIONAL JOURNAL OF EUROPEAN RESEARCH OUTPUT. – 2024. – Т. 3. – №. 1. – С. 57-61.
32. Dostmurodovich G. S. LABOR PROTECTION WHEN WORKING AT HEIGHTS //International journal of advanced research in education, technology and management. – 2024. – Т. 3. – №. 1. – С. 31-38.
33. Shodmonov G. “FAVQULODDA VAZIYATLAR VA FUQARO MUHOFAZASI” FANING MAQSAD VA VAZIFALARI //Interpretation and researches. – 2024.
34. Чуянов Д. Ш. и др. Полиз экинлари етиштиришда тупроққа ишлов бериш ва экишнинг янги усули //Инновацион технологиялар. – 2021. – №. Спецвыпуск 2. – С. 53-56.
35. Чуянов Д. Ш. и др. ПОЛИЗ ЭКИНЛАРИ ЕТИШТИРИШ УЧУН ЭНЕРГИЯ-РЕСУРСТЕЖАМКОР ТЕХНОЛОГИЯ ВА МАШИНА //Инновацион технологиялар. – 2020. – №. Спецвыпуск. – С. 78-82.

36. Маматов Ф. М., Чуянов Д. Ш., Шодмонов ҒД Э. М. И. Далаларни полиз экинлари экиш учун тайёрлайдиган комбинациялашган агрегатнинг параметрларини асослаш //Innovatsion texnologiyalar.–Қарши. – 2018. – №. 4. – С. 44-48.
37. Mirzaev B. et al. Parameters of the soil-holding part of the slurry spreader //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 383. – С. 04016.
38. Chuyanov D. S., Mamatov F. M., Shodmonov G. D. Main parameters of manure sealer //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 401. – С. 04031.
39. Shodmonov G. D., Xidirov MQ Avtotransport chiqindi gazlari zararliligini kamaytirishning zamonaviy usullari //International conference on innovative development of education. – 2022. – Т. 18. – С. 140-147.
40. Mamatov F., Karimov A., Shodmonov G. Study on the parameters of bars of the potato digger ploughshare //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 434. – С. 03012.
41. Chuyanov D., Shodmonov G. Energy-saving technology and machinery for growing melons //International Journal of Innovations in Engineering Research and Technology. – 2020. – №. 1. – С. 1-7.
42. Shodmonov G. D. et al. MEHNAT MUHOFAZASI FANINING RIVOJLANISH TARIXI VA BOSHQA FANLAR BILAN O ‘ZARO BOG ‘LIQLIGI //GOLDEN BRAIN. – 2024. – Т. 2. – №. 3. – С. 149-153.
43. Chuyanov D. et al. Traction resistance of the combined machine plough //E3S Web of Conferences. – EDP Sciences, 2021. – Т. 264. – С. 04036.
44. Mamatov F. et al. Potato digger with a digging workpart of the" Paraplaw" type //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 365. – С. 04021.
45. Murtozevich M. F. et al. New technology and combined machine for preparing soil for sowing gourds //European science review. – 2018. – №. 1-2. – С. 234-236.
46. Chuyanov D. et al. Soil preparation machine parameters for the cultivation of cucurbitaceous crops //IOP Conference Series: Materials Science and Engineering. – IOP Publishing, 2020. – Т. 883. – №. 1. – С. 012122.
47. Mirzaev B. et al. Combined machine for preparing soil for cropping of melons and gourds //IOP Conference Series: Earth and Environmental Science. – IOP Publishing, 2019. – Т. 403. – №. 1. – С. 012158.

