4. *BIstria AM* In theykorystannya controls the parameters of the technical state of agricultural machines / *OM Nimble, IL Rogovskiy* // Collection of Abstracts conference. Scientific and pedagogical. WORKER. and graduate NNTI NUBiP Ukraine: Section NSC construction and machine reliability for Agriculture, Forestry and Water hopodarstv and food technology. - K., 2010. - P. 42-44.
5. *Korolkov IV* Optymalnaya System Maintenance neprerыvnoy with a load / *IV Korolkov, LI Korol'kova* // Technique in the agricultural sector. - 2011. - №2. - P. 27-29.
6. *Sergeev IV* Ekonomika enterprise: Textbook. guide. - 3rd ed., Rev. And add / *IV Sergeev*. - K .: Finance and Statistics, 2007. - 304 p.

In Article rassmotrenы terms Provision Quality products in the industry selskohozyaystvennoho mashinostroeniya with uchetom scientific obosnovannыh Formation and calculation methods ee indicators and given sootnoshenye otkazov system elements poenyya zhyvotnovodcheskyh on farms.

Kaeration production nadezhnost, bezotkaznost, Durability, otkaz repair.

In paper the terms of providing of quality of products are considered in industry of agricultural engineer taking into account scientifically-reasonable methods of forming and calculation of its indexes and correlation over of refuses of elements of system of giving to drink is brought on stock-raising farms.

Product quality, reliability, dependability, durability, failure, repair.

62.2 UDC: 631.3.401

PIDVYSCHENNYA DURABILITY OF WORKING PARTS SHVYDKOZNOSHUVALNYH MACHINES by applying discrete coating on the surface FRICTION

M.And. Denisenko, Ph.D.

This article explores the increasing longevity of working parts tillage machines to form samozahostryuvannya effect. Proposed to control the properties of the surface layer of job creation and effect samozahostryuvannya use discrete coverage.

Fromnosostiykist, operating tillage machines, abrasive wear, spot strengthening effect samozahostryuvannya, cutting edge.

Resolutionska problem. In terms of the inevitable reduction of natural resources becomes a problem solving resource conservation, and with a significant increase in the service life of farm machinery. A large proportion spent on manufacturing metal parts and mechanisms that are used to support machinery park in Ukraine working order. Worn parts and components are mainly in scrap, but 90% of them possibly restore, strengthen and re-use in the maintenance and repair of machines, increasing their service life. In connection with the intensive development of farms and small farms, the problem of restoration and strengthening of parts that wear out quickly in terms of small batch production.

First of all details relating to these working bodies tillage machines (disc harrows, cultivators paws, Ploughshares). In Ukraine, the acute problem of increasing resource

Workings of tillage machines, because none of the proposed methods of strengthening does not solve this problem, resulting in huge financial losses and labor in the field of production and operation of agricultural machinery. In strengthening hardening these details are very low resource: time between sharpening to plowshares - 8.10 hectares, feet cultivators -

alternationof change. Such frequent sharpening rapidly lead to complete their

wear and replace them with new parts. Flip hardening does not provide any high wear parts working bodies nor their samozahostryuvannya.

Currently, the trend decline in the quality

working parts of tillage machines because they are engaged in manufacturing companies that have never not doing this. It is often on modern agricultural engineering companies do not respect the production technologies, changing the geometric parameters of parts and their physical and mechanical properties. Working bodies produced by such enterprises do not meet quality requirements, and do not provide a nominal service life.

The main factors that determine the abrasive wear is abrasive soil properties with the following comparative

fromnoshuvalnu Resolution: 1.0 clay; sand 1.5; 1.9 loam;

soupischani 2.3 [1]. One factor in abrasive wear well

is the chemical activity of soil. Some domestic enterprises launched production of advanced design work. In the manufacture of machinery parts working mainly used steel 65G and wear-resistant coating is applied by induction welding. Comparison of chemical composition and hardness, and data to enhance job of leading foreign manufacturers of domestic production indicators shows that working bodies, which are made of the USA, UK, France, Germany, far outweigh our domestic counterparts and are 30-50% higher wear resistance .

AnaLease FinalnnihdOSHidzhen. Theoreticalbut dPeninsulaalternating-sign, uabout processand friction and wear are located in the elementary volume, consisting of a large number of micro, located in the contact interaction. In sliding abrasive particles on the surface of parts under certain conditions there is a direct (immediate) destruction of the surface layer by cutting or tearing. From these data previously known that the wear processes direct destruction constitute a small fraction of the total number of contacts abrasive particles to the surface details. To evaluate the properties of the surface layer in the lab widely used methods of testing materials by erasing them abrasive surface. Analysis of the methods described in [2]. Methods of test for wear by friction on shkurtsi ensure the accuracy of the results obtained under these conditions (low pressure and sliding speed, abrasive particles of high hardness and strength, lack of heating, the inability to move and destruction of abrasive particles). However, these conditions do not always comply with operation of machine parts.

