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Article



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ON THE IMPORTANCE OF TECHNOLOGICALLY ADVANCED SHOE UPPERS AND INNOVATIVE TECHNOLOGICAL SOLUTIONS FOR THEIR DEMAND AMONG BUYERS

Abstract: in the article the authors talk about the importance of ensuring the quality of products on the market - this is a paradigm for the formation of production of products that meet the needs of the market, the issues of a significant increase in the quality of domestic goods, filling them with the following properties are considered, namely: ideology of quality; quality management; fashion and technical regulation; quality system; market quality; advertising; excursion into the past - as a guarantee of quality. In the future, if it is possible to implement all these criteria, they will ensure a revolution in quality, guaranteeing the manufacturer stable success in the market, and consumers of its products - high quality and demand, which creates the basis for its import substitution.

Key words: quality, import substitution, demand, competitiveness, market, profit, demand, buyer, manufacturer, financial stability, sustainable thermal power plant, attractiveness, assortment, assortment policy, demand, sales, paradigm, economic policy, economic analysis, team, success.

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Introduction

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An analysis of the predicted social and economic consequences of the Strategy's implementation shows that the light industry is capable of making a

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significant contribution to achieving strategic goals Ministry of Industry and Trade Russia "Security competitiveness Russian processing industry" V result solutions tactical tasks, namely: "Strengthening the competitive positions of Russian manufacturers in the domestic market" and "Promotion goods working in Russia companies on international markets."

The situation on the Russian market leads to the need to increase production popular and competitive footwear from domestic manufacturers, including children's shoes V in accordance with anthropometric features feet children V specifically given region. A For of this necessary implementation new technologies and materials.

As before, imported footwear enters the Russian markets, primarily from China. Despite the reduction, almost half of the total volume of imported footwear came from there shoes.

According to Roslegprom, most of the imported footwear is a shadow import that does not have a quality certificate, and now children are forced to wear shoes made of artificial materials. and synthetic leather

The production of men's shoes is much simpler than the production of children's and women's shoes. footwear. Therefore, shoe enterprises of the Southern and North Caucasian Federal Districts are mainly focused on the production men's shoes.

The aim of this research is to analyze the influence of the technological preparation of the upper part of children's shoes on the efficiency of using innovative processes for its production.

Thus, the restoration of production volumes of children's footwear is a rather urgent task facing shoemakers and has enormous social and economic implications. meaning V Eurasian space. To revive the production of children's shoes in the Southern and North Caucasian Federal Districts, first of all, organizational and financial support is needed for shoe companies at the level Government of the Russian Federation, regional And local organs management V view reductions VAT, provision them irrevocable loans under preferential percent With deferment payments on 3 years, support in providing high-quality and affordable shoe materials. One cannot overlook the problem that affects the current situation in the shoe industry of the Southern and North Caucasian Federal Districts, as a result of the inability of many shoe managers enterprises of the Southern and North Caucasian Federal Districts to quickly adapt to the new requirements put forward market, to emerged competition and with Russian, and with foreign manufacturers.

In the development of the footwear industry that negatively affect its economic height and financial stability. The main ones problems, requiring immediate solutions are:

- technical and technological backwardness of

the footwear industry, expressed in high material consumption, energy intensity and labor intensity production;

- low level of innovation and investment activity in the industry, expressed in the weak competitiveness of domestic products, in the low share of new developments, improvement of production technologies and innovative products in the volume sales on Russian and the world market;

The reasons for the technical and technological backwardness of the footwear industry are the low potential of the equipment installed in the industry, most of which morally and physically is out of date.

Worn out and obsolete equipment is not only incapable of producing modern assortment high quality products, but creates and unsatisfactory working conditions. As a result of this factor, the specific labor intensity of production in industries are 3-5 times higher than abroad; lack of modern technological processes and automated systems management production. Coefficient updates equipment at Russian enterprises is carried out through credit and own funds funds, which is not associated with investment support from states interested in the development of the footwear industry. Low level of equipment renewal leads to reduction production capacities.

The second group of problems – the low level of innovation and investment activity is caused by the following reasons: – the lack of investments necessary for the modernization of the industry and the implementation of innovation and investment projects that allow remove structural restrictions on the development of the industry and begin producing completely new products with consumer properties that are in demand both externally and internally markets.