48. Мурадов С. ПРОБЛЕМЫ ТУШЕНИЯ ПОЖАРОВ КЛАССА Е ЛИЧНЫМ СОСТАВОМ ПОЖАРНОЙ ОХРАНЫ В МИРЕ //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 758-773.
49. Rayimkulov A., Murodov S. Some Issues of Safety in the Use of Tower Cranes Used in Construction Projects //JournalNX. – С. 301-308.
50. Dildora X., Sirojiddin M. O ‘zbekiston respublikasi hududida seysmoaktiv hududlar va zilzilaning xavfliligi //Innovative Development in Educational Activities. – 2024. – С. 167-172.
51. ЎҒЛИ Р. Х. Ф., СИРОЖИДДИН М. ИЗУЧЕНИЯ УСЛОВИЯ ТРУДА В КОМПАНИИ ЕВРОПЫ. МУРАДОВ СИРОЖИДДИН //International journal of advanced research in education, technology and management. – 2023. – Т. 2. – №. 10.
52. O‘G‘LI M. S. H. ANALYSIS OF “MEASURES TO ENSURE OCCUPATIONAL SAFETY IN THE FIELD OF CARGO TRANSPORTATION AND LOADING.” //International journal of advanced research in education, technology and management. – 2023. – Т. 2. – №. 9.
53. Sirojiddin M., Umurzoq E. INNOVATIVE SOLUTIONS FOR IMPROVEMENT OF WORKING CONDITIONS AND ENVIRONMENT THROUGH THE KAIZEN METHOD //International journal of advanced research in education, technology and management. – 2023. – Т. 2. – №. 12. – С. 42-47.
54. Rakhimov O. D., Muradov S. H. Digitalization of Instructions on Labor Protection and Safety Techniques //European journal of life safety and stability (EJLSS). – 2022. – Т. 24. – С. 80-86.
55. Muradov S. H. o ‘g ‘li, & Zayniyev, UU o ‘g ‘li.(2023). PRINCIPLES OF PASSING AND DOCUMENTING INSTRUCTIONS ON SAFETY TECHNIQUES //Educational Research in Universal Sciences. – Т. 2. – №. 14. – С. 116-119.
56. Muradov S. ECONOMIC ANALYSIS OF PROFITS IN THE FIELD OF LABOR PROTECTION //Modern Science and Research. – 2024. – Т. 3. – №. 1. – С. 1239-1245.
57. МУРАДОВ С. ИЗУЧЕНИЯ ОХРАНА ТРУДЫ НА ПРОИЗВОДСТВЕ КОРЕИ //ХӨДӨЛМӨР, НИЙГМИЙН ХАРИЛЦАА СУДЛАЛ. – 2023. – С. 242-247.
58. СИРОЖИДДИН М. РАЖАБОВ ХУРШИД ФАХРИДДИН ЎҒЛИ. ИЗУЧЕНИЯ УСЛОВИЯ ТРУДА В КОМПАНИИ ЕВРОПЫ. МУРАДОВ СИРОЖИДДИН //International journal of advanced research in education, technology and management. – 2023. – Т. 10. – С. 27.

59. Husan o‘g‘li M. S., Utkir o‘g‘li Z. U. PRINCIPLES OF PASSING AND DOCUMENTING INSTRUCTIONS ON SAFETY TECHNIQUES //Educational Research in Universal Sciences. – 2023. – T. 11.
60. Мурадов С. Определение отдыха и отпусков на основании нового трудового кодекса //Aholi bandligi sohasidagi davlat siyosatining amalga oshirishning dolzarb masalalari. – 2023. – Т. 10. – №. 26. – С. 17-21.
61. Muradov S. H. Safarov Sh. O ‘. MEHNAT SHAROITLARI VA MUHITINI “KAIZEN” USULI YORDAMIDA TAKOMILLASHTIRISHNING INNOVATSION YECHIMLARI //PAXTA TOZALASH, TO ‘QIMACHILIK VA YENGIL SANOAT SOHALARINING TEXNOLOGIYASINI TAKOMILLASHTIRISH. – 2023. – С. 90-92.
62. Sirojiddin M. Mehanatni muhofaza qilishning tashkiliy-psixologik asoslaridagi mavjud muammolar //Ekologiya, aholi xavfsizligi va mehnat muhofazasining hozirgi kundagi dolzarb masalalari va istiqbollari. – 2023. – С. 133-137.
63. Sirojiddin M. Mehnat sharoitlari va muhitini “kaizen” usuli yordamida takomillashtirishning innovatsion yechimlari //Ekologiya, aholi xavfsizligi va mehnat muhofazasining hozirgi kundagi dolzarb masalalari va istiqbollari. – 2023. – С. 249-253.
64. Muradov S. H. o ‘g ‘li, & Egamov, DS o ‘g ‘li.(2023). INNOVATIVE SOLUTIONS TO PROTEC T WORKERS FROM DANGEROUS GAS AND TOXIC SUBSTANCES IN HAZARDOUS INDUSTRY ENTERPRISES //Educational Research in Universal Sciences. – Т. 2. – №. 14. – С. 340-342.
65. Muradov S. ASSESSMENT OF THE CHEMICAL SITUATION IN AN ACCIDENT IN FACILITIES USING KTZM //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 1142-1152.
66. Sirojiddin M. Mehnatni muhofaza qilish sohasida yuk ortish va tushirish ishlaridagi yukchilar uchun ishlarning xavfsizligi kategori va qoidalari tahlili //Ekologiya, aholi xavfsizligi va mehnat muhofazasining hozirgi kundagi dolzarb masalalari va istiqbollari. – 2023. – С. 232-242.
67. Sirojiddin M. Mehnatni muhofaza qilishning rivojlanish tarixiy bosqichlarini o ‘rganish //Ekologiya, aholi xavfsizligi va mehnat muhofazasining hozirgi kundagi dolzarb masalalari va istiqbollari. – 2023. – С. 243-248.
68. Sirojiddin M. Sanoat korxonalari rahbar va mutaxassislarining mehnat muhofazasi bo ‘yicha bilimlarini tekshirishni raqamli texnalogiyalar asosida tashkil etishning ahamiyati