Effectsvnymy measures protecting vehicles from abrasive wear is to increase the hardness of the surface layers of parts and assemblies. In the works of M. Khrushchev MA Babicheva [3, 4] that tverdist materials, which depends on the energy of the atoms in the crystal lattice, in a large degree determines the resistance of materials to abrasive wear.

Onattitudes goal is achieved through the use of integrated methodological approach that combines Tribotechnical test methods, modern methods of thin physical eksperymeNTU and precision chemical analysis of micro alloys working parts of machines and laboratory samples and abrasive environments and product deterioration. Forms and determined by the interaction mechanisms of destruction friction surfaces with an abrasive environment, the essence of which is to slide Chaparticles, plastic deformation of alloys, the points of contact,

have been destroyedbath surface volume without separating the metal or to relieve mikrostruzhky.

Isnuyuting two distinct forms of abrasive processes, different interactions with the surface of the alloy particles: I
- By a margin of mechanics and chemical destruction (plastic deformation of surface volumes of oxidation and subsequent destruction created films) and II - advantage of mechanical destruction of the metal surface layers (the embodiment of abrasive particles and fracture surface quantities without
separation of the base metal particles or to relieve mikrostruzhky). Variety is the first form of mechanical and chemical wear and the other refers to inadmissible under external friction processes damage [5, 6, 7].

Mehaniko-chemicalFashionbrowserb processin Abrasivetion fromnoshuvannya
includes the following phases of the process: mechanical contact; elastic plastic deformation; activation - the formation of a thin layer of deformable material; instantaneous passivation - interaction of activated metal with reactive components of the environment (the formation of secondary structures weakened); destruction of the secondary structure after the next mechanical stress.

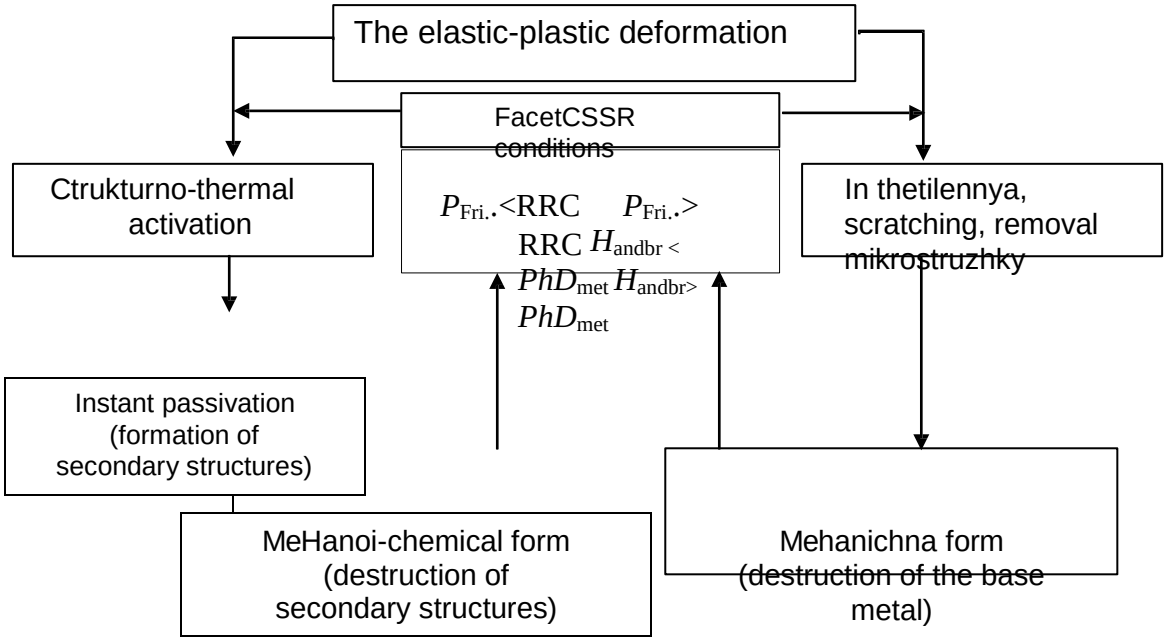
Much less frequently observed in the mechanisms of abrasive wear with a predominance of mechanical damage.

Mehanichna model of abrasive wear includes mechanical contact and elastic-plastic deformation; introduction of abrasive particles and fracture surface volume without separation of the base metal particles or to relieve
mikrostruzhky. Mechanical wear form associated with the transition
to limit the strength of the state of the metal surface layers, the embodiment of abrasive particles, scratches and separating mikrostruzhky. Formation of Mechanical and chemical or mechanical forms of these kinds of destruction depends on the ratio of the mechanical properties of the abrasive particles and the surface layers wearing material values workload of abrasive particles, their geometry and physical-chemical activity environment.