According to the "Strategy for the Development of the Children's Goods Industry until 2035," the share of domestic production in the children's goods market averages 10.7% for the segment children's footwear. The main share of the children's goods market belongs to imported goods. The further development of the Russian children's goods market will be influenced by factors such as the adoption of new technical regulations of the Customs Union in the children's goods industry, the continued high share of counterfeit goods on the market, the problem of Russians' perception of certain types of imported products, as well as the gradual development of state support domestic manufacturers of children's goods.

The main ones reasons appeals for orthopedic with help are diseases musculoskeletal system and injuries. According to official data from the Federal State Statistics Service for the Rostov Region, in 2024 the number of registered patients with diseases of the musculoskeletal system and connective tissue amounted to 169,600 children with congenital malformations, deformities and chromosomal

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abnormalities – 4300 children.

At different periods of a child's life, a child's foot has its own characteristics. Therefore, the released children's shoes is shared on 8 age and sex groups V in accordance with GOST 3927-88 "Pads shoe. General technical requirements":

- booties for girls and boys to 1 years
- nursery shoes for girls and boys from 1 year to 3-x years
- a little childish - for girls and boys from 3 to 5 years
- preschool - for girls and boys from 5 to 7 years
- shoes for school girls from 7 to 13 years
- shoes for school boys from 7 to 13 years
- shoes for girls from 13 to 18 years
- shoes for boys from 13 to 18 years old.

Parents are often given the wrong idea about the need for children to wear orthopedic shoes. Orthopedic shoes are those that are made taking into account the features deformations and age-specific features of a child's foot. It must be worn in the case of already formed deviations from the norm in the development of the foot, and healthy children, not

having pathological deviations feet need to buy high-quality preventive footwear, equipped with design elements that protect children's feet from development pathologies.

Main part

There are special requirements for footwear, which can be divided into three groups, and namely: socio-economic feasibility; requirements determined by anatomical physiological features human and features surrounding environment. Essential requirements apply to children's footwear. This is related to the development and formation stop at children. At designing designs top shoes, internal forms, the sizes must take into account the age-related morphofunctional features of the lower extremities person. Only then can shoes be comfortable, and conditions will be created for the normal development and formation of the foot of children and adolescents. A distinctive feature children's shoes are designed to fit the shape of the child's foot, have a widened toe area, taking into account the fan-shaped arrangement of the fingers. Characteristics of the distinctive features children's shoes are presented in table 1.

Table 1. Characteristic distinctive signs children's shoes from adult

Age and gendergroup	View shoes	Distinctive signs
Nursery	Booties 	Requirements presented to booties: consistency, booties must contain fixing parts (laces, soft rubber bands, Velcro) to ensure good baby foot rests; Not allowed connections details V places bending feet, seams should be how can more invisible or turned outward. For upper and lining partsuse natural, hypoallergenic materials.
Nursery	Sandals  Boots  Shoes  Boots  Half boots 	Used for upper, lining and insert parts insoles only natural leather and natural textile materials. In winter footwear, natural fur is used as a lining. The use of textile materials is not permitted. materials, containing chemical fibersmore than 20%, artificial and synthetic leather. Open toe and heel parts, non-fixed heel part are not allowed. The toe part of the shoe should be be rounded and extended. Not allowed tapered toe section. No joining of parts allowed V places bending feet. Necessarily availability hard back; heel - low, or only a heel cap. Shoes should be securely fastened to the foot with a fastener (buckle, button, laces), which should be easy and quick to fasten, and be in a comfortable andin plain sight place. Children's winter boots should warm the baby up to - 30 degrees. Shoes should be light and comfortable. Not allowed cooling children's feet.

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Small children	Sandals  Boots  Half boots  Boots 	Used for upper, lining and insert parts insoles only natural leather and natural textile materials. In winter footwear, natural fur is used as a lining. The use of textile materials is not permitted. materials, containing chemical fibers more than 20%, artificial and synthetic leather. Open toe and heel parts, non-fixed heel part are not allowed. The toe part of the shoe should be rounded and extended. Not allowed tapered toe section. No joining of parts allowed V places bending feet. Necessarily availability hard back; heel - low, or only a heel cap. Shoes should be securely fastened to the foot with a fastener (buckle, button, laces), which should be easy and quick to fasten, and be in a comfortable and in plain sight place. Children's winter boots should keep the baby warm to -30 degrees. Shoes should be easy and comfortable. Not allowed cooling children's feet.
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Age and gender group	View shoes	Distinctive signs
Preschool	Sandals  Boots  Shoes  Boots  Half boots 	Used for upper, lining and insert parts insoles only natural leather and natural textile materials. In winter footwear, natural fur is used as a lining. The use of textile materials is not permitted. materials, containing chemical fibers more than 20%, artificial and synthetic leather. Joining parts in the places where the foot bends is not allowed. Open toe and heel parts, non-fixed parts are not allowed heel Part. Sock Part shoes must be rounded and widened. A narrowed toe part is not allowed. A rigid back is required; the heel must be low or only a heel cap. Shoes should be reliably fixed on foot With help clasps (buckles, buttons, laces), which should be easy and quick to fasten, be in a comfortable and in a visible place. Children's winter boots should keep them warm baby to - 30 degrees. Shoes should be easy and comfortable. Not allowed cooling children's feet.
School For boys	Sandals  Boots  Half boots  Boots 	Only low heels or heels, simplified designs, and minimal trim are used. Since the child is in these shoes for a long time, they should be hygienic and lightweight, so the use of artificial and synthetic materials is limited. Not allowed connections details V places bending feet.