//Ekologiya, aholi xavfsizligi va mehnat muhofazasining hozirgi kundagi dolzarb masalalari va istiqbollari. – 2023. – С. 146-150.

69. Sirojiddin M. Xavfli sanoat korxonalarida ishchilarni xavfli gaz va zaxarli moddalar ta'siridan himoya qilishga qaratilgan inovatsion yechimlar //Ekologiya, aholi xavfsizligi va mehnat muhofazasining hozirgi kundagi dolzarb masalalari va istiqbollari. – 2023. – С. 402-405.
70. Muradov S. CONSTRUCTION-INSTALLATION ISHLARIDA KUTARAMA KRANLARDAN USE FUNDAMENTAL SECURITY OF SUPPLY //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 786-792.
71. СИРОЖИДДИН М. НЕКОТОРЫЕ АСПЕКТЫ БЕЗОПАСНОСТИ ПРИМЕНЕНИЯ ГРУЗОПОДЪЕМНЫХ КРАНОВ В СТРОИТЕЛЬНО-МОНТАЖНЫХ РАБОТАХ //International journal of advanced research in education, technology and management. – 2024. – Т. 3. – №. 2. – С. 167-177.
72. Raximov O. D. Muradov SH Sanoat korxonalari rahbari va mutaxassislarini mehnat muhofazasi bo 'yicha o 'qitish va bilimlarini sinovdan o 'tkazishni raqamlashtirish //INTELLEKT. MONOGRAFIYA. – 2023.
73. O'G'LI M. S. H. Mehnatni muhofaza qilishning rivojlanish tarixiy bosqichlarini o 'rganish //Aholi bandligi sohasidagi davlat siyosatining amalga oshirishning dolzarb masalalari. – 2023. – Т. 10. – №. 26. – С. 8-16.
74. Muradov S. ENSURING SAFETY OF WORKERS IN CONSTRUCTION //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 493-501.
75. Muradov S. Ishlab chiqarishdagi avariyalarni o 'rganish va tahlil qilish //Educational Research in Universal Sciences. – 2023. – Т. 2. – №. 16. – С. 474-477.
76. СИРОЖИДДИН учитель-стажер М. Каршинский инженерноэкономический институт кафедра «Охрана труда и техника безопасности» Республики Узбекистан.(2024). НЕКОТОРЫЕ АСПЕКТЫ БЕЗОПАСНОСТИ ПРИМЕНЕНИЯ ГРУЗОПОДЪЕМНЫХ КРАНОВ В СТРОИТЕЛЬНО-МОНТАЖНЫХ РАБОТАХ. Zenodo //НЕКОТОРЫЕ АСПЕКТЫ БЕЗОПАСНОСТИ ПРИМЕНЕНИЯ.
77. Мурадов С. PRINCIPLES OF ENSURING THE SAFETY OF USING LIFTING CRANES IN CONSTRUCTION-ASSEMBLY WORKS //MODERN SCIENCE AND RESEARCH. – 2024. – Т. 3. – №. 2. – С. 933-939.
78. Husan o'g'li M. S. Sanoat korxonalari rahbar va mutaxassislarining mehnat muhofazasi bo'yicha bilimlarini tekshirishni raqamli texnalogiyalar asosida tashkil etishning ahamiyati

//Aholi bandligi sohasidagi davlat siyosatining amalga oshirishning dolzarb masalalari. – 2023. – T. 10. – №. 26. – C. 180-183.