Memechanisms for abrasive wear is shown in Fig. 1.

As in the processes of surface fatigue, abrasion particles of the material in the abrasive wear, also formed in
aboutAIN contact deformation processes. Abrasion phenomenon produced by direct physical contact between two surfaces, one of which is much harder than the other.

Inequalities solid surface are introduced into the soft surface, and solid surface will slide, prooryuvaty and separating
soft material.



Ric. 1. Mechanisms and boundary conditions of abrasive wear (according to BI Kostetskii).

YesERI condition of the surface and the surface layers of steel when damaged by abrasive action presented in Table 1.

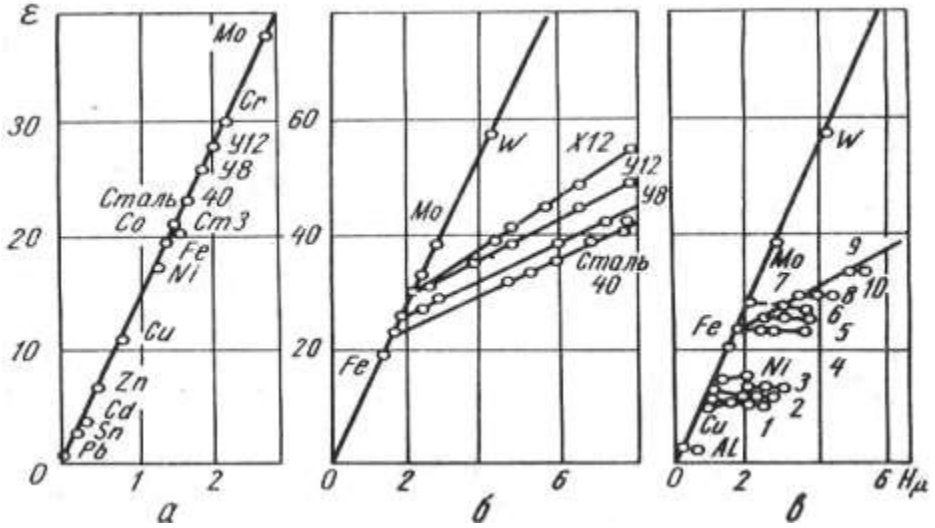
1. SpecificationsCountry surface condition and surface layers of steel with wear and damage as a result of abrasive (according to BI Kostetskii).

Kryteriyi assessment process	The form of abrasive wear	
	And	II
ClAl purity	7 ... 12	5 ... 10
Glybyna the damaged layer	To 200 nm	To 02 mm
Temperatura surface layer	Up to 50 ° C	To 50 ° C
Amendmentsand chemical and phase composition of the surface layer	The formation of solid solutions, eutectic, Oxidesandto	-
Restosna change in hardness surface layer (Nzal / Nvyh)	2 ... 3	1.5
Koefitsiyent increase volume of the surface layer	1.05 ... 1.08	1
The stresses in the surface layer	Local compression or stretching	Pressing
Puynuvannya surface layer	Kryhko-viscous	In 'yazko-fragile
The rate process destruction	By 0,5mkm / h.	05... 50mkm / h.

Supporting processes	-	Nyzkotemperatur-Categoriese oxidation

Abrasiveers processes can occur with a wide range of external force action. Formation of Mechanical and chemical or mechanical forms of this type of destruction depends on the ratio of the mechanical properties of the abrasive particles and the surface layers of wearing metal. When the ratio of hardness to the hardness of the metal Nμ abrasives greater than 0.6 ($K_t = \frac{H_\mu}{H_a} > 0.6$), there is a mechanical-chemical form of abrasive wear. At K_t<0.6 is a mechanical form - damage. In the case of friction on metal surface abrasive mass, for example, operating tillage, construction, mining machines and others. And the prevailing form of abrasive wear - mechanical and chemical.

Quantitative correlation between hardness wear resistance □□ i *H*(Ric. 2) allow to share some of the materials on strength of interatomic bonds and by types of techniques for enhancing (doping phase and mechanical libel etc., Etc.). [8].



Ric. 2. Relative wear resistance □□ pry w abrasive particles depending on the hardness of metals (according to M. Khrushchev).

It is established that the relationship between hardness and abrasive hardness metal Ha Hm, there are three different modes abrasive wear: 1) low wear mode; 2) The transitional regime; 3) severe wear regime. [9].

DA technically pure annealed material (Fig. 2a) obtained dependence bHV Where *b*- Constant; *H* - tverdist on diamond pyramid indentation. Dependence $f(H)$ for steels 40, U8, V12, X12, heat-treated at various hardness (quenching and tempering at different temperatures) is linear and direct - H do not pass through the origin (Fig. 2b).