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Maiden	Sandals  Boots  Shoes  Boots  Half boots 	Girls' shoes are intended for teenage girls aged 11–16 years old. The shoes of this subgroup resemble women's, but characterized by simplicity styles and models; heel must be low; average is acceptable. For the upper of girls' shoes, in contrast to boys' shoes, a much wider range of chrome leather, textile materials, artificial and synthetic leather is used. Light and bright flowers, diverse finishing. Not allowed connections details V places bending feet.
Boyish	Summer shoes  Boots  Half boots  Winter boots 	Boyish shoes, by comparison with male, by design, materials used and finishing is less varied and is intended for children aged 11 to 14 years. It is not allowed to connect parts in places where the foot bends. In shoes of this subgroup, it is important to ensure high reliability, since, as a rule, teenagers exploit her V tough conditions.

Production of comfortable, ergonomic and orthopedic shoes that determine normal the natural development of a child's foot depends on the design of the upper of the shoe used packages material For external and internal details top, style pads, compliant anatomical and physiological features musculoskeletal apparatus child. What and characterizes rationality shoes.

Can highlight two main patterns, defining rationality shoes:

- conditions functioning musculoskeletal apparatus human;
- protection lower limbs from unfavorable influences external environment. The first one the pattern is characterized by:
 - correct ratio sizes stop and internal sizes shoes;
 - compliance of the internal shape of footwear with the main morphological types and subtypes stop, providing natural development feet at children;
 - correct distribution static-dynamic loads on supporting surfaces feet in shoes, providing a biomechanically balanced state of the lower limbs and bodies human;
 - supply constructions elements, obstructing development pathological deviations V foot;
 - the state of the environment inside the shoe that promotes the normal manifestation of biophysiological functions feet (warm-, gas exchange, sweating);

- a secure fit of the shoe on the foot, facilitating normal foot movement without additional muscle energy expenditure;

- correct location fastening seams blanks, strengthening details and others elements constructions (not allowed in places bending feet).

The second pattern is characterized by the operational properties of footwear, taking into account climatic peculiarities zones of it operation:

- protecting the foot from uneven surfaces, low and high temperatures, moisture, dirt supporting surfaces;

- protection of the dorsum of the foot from high and low temperatures, snow, dust, sand, moisture, from active radiation;

- prevention feet, especially fingers, from mechanical injuries.

Except compliance requirements anatomical and physiological features support- musculoskeletal system, compliance with anthropometric data, footwear should have a set of properties that determine the rational expenditure of resources during design, production, operation and repair for a certain volume of output required indicators of quality and conditions of work performance. Achieving this goal characterizes technological capability constructions manufactured products. Security technology the design belongs to the designer, who must be able to solve technical and economic problems during design, have engineering solutions to achieve necessary technical indicators at optimal resource costs.

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For a company producing children's shoes, it is important to produce high-quality, popular footwear, with minimal labor and material costs. To identify the criteria of technological effectiveness, the range of modern children's footwear was studied, considering presented to her requirements. Diversity assortment shoes depends from constructions blanks top shoes (ZVO). Considering constructive peculiarities children's shoes, we have identified criteria for the manufacturability of structures, namely: a package of materials for external and internal details top, division constructions and configuration details top, view decorations ZVO, way fastenings on foot, way processing edges external details top and indicators significance influences each criteria on assembly ZVO.

Indicators technology constructions products

reduced to five groups indicators:

- labor intensity manufacturing products;
- material consumption;
- cost price products;
- applicability unified and standardized solutions;
- repeatability design solutions.