79. Muradov S., Xujaqulov A., Eshmuxamedov L. ORGANIZING TRAINING ON THE CAUSES OF EMERGENCY SITUATIONS, CHARACTERISTICS AND ACTION AT THE FOCUS OF INJURY //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 247-264.
80. Muradov S., Usmonov H. MEHNATNI MUHOFAZA QILISHNING RIVOJLANISH TARIXIY BOSQICHLARINI O ‘RGANISH //Interpretation and researches. – 2024.
81. Muradov S. CHEMICAL STATUS ASSESSMENT AND ANALYSIS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 455-463.
82. Muradov S. MAIN INDICATORS OF LABOR PROTECTION MEASURES EFFICIENCY //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 473-484.
83. Muradov S. STUDY AND ANALYSIS OF WORKING ACCIDENTS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 444-454.
84. Muradov S. INNOVATIVE SOLUTIONS FOR IMPROVEMENT OF WORKING CONDITIONS AND ENVIRONMENT THROUGH THE KAIZEN METHOD //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 485-492.
85. Sirojiddin M. KTZM QO ‘LLANILADIGAN OBYEKTLARDAGI AVARIYADA KIMYOVIY HOLATNI BAHOLASH. – 2024.
86. O‘G E. L. A. A. et al. PHYSIOLOGICAL AND HYGIENE BASIS OF HUMAN LABOR ACTIVITY //International journal of advanced research in education, technology and management. – 2023. – T. 2. – №. 11.
87. Husan o‘g‘li M. S., Shavkat o‘g‘li E. D. INNOVATIVE SOLUTIONS TO PROTEC T WORKERS FROM DANGEROUS GAS AND TOXIC SUBSTANCES IN HAZARDOUS INDUSTRY ENTERPRISES //Educational Research in Universal Sciences. – 2023. – C. 11-17.
88. Muradov S. THE SIGNIFICANCE OF ORGANIZING THE EXAMINATION OF KNOWLEDGE OF LABOR PROTECTION OF MANAGERS AND SPECIALISTS OF INDUSTRIAL ENTERPRISES ON THE BASIS OF DIGITAL TECHNOLOGIES //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 805-817.
89. Muradov S. ANALYSIS OF JOB SAFETY CATEGORY AND RULES FOR LOADING AND UNLOADING WORKERS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 788-804.

90. Muradov S. DEFINITION OF REST AND LEAVES BASED ON THE NEW LABOR CODE //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 774-787.
91. Muradov S. EMERGENCY EPIDEMIOLOGICAL, EPIZOOTIC AND EPIPHYTOTIC SITUATIONS. PARTICULARLY DANGEROUS INFECTIONS THAT CAUSE RARE DISEASES SUCH AS PLAGUE AND YELLOW FEVER //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 703-728.
92. Sirojiddin M. MEHNAT MUHOFAZASI SOHASIDAGI MAQSABLARNING IQTISODIY TAHLILI. – 2024.
93. Muradov S. EPISOTOTIC SITUATIONS, THEIR PREVENTION //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 831-851.
94. Muradov S. CAUSES, CHARACTERISTICS AND ACTIONS OF THE POPULATION IN THE FOCUSES OF DAMAGE OF EMERGENCIES OF A MAN-GENIC CHARACTER //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 729-744.
95. Sultonova D. N., qizi Siddiqova M. A. COLOR SCHEME IN THE FORMATION OF THE ARTISTIC ENVIRONMENT OF THE INTERIOR OF MODERN EDUCATIONAL CENTERS //Educational Research in Universal Sciences. – 2023. – T. 2. – №. 14. – C. 109-115.
96. Muradov S. et al. EMERGENCY EPIDEMIOLOGICAL, EPIZOOTIC AND EPIPHYTOTIC SITUATIONS. PARTICULARLY DANGEROUS INFECTIONS THAT CAUSE INFECTIOUS AND COMMON DISEASES //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 281-318.
97. Muradov S. et al. STANDARDS OF SAFETY REQUIREMENTS FOR PRESSURE CABINETS, APPARATUS AND GAS EQUIPMENT //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 159-180.
98. Husan ogli M. S., Hamidulla o‘g‘li X. X. Siddiqova Madinabonu Asatilla qizi.(2021). NEW INNOVATIVE ENGINEERING SOLUTIONS TO THE PROBLEMS OF SIGNALIZATION AND SECURITY SYSTEMS //European Journal of Life Safety and Stability (2660-9630). – T. 2. – C. 28-30.
99. Muradov S. et al. STUDY OF THE HISTORICAL STAGES OF THE SCIENCE OF LABOR PROTECTION //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 350-365.
100. Muradov S. et al. CHECKING KNOWLEDGE OF LABOR PROTECTION //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 386-400.