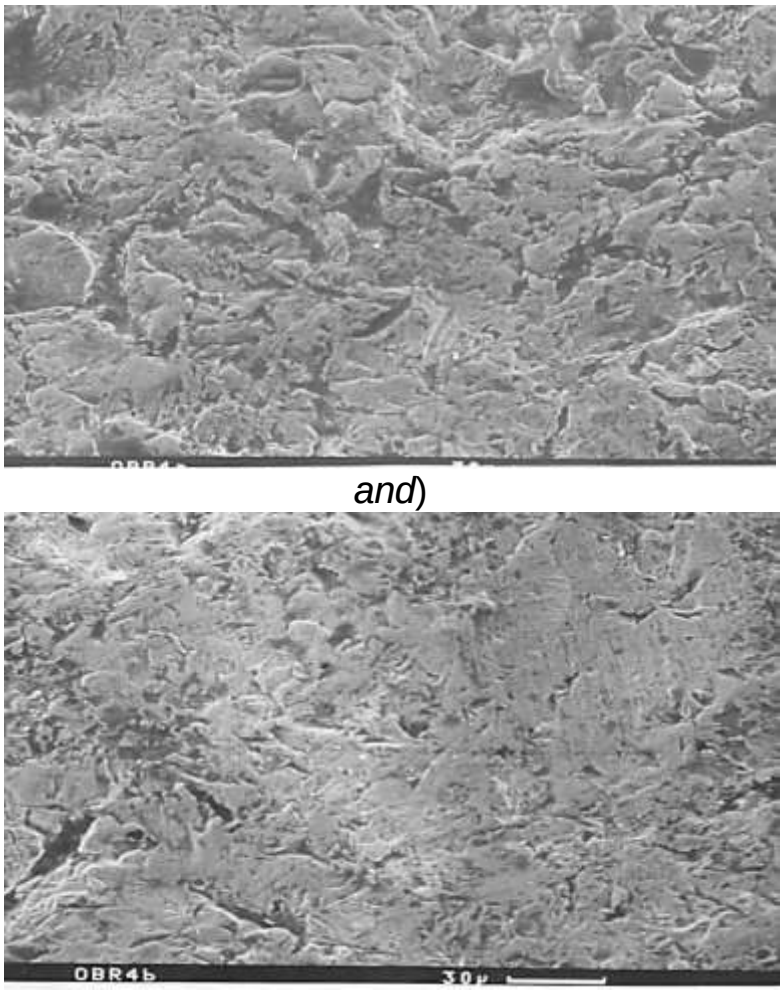
Mehanichnyy libel does not affect the relative abrasive wear resistance. This is shown in Fig. 2, for metals, for aluminum bronze (5% Al) after annealing and slander for beryllium copper (2% Be), for austenitic steel (0.2% C, 18% Cr, 9% Ni) after naklepuvannya for 40 steel after quenching, tempering at different temperatures and naklepuvannya for 40 steel - with varying degrees naklepuvannya after previous hardening and tempering at 600 ° C for the same steel with tempering at 450, 300 and 150 ° C, corresponding to curves 1 ... 10. If the hardness of the material is close to or greater than the hardness of the abrasive particles (particles in nature is SiO2 and Al2O3), then repeatedly increases durability. If abrasive environment in the friction zone of plastic deformation processes and activation of the metal surface layers increase, oxidation covers the deeper layers and proceeds more rapidly [7]. Theoretical studies were conducted using the basic principles of the theory of friction and wear in abrasive environments, solid state physics, physical chemistry of surface phenomena, electron-microscopic study, combined with renhenospektralnym analysis of the elemental composition.

Metand lit.idzhen. Noiseth dation robotand there is Sectionidvyschennya fromnosostiykosti working parts of tillage machines by discrete hardening to form samozahostryuvannya effect.

Rezultaty doslidzhennya. Collectionilshennyu termine withluZHBI

Workingies of agricultural machinery contributes samozatochuvannya blades or working edge by hardfacing different methods. But most used methods to strengthen rather cumbersome and ineffective. Investigation of abrasive wear metals involve a lot of work in Ukraine and abroad. Various researchers have provided different explanations abrasive wear mechanisms. The most common representation of abrasive wear as a result of scratching abrasive particles that cause mikrorizannya metal surface [10]. Fig. 3 shows a photograph of the worn surface of the hammer mill. In some areas there are traces of single blow large particles of soil. Traces damage surface layer of convincing is that many areas of contact formed high tension, the degree of soil particles connection is sufficient for the development of damage scratch. Worktop blade indicates directional flow intensive processes of plastic deformation and fracture surface layer. Details of working tillage machines

properation and undergo mechanical and chemical form of abrasive wear. The processes of deterioration in these conditions are characterized by low plastic deformation of the surface layers of metal, chemical interaction with the different elements of the environment (moist, humus, oxygen, carbon dioxide), the formation and destruction of oxide films (secondary structure). The thickness of the secondary structure is 0,01-0,05 mm [11].



and)

to)

Ric. 3. The destruction of the surface off shredders steel 65G: *and*- Type of brittle fracture; *to*- Ductile fracture.