Repeatability of design solutions for the entire range of footwear for children is shown in Figures 1–14. Of course, this does not mean that there cannot be other solutions, their completeness depends on the demand for such footwear and the talent of the fashion designers involved in developing a range of footwear for children, taking into account the basic requirements GOSTs and technical regulations.



Drawing 1 – Popular types and constructions sandals of this years



Drawing 2 – Popular types and constructions sandalette of this years



Drawing 3 – Popular types and constructions shoes of this years



Drawing 4 – Popular types and constructions sleepers of this years.

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Drawing 5 – Popular types and constructions sneakers of this years.



Drawing 6 – Popular types and constructions sneakers of this years



Drawing 7 – Popular types and constructions half-boot of this years



Drawing 8 – Popular types and constructions boot of this years



Drawing 9 - Trend 2025 years "Metallic and not only"



Drawing 10 - Trend 2025 years "All case V straps"



Drawing 11 - Trend 2025 years "Velcro comes out V favorites»

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Drawing 12 - Trend 2025 years "In shades tender pastels" for girls



Drawing 13 - Trend 2025 years "Velcro comes out V favorites»



Drawing 14 - Trend 2025 years "In shades tender pastels"

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Таблица 1.2

Характеристики критериев, влияющих на технологичность конструкции верха детской обуви

Показатели технологичности						
Модель (типовая конструкция)	Характер-ка влияния пакета материалов для наружных деталей верха	Характер-ка влияния пакета материалов для внутренних деталей верха	Характер-ка влияния членения зво и конфигурация деталей	Характер-ка влияния вида отделки деталей верха	Характер-ка влияния способа закрепления на стопе	Характер-ка влияния способа обработки краев наружных деталей верха
	Натуральная кожа хромого дубления K=0,03	Натуральная кожа K=0,03	Союзка прямоугольной с язычком K=0,02	Без декоративных деталей K=0	Ремень с велькро K=0,02	Загибка K=0,01
	Лакированная кожа K=0,05	Искусственная кожа K=0,2	Гладкая союзка K=0,01	Декоративная строчка K=0,01		Окрашивание + загибка K=0,02
	Замша K=0,04	Текстильный материал K=0,1	W-образная союзка K=0,04	Перфорация K=0,03		Отсекание + окрашивание + загибка K=0,04
	Текстильный материал K=0,01		Круговая союзка K=0,03	Перфорация + декоративная строчка K=0,04		Загибка + горячее формование K=0,045
	Искусственная кожа K=0,02		Фигурная союзка K=0,05	Продержка K=0,035		Обработка окантовочной деталью K=0,03
	Синтетическая кожа K=0,015		Боковинки округлённые K=0,01	Продержка + перфорация K=0,05		Окрашивание K=0,015
	Натуральная кожа + искусственная кожа K=0,035		Фигурные боковинки K=0,02	Тиснение K=0,02		
	Натуральная кожа + текстильный материал K=0,03		Г-образный берец K=0,01	Накладные детали K=0,045		
	Искусственная кожа + текстильный материал K=0,025		Округлённый берец K=0,015	Фурнитура K=0,04		
	Натуральная кожа + замша K = 0,06		Фигурный берец K=0,04			
			Округленный носок K=0,01			
			Носок с крыльями K=0,03			
			W-образный носок K=0,04			
			Круговой подблочник K=0,01			
			Г-образный подблочник K=0,02			
			Прямолинейная задинка K=0,01			
			Округлённая задинка K=0,015			
			Фигурная задинка K=0,02			
			Язычок K=0,01			