101. Muradov S. et al. MOVEMENT OF CHICTONIC PLATES, ORIGIN OF EARTHQUAKES //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 401-415.
102. Muradov S. et al. MAIN CONTENT AND COMPONENT PARTS OF THE SCIENCE" SAFETY OF CONSTRUCTION OF BUILDINGS AND CONSTRUCTIONS" //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 335-349.
103. Muradov S. et al. ANALYSIS OF SECURITY CATEGORY AND RULES FOR CARRIERS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 366-385.
104. Muradov S. et al. ADMINISTRATIVE BUILDINGS AND THEIR REQUIREMENTS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 257-280.
105. Muradov S. et al. STABILITY CALCULATION OF LOAD LIFT VEHICLES //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 205-234.
106. Muradov S. et al. CONTENT AND ESSENCE OF THE LAW AND LEGAL DOCUMENTS ON THE PROTECTION OF THE POPULATION AND TERRITORIES FROM EMERGENCIES //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 168-204.
107. Muradov S. et al. CAUSES OF NATURAL EMERGENCIES //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 92-130.
108. Muradov S. et al. ANALYSIS OF SAFETY REQUIREMENTS OF EQUIPMENT WORKING UNDER HIGH PRESSURE //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 131-167.
109. Qizi S. M. A. et al. O ‘QUV BINOLARI VA O ‘QUV MARKAZLARINI RANG YECHIMINI RAQAMLI TEXNOLOGIYALAR HAMDA SUN’IY INTELLEKT ORQALI LOYIHALASH //Raqamli iqtisodiyot (Цифровая экономика). – 2024. – №. 6. – C. 325-332.
110. Qizi S. M. A., Namazovna S. D. JAMOAT BINOLARI VA O ‘QUV MARKAZLARI UCHUN TASVIRIY SAN’AT VA RANG YECHIMINI LOYIHALASHDA RAQAMLI TEXNOLOGIYALARNING O ‘RNI //Raqamli iqtisodiyot (Цифровая экономика). – 2024. – №. 6. – C. 333-340.
111. Muradov S. et al. NATURAL EMERGENCIES, INFECTIOUS DISEASES //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 416-441.
112. Мурадов С., Каримов Б., Сиддиқова М. ПРОБЛЕМЫ ТУШЕНИЯ ПОЖАРОВ КЛАССА //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 600-618.