Proced to form layers saturated with oxygen and other elements of the environment himichnoaktyvnymy revealed extensive diffusion of carbon, nitrogen and other elements less active.

Youck ground to the blade of work is dynamic and can be regarded as a continuous strikes abrasive particles [12]. V.F.Lorents [13] formulated the concept of "abrasions", divided into two main groups: 1) wear particles fixed

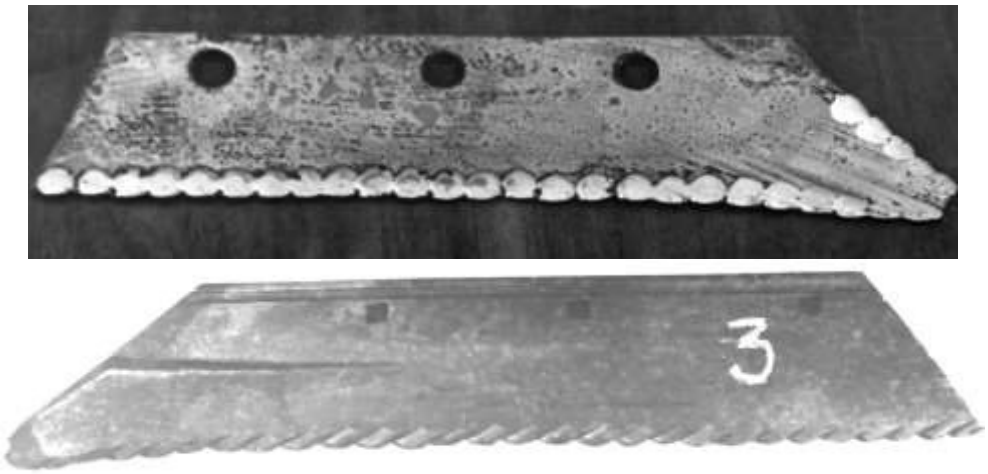
abrasive; 2) fromNos motalwe Chaparticle abrasive.

HAybilsha

forilkist published works devoted to the research of cutting conditions samozahostryuvannya working bodies (ploughshare plow, cultivator paw, disc harrows).

Dla frommitsnennya epyntoobrobnyh elektrozvaryuvannya Patonand HAndH Workingx Ophaniv machines Yingtute afterthneither Ukraine There.O.

difm with scientists NUBiP Ukraine proposed discrete strengthening arc spot welding (TPA) powder drotom- consumable electrode. Acupressure is strengthening mikrovkraplennya hard metal surfaces in the structure of machine parts that are subject to
Abrasivetion wear. Points strengthen formed during the rapid introduction of metal products such as the amount of heat required to penetration cone crater filling it with molten base metal and hard alloy formation and consolidation point (Fig. 4).



Ric. 4. ploughshare plow operating time after 49 ha.

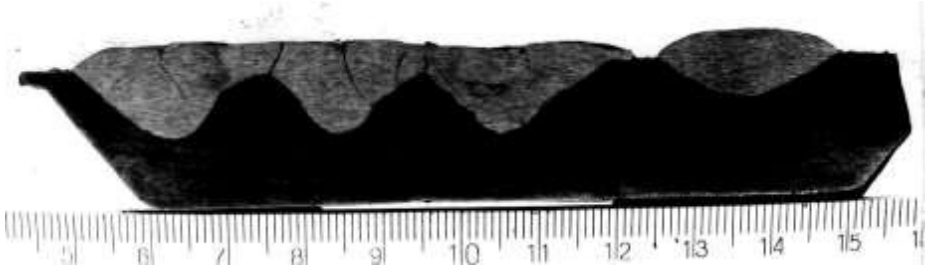
Reliability and durability of working bodies tillage machines determined by the composition, structure parameters and mechanical properties of the materials used to make them. Details plows, harrows and cultivators, made of materials with low strength and toughness, fast break and deformed, and their wear rate has a decisive influence on the quality of the machine process, is a violation agronomic requirements, which ultimately leads to lower yields. Of particular relevance mechanical performance gain when creating new machines for advanced technologies tillage and cultivation of crops.

Surfacing materials - Self-cored wires type PP- AN170 (PP-AN170M) to ensure formation of weld
layerNRS 60-65 in hardness. Aligning the weld

layerin (Yousota, depth, Chastota and ratio tverdosti naplaWleń dilnytsb a aboutAIN metal within the 1.5: 1, 1.0: 1, determined optimum durability tand samozatochuvannya products. Blades of working with a variable geometry surfacing during plowing, by the large difference durability in primary and weld layers, self-sharpening and form a wavy-speed blade shape that reduces traction resistance arable unit. (Figure 4).