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Модель (типовая конструкция)	Показатели технологичности					
	Характер-ка влияния пакета материалов для наружных деталей верха	Характер-ка влияния пакета материалов для внутренних деталей верха	Характер-ка влияния членения звю и конфигурация деталей	Характер-ка влияния вида отделки деталей верха	Характер-ка влияния способа закрепления на стопе	Характер-ка влияния способа обработки краев наружных деталей верха
	Натуральная кожа хромо- вого дубления K=0,03	Натуральная кожа K=0,03	Союзка прямоугольная с язычком K=0,02	Без декоративных де- талей K=0	Ремень с велькро K=0,02	Загибка K=0,01
	Лакированная кожа K=0,05	Искусственная кожа K=0,2	Гладкая союзка K=0,01	Декоративная строчка K=0,01		Окрашивание + загибка K=0,02
	Замша K=0,04	Текстильный материал K=0,1	Круговая союзка K=0,03	Перфорация K=0,03		Отсекание + окраши- вание + загибка K=0,04
	Текстильный материал K=0,01		С Т-образным ремнем K=0,035	Перфорация + декора- тивная строчка K=0,04		Загибка + горячее формование K=0,045
	Искусственная кожа K=0,02		Фигурная союзка K=0,04	Продержка K=0,035		Обработка окантовоч- ной деталью K=0,03
	Синтетическая кожа K=0,015		Фигурная союзка с язычком K=0,05	Продержка + перфо- рация K=0,05		Окрашивание K=0,015
	Натуральная кожа + ис- кусственная кожа K=0,035		Трапециевидный носок K=0,02	Тиснение K=0,02		
	Натуральная кожа + тек- стильный материал K=0,03		Носок с крыльями K=0,03	Накладные детали K=0,045		
	Искусственная кожа + текстильный материал K=0,025		Носок с длинными крыльями K=0,035	Фурнитура K=0,04		
	Натуральная кожа + замша K = 0,06		W-образный носок K=0,04			
			Прямолинейный берез K=0,01			
			Берез с Т-образным пере- гибом K=0,02			
			Фигурный берез K = 0,03			
			Прямолинейная задинка K=0,01			
			Криволинейная задинка K=0,03			
			Фигурная задинка K=0,04			
			Задинка с Т-обр. перегибом K=0,03			
			Прямолинейный ремень K=0,01			
			Расширенный ремень K=0,03			
			Задний наружный ремень K=0,01			
			Мягкий кант K=0,02			

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Модель (типовая конструкция)	Характер-ка влияния пакета материалов для наружных деталей верха	Характер-ка влияния пакета материалов для внутренних деталей верха	Характер-ка влияния членения звона и конфигурация деталей	Характер-ка влияния вида отделки деталей верха	Характер-ка влияния способа закрепления на стопе	Характер-ка влияния способа обработки краев наружных деталей верха
	Натуральная кожа хромо-вого дубления K=0,03	Натуральная кожа K=0,03	Гладкая союзка K=0,02	Без декоративных деталей K=0	Шнуровка K=0,02	Загибка K=0,01
	Лакированная кожа K=0,05	Искусственная кожа K=0,2	Мокасиновая вставка K=0,01	Декоративная строчка K=0,01	Ремень с велькро K=0,03	Окрашивание + загибка K=0,02
	Замша K=0,04	Текстильный материал K=0,1	Союзка с язычком K=0,025	Перфорация K=0,03		Отсекание + окрашивание + загибка K=0,04
	Текстильный материал K=0,01		Круговая союзка K=0,03	Перфорация + декоративная строчка K=0,04		Загибка + горячее формование K=0,045
	Искусственная кожа K=0,02		Обсоюзка K=0,01	Продержка K=0,035		Обработка окантовочной деталью K=0,03
	Синтетическая кожа K=0,015		Округленный носок K=0,01	Продержка + перфорация K=0,05		Окрашивание K=0,015
	Натуральная кожа + искусственная кожа K=0,035		Фигурный носок K=0,04	Тиснение K=0,02		
	Натуральная кожа + текстильный материал K=0,03		Носок с крыльями K=0,02	Накладные детали K=0,045		
	Искусственная кожа + текстильный материал K=0,025		Трапецевидный носок K=0,03	Фурнитура K=0,04		
	Натуральная кожа + замша K=0,06		Язычок K=0,01			
			Округленный берец K=0,02			
			Прямолинейный берец K=0,03			
			Фигурный берец K=0,04			
			Прямолинейный подблочник K=0,01			
			Г-обр. подблочник K=0,03			
			Круговой подблочник K=0,02			
			Фигурный подблочник K=0,04			
			Мягкий кант K=0,02			
			Прямолинейная задинка K=0,02			
			Округленная задинка K=0,025			
			Фигурная задинка K=0,03			
			Прямолинейный задний наружный ремень (ЗНР) K=0,01			
			Расширенный ЗНР K=0,02			

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ISRA (India) = 6.317
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SIS (USA) = 0.912
 ПИИЦ (Russia) = 0.191
 ESJI (KZ) = 8.100
 SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
 PIF (India) = 1.940
 IBI (India) = 4.260
 OAJI (USA) = 0.350

Показатели технологичности						
Модель (типовая конструкция)	Характер-ка влияния пакета материалов для наружных деталей верха	Характер-ка влияния пакета материалов для внутренних деталей верха	Характер-ка влияния членения зво и конфигурация деталей	Характер-ка влияния вида отделки деталей верха	