113. Muradov S., Karimov B., Siddiqova M. FAVQULODDA VAZIYATLARNING VUJUDGA KELISHI SABABLARI, VA FAVQULODDA VAZIYATLARDA HARAKAT QILISHGA O ‘RGATISHNI TASHKIL ETISH //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 554-573.
114. Muradov S., Karimov B., Siddiqova M. MEHNATNI MUHOFAZA QILISHDA YUK KO ‘TARISH VOSITALARINI MUSTAHKAMLIKKA HISOBLASH //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 636-655.
115. Muradov S., Karimov B., Siddiqova M. FAVQULODDA VAZIYATLAR VA ULARNING TURLARI, TABIIY TUSDAGI FAVQULODDA VAZIYATLAR //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 656-680.
116. Muradov S., Karimov B., Siddiqova M. ISHLAB CHIQARISHDA O ‘TA YUQORI BOSIM OSTIDA ISHLOVCHI USKUNLARNING XAVFSIZLIK TALABLARI TAXLILI TEXNIK ASOSLARI //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 681-703.
117. Muradov S., Siddiqova M., Karimov B. KIMYOVIY AVARIYA HOLATINI BAHOLASH VA TAXLIL QILISH //Modern Science and Research. – 2024. – T. 3. – №. 5.
118. Muradov S., Siddiqova M., Karimov B. LABOR PROTECTION MEASURES EFFICIENCY //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 774-793.
119. Muradov S., Siddiqova M., Karimov B. KUCHLI TA’SIR ETUVCHI ZAHARLI MODDALAR AVARIYALARIDA KIMYOVIY HOLATNI BAHOLASH //Modern Science and Research. – 2024. – T. 3. – №. 5.
120. Muradov S., Karimov B., Asatilla M. MAMURIY BINOLAR VA ULARNING TAVSIFLANISHI //Modern Science and Research. – 2024. – T. 3. – №. 5.
121. Мурадов С., Каримов Б., Сиддикова М. ОТПУСКОВ НА ОСНОВАНИИ НОВОГО ТРУДОВОГО КОДЕКСА //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 619-635.
122. Muradov S., Siddiqova M., Karimov B. CONDITIONS AND ENVIRONMENT THROUGH THE KAIZEN METHOD //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 794-808.
123. Muradov S., Karimov B., Siddiqova M. QURILISH ASHYOLARINING MEXANIK XOSSALARI //NEW RENASSAINCE CONFERENCE. – 2024. – T. 1. – №. 4. – C. 144-164.

124. Muradov S., Karimov B., Siddiqova M. QURILISH ASHYOLARINING TUZILISHI VA TASNIFI //NEW RENASSAINCE CONFERENCE. – 2024. – Т. 1. – №. 4. – С. 98-121.
125. Muradov S., Karimov B., Siddiqova M. QURILISH ASHYOLARI TARKIBINI ILMIY ASOSLASH USULLARI //NEW RENASSAINCE CONFERENCE. – 2024. – Т. 1. – №. 4. – С. 122-143.
126. Muradov S., Siddiqova M., Karimov B. STUDY AND ANALYSIS OF ACCIDENTS IN INDUSTRIAL ENTERPRISES //Modern Science and Research. – 2024. – Т. 3. – №. 6. – С. 16-31.
127. Muradov S., Siddiqova M., Karimov B. PARTICULARLY DANGEROUS INFECTIONS THAT CAUSE CONTAGIOUS AND COMMON DISEASES //Modern Science and Research. – 2024. – Т. 3. – №. 6. – С. 32-64.
128. Muradov S., Karimov B., Siddiqova M. FAVQULODDA VAZIYATLARDA TIZIMIGA DOIR QONUNCHILIK //Modern Science and Research. – 2024. – Т. 3. – №. 5. – С. 574-599.
129. Muradov S., Karimov B., Asatilla M. “BINO VA INSHOOTLARNI XAVFSIZLIGI” FANINING ASOSIY MAZMUNI //Modern Science and Research. – 2024. – Т. 3. – №. 5. – С. 809-824.
130. Рахимов О. АЙРИМ ХОРИЖИЙ ДАВЛАТЛАР ТАЖРИБАСИДА НОТАРИАЛ ФАОЛИЯТНИ ТАШКИЛ ЭТИШ ВА НАЗОРАТНИ АМАЛГА ОШИРИШНИНГ ЎЗИГА ХОС ЖИҲАТЛАРИ.
131. Dustkabilovich R. O. THE EFFECT OF THE APPLICATION OF INNOVATIVE PEDAGOGICAL TECHNOLOGIES ON THE DEVELOPMENT OF STUDENTS.
132. Рахимов О. Д. Исследование процесса подачи кормосмесей пониженной влажности коловратным насосом на малых свинофермах. – 1992.
133. ТРЕГУБ Л. И., РАХИМОВ О. Д., ПРАВАТОВ Н. М. Установка для подачи влажных кормов. – 1993.
134. Dustkabilovich R. O. NECESSITY OF LIVE MODERN LECTURES IN HIGHER EDUCATION AND ITS TYPES //Проблемы науки. – 2020. – №. 10 (58). – С. 65-69.
135. Dustkabilovich R. O. et al. Description of pedagogical technology and problematic teaching technology //Проблемы современной науки и образования. – 2020. – №. 2 (147). – С. 59-62.