Felling of consolidation point (Fig. 4) made of steel Profile for hot plowshares 142-620-D53 GOST 8531-78. Surfacing plowshares carried cored wire PP-Np- 80h20 RZT 26101-84 (PP-AN170). surface structure details. Weld penetration cones station is mostly metal, with a projection base of the cone in front of detail.

Dotsurfacing and act on a front surface detail on size 1 ... 3 mm and penetrate to the core metal to a depth of 4 ... 6 mm, forming a front surface details Carbide point diameter 18 ... 25 mm and hardness NRS 60 ... 66 (Fig. 5).



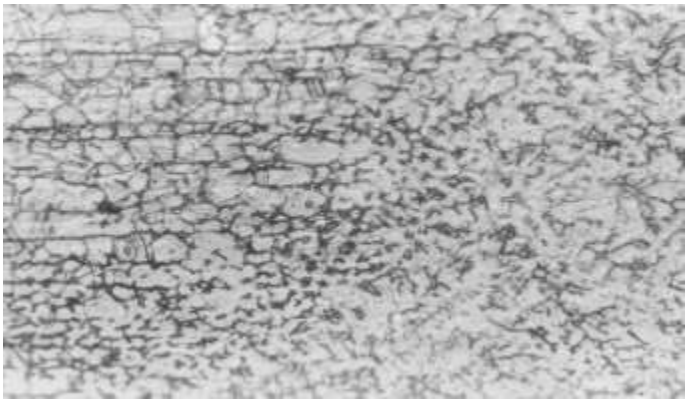
Ric. 5. Geometric discrete reinforcement.

Controversyma current polarity reduces the stability of the process leads to the formation of spray reduces the depth of penetration and increases the height of the point of consolidation. So point parameters worked on strengthening reverse polarity. Welded current has the biggest impact on shaping the point of consolidation. For example, with increasing weld current from 400 to 650A in diameter in terms of strengthening increases from 14.5 to 31 mm, height of 2.3 to 4.3 mm; surfacing is reduced from 3.5 to 1.2 mm.

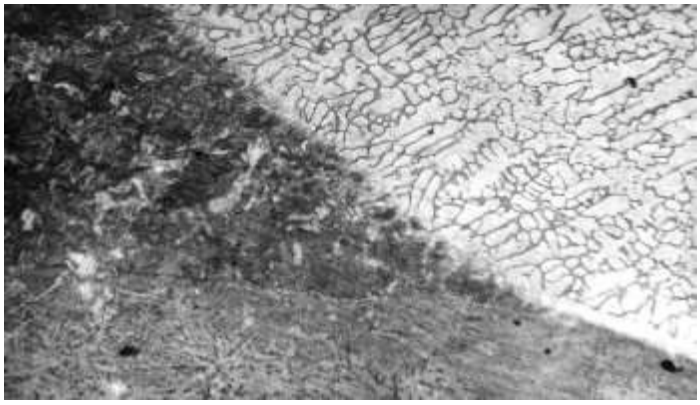
The required depth of hardening, as well as other parameters of discrete coverage achieved by changing strength of the weld current, voltage and threevalosti arc. Plowing was carried out at a depth of 25 ... 27 cm after harvesting crops. During the tests performed regularly measure the parameters of the job, determine the magnitude of wear. All working parts proyshwere the primary technical expertise labeled. Performance

UMOand the quality of work in accordance with GOST 20915-75 determined and OST.4.1-
80. Eksperymentalni plowshares strengthening of point blade and bow mounted on a batch plow PLN-5-35, and
andhrehatuvavsya the tractor T-150K. Indicator of the quality of
eksperymentalni plowshares depth processing and working width correspond to specifications. During the experimental trials plowshares sticking soil was observed. Experimental plowshares point of strengthening increased wear resistance (PNCHS-702U) meet the requirements for working the soil.

ChaBand resistance unit PLN-5-35 with experimental blade at a speed of 2.08 m / s is 32.7 kN, compared with the reference unit PLN-5-35 with serial blade almost identical (33.5 kN).



Ric. 6. Microstructure terms of strengthening Ploughshares, x 200.



Ric. 7. Line fused to the upper and middle layer, x 200.

Pitotmyy resistance PLN-5-35 with experimental blade at a speed of 2.08 m / s is 6.27 N / cm 2, which is 2.5% less (within the measurement error) than PLN-5-35 with serial blade . Since the difference of specific indicators within the measurement error, the value of specific indicators aggregates are compared, can be considered the same. By pulling power indicators tractor T-150K in the unit with PLN-5-35 with

eksperymentalnymy blade ensures stable performance of the process, loading the engine when driving at a speed of 2.08 m / s was 94.6%.

Youjuice durability experimental plowshares abrasion wear requires a structure
deposited layer refractory metal carbides.

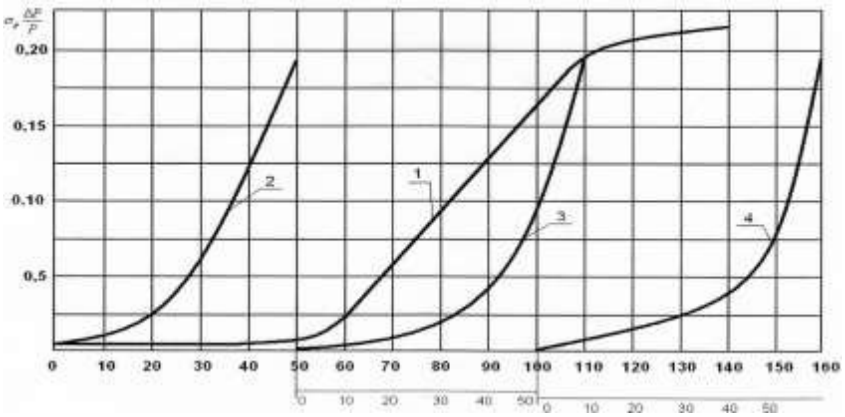
The formation of the carbide phase is mainly possible in two ways: through selective alloying elements carbide and carbon alloy weld or by doping the complex when administered ready carbide coating compound. The second method allows to simplify the control of the structure of the deposited metal. Microstructure point strengthening is boron carbide B4C (Fig. 6), boron is a part of the charge, in its pure form. At a point strengthening observe (Fig. 7) Borides spread across grain boundaries, with no hardened structures and cracks. When using such materials operational load acts mainly on the inclusion of hard elastic plastic matrix, and stress relaxation occurs. There are more rigid materials such as diamond, boron carbide, silicon carbide. The advantage of using such materials for wear-resistant coatings have the possibility of optimal choice and percentage of matrix alloy and the grain size depending on the conditions of abrasive wear. Spot strengthening (arc spot welding) cored wire - consumable electrode provides longer life of the working body compared to serial technology Induction surfacing hard alloy PH- C27 (Fig. 8).

In the process of deterioration is segregation of atoms at the surface friction, boron carbide is formed at grain boundaries (Fig. 6). Sequential induction welding technology achieves not provided durability plowshares, paws cultivators, disc harrows. At a point strengthening coating layer does not crack, almost formed a cast structure. In addition, Self-cored wire PP-AN170 (PP-AN170M) protects the weld zone.

Surfacing can increase resistance against wear of machine parts, mainly abrasive, electrochemical corrosion, erosion, cavitation destruction, scale formation, thermal and contact fatigue. Surfacing is widely used to restore the size worn machine parts that
allows you to replace the parts High-carbon steel and nonferrous metals - black. Currently, a large number of deposited material, which allows the designer to choose

required in terms of materials for surfacing surfaces of machine parts.

The largest operating time (140 ha) with plowshares point of consolidation. From 9 test plowshares only one opener reached
the limit wear on the toe, the remaining 140 hectares are plowshares operating time and are suitable for further use. Plowshares failures of this type during testing was not. Overall achieved for all operating time plowshares, plowshares point of strengthening dominated serial 2.8-fold (Fig. 8).



Ric. 8. Relative wear by mass and serial strengthened plowshares 1 - strengthening opener with a point; 2 - serial opener (first set), 3 - serial opener (second unit); 4 - serial opener (third set).

DTo determine the relative wear resistance of the weight and length of the nose of the graphs (Fig. 8). Relative wear resistance hardened blade weight 2.2 times higher mass and relative durability toe 2.8 times higher mass. Thus, the opener of a point can be replaced by strengthening operating time three serial plowshares. Values of standard deviation and coefficient of variation of parameters of the working point of strengthening stability suggest processes for their manufacture.

Conclusio
ns

1. Theoreticalbut experimentally proved that the formation samozatochuvannya effect and durability of working parts of material properties affect their production, strengthening methods, properties and abrasive environments hardened layer thickness.

2. YouSoka wear resistance to abrasion wear is ensured by the structure of the deposited layer of carbides
tuhoplavkyh metals.

3. Application consolidation point (arc spot welding) cored wire - consumable electrode increases the working life of tillage machines 1.5 ... 2.8 times compared with the serial induction welding.