136. Рахимов О. Д. ИНТЕРНЕТ-ОБУЧЕНИЕ МУЗЫКЕ //Рекомендовано к печати Ученым советом Института психологии имени ГС Костюка НАПН Украины (Протокол № 14 от 28 декабря 2020). – 2020. – С. 412.
137. РАХИМОВ О. Д., МАНЗАРОВ Ю. Х., АШУРОВА Л. PRIMARY FORESIGHT RESEARCH IN THE SYSTEM OF HIGHER EDUCATION IN UZBEKISTAN //Современное образование (Узбекистан). – 2021. – №. 4. – С. 16-22.
138. Рахимов О. Д., Рахимова Д. О. Форсайт исследование по прогнозированию развития цифровизации высшего образования Республики Узбекистан. – 2021.
139. Рахимов О. Д., Ашурова Л. ЎҚИТИШНИНГ ИНТЕРАКТИВ УСЛУБЛАРИДАН ФОЙДАЛАНИШ САМАРАДОРЛИГИ //RESEARCH AND EDUCATION. – 2022. – С. 332.
140. Rakhimov O., Nuriddinova S. THE SIGNIFICANCE OF APPLYING PROJECT METHOD TECHNOLOGY IN INDEPENDENT STUDY OF THE SUBJECT OF BIOLOGY //Евразийский журнал медицинских и естественных наук. – 2022. – Т. 2. – №. 11. – С. 375-380.
141. Dustkabilovich R. O. MASOFAVIY TA'LIM TEXNOLOGIYALARI TASNIFI //International journal of scientific researchers (IJSR) INDEXING. – 2023. – Т. 3. – №. 2.
142. Рахимов О. Д., Рахматов М. И. ЦИФРОВАЯ ЭКОНОМИКА В УЗБЕКИСТАНЕ: ЦИФРОВИЗАЦИЯ ОРГАНИЗАЦИИ И УПРАВЛЕНИЯ ОХРАНОЙ ТРУДА НА ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЯХ //Феномен рыночного хозяйства: от истоков до наших дней. Трансформация экономических систем в контектсе турбулентного развития. – 2023. – С. 246-253.
143. OD R. et al. Methodology of Education of Specialists in Industrial Enterprises using for Site Technology on the Effect of Electricity on the Human Body. – 2023.
144. Raximov O. D. GLOBALLASHUV DAVRIDA TA'LIM TIZIMI MUAMMOLARI //GOLDEN BRAIN. – 2024. – Т. 2. – №. 5. – С. 10-16.
145. Raximov O. D. i dr. Zamonaviy ta'lim texnologiyalari //T.:"Fan va texnologiya nashriyoti.–2013.
146. Шодиева М., Рахимов О. Д. Ўқитувчилар малака ошириш тизимида таълим сифатини таъминлашда ўқув-услубий мажмуаларнинг ўрни //Современное образование (Узбекистан). – 2017. – №. 1. – С. 24-28.

147. Азаренкова Г. М. и др. ИНСТИТУЦИОНАЛЬНО-ВОСПРОИЗВОДСТВЕННЫЙ МЕХАНИЗМ ФОРМАЦИОННОЙ РАЗВИЛКИ: ПРИНЦИПЫ, ФОРМЫ, ИНСТРУМЕНТЫ. – 2021.
148. Рахимов О. Д., Чоршанбиев З. Э. Форсайт как инструмент прогнозирования применения информационно-цифровой технологии в высшем образовании республики Узбекистана //Феномен рыночного хозяйства: от истоков до наших дней. Синтез цифровых технологий и инновационных решений. – 2021. – С. 326-335.
149. Raximov O. D. Manzarov Yu. X., Ashurova L. O ‘zbekiston oliy ta'lim tizimida dastlabki forsayt tadqiqotlar //Sovremennoye obrazovaniye (Uzbekistan).–2021. – 2021. – Т. 4. – №. 101. – С. 16-22.
150. Anisimov K. V. et al. Phenomenon of market economy: business concepts of innovations in theoretical and practical solutions. – 2022.