References

1. *Boholyubov B.N.* Durability fromemleroynыh and dorozhnыh mAshin / *B.N. Bogolyubov*. - M .: Mashinostroenie, 1964. - 224 p.
2. *Xruschёv M.* Yznosostoykost and structure tvërdыh naplavok / *M. Hruschёv, M. Babicheva.* - M .: Mashinostroenie, 1971. - 95 p.
3. *Xruschёv MM* Abrazyvnoe yznashyvanye / *M.M. Hruschёv, MA Babicheva*. - M .: Nauka, 1970. - 272 p.
4. *Xruschёv MM.* Investigation owyyanyya ttoërdыh andtorazyvnыh particles Categoriesand yznashyvanyya materyalov / *MM. Hruschёv, M.A. Babychev* // IZCategoriespers and antyfryktsyonnыe properties of materials. - M .: Nauka, 1972. - Sat. XX. - P. 251.
5. *Poverhnostnaya* prochnost materyalov at tpenyy / [*Kostetskyy B.Y., Nosovskyy IG, AK Karaulov*. et al.]; Under Society. ed. *B.Y.Kostetskoho.* - K .: Technique, 1976. - 296 p.
6. *Kostetskyy BI* Mehano-Chemical Processes at extremely trenyy / *Kostetskyy BI, Nathanson M.Э., Bershadsky LI* - M .: Nauka, 1972. - 170 p.
7. *Kostetskyy B.* Yznosostoykost and antyfryktsyonnost machine parts / *B. Kostetskyy, I. Nosovskyy.* - K .: Technique, 1965. - 206 p.
8. *Xruschёv M.M.* Investigation IZCategoriesashyvanyya metallov / *M.M. Hruschёv, MA Babicheva*. - M .: Publishing House of the Academy of Sciences USSR, 1960. - 264 p.
9. *Myhos H.* Systemic analysis in trybonyke / *X. Chyhos*. - M .: Mir, 1982. - 351 p.
10. *Xruschёv MM*. Classification and species uslovyy yznashyvanyya machine parts /*M.M. Hruschёv.* - M .: Publishing. USSR Academy of Sciences, 1953. - Sat. VIII. - P. 174.
11. *Kostetskyy BI* Oh rolls oxygen at trenyy skolzhenyya / *Kostetskyy BI, Nosovskyy IG, LV Nikitin* - M .: Mashynovedenyya, 1965. - № 6. - P. 31.
12. *Syneokov GN* Mehanyzatsyya and эlektryfykatsyya agricultural sector of Russia / *D.N. Syneokov, IM Panov*. - № 9. - 2003. - S. 20-22.
13. *Lorents VF* Yznos details rabotayuschyh in the environment of abrazyvnoy / *In the.F.Lorents.* - M .: Publishing. USSR Academy of Sciences, 1959 - Vol. №1 «Trenye and yznos in cars." - P. 240.
14. *Tereschenko In the.Y.* Features duhovoy taboutchechnoy St.arch Sectionlavyaschymsya Electrode / *Tereschenko In the.Y., Sharotoolskyy And.N., Sidorenko K.A.* // Avtomatycheskaya quarrel. - 1983. - № 9. - P. 51-53.

In this article describes Increase Durability parts workers organs soil-cultivating machines with the effect samozatachyvanyya education. Is designed for the control layer properties rpoverhnostno workers bodies and the effect samozatachyvanyya Education Require dyskretnoe pavement.

IZnosostoykost, Rabochie orhanы, pochvoobrabatыva-

yuschye Machines, abrazyvnoe yznashyvanye, tochechnoe uproch-flax, samozatachyvanyya effect, rezhuschaya edge.

Results of independent experimental researches prove the mechanical-chemical mechanism of wear process metal frictional surfaces. Features of abrasive wear process are considered. Results of researches of microstructure, hardness, phase structure, trials on wear process in conditions of abrasive environment influence are brought. Examples of application the wear-resistant coverage's are presented.

Wear resistance, working organs agricultural machines, abrasive wear, hardening point, effect self-sharpening, cutting edge.

UDC
631.3.004.62

EFFECT OF CHANGE SETTINGS lancet paws on the draw RESISTANCE TYPE UNITS

AP Derkach, Ph.D. GP Savchenko,
student

It has been establishedabout the effects of changing parameters (wear) paw pointed type of traction resistance unit.

Paw lancet type of wear, rear bevel blade, rack design, traction resistance.

Resolutionska problem. Naybilsh common body of work in minimum tillage technology is paw pointed type. The influence of parameters (wear) working bodies in the process of energy and agronomic performance, and ultimately, the harvest is the most significant. The process of changing parameters paws lancet type occurs in several stages, characterized by the degree of wear of the cutting edge and the size of the rear bevel blade. The reason for the formation of the rear facet was investigated. Therefore, the study of the influence of parameters on paws lancet type energy performance is a key issue and requires further study.

AnaLiz recent research. Andsnuet several assumptions about utsion rear bevel blade legs. One of them is the formation of the rear facet similar to blunt cutting tools [1]. There is also an assumption about the formation of facets due to movement of the blade paws "for complex trajectories, defined as fluctuations paws depth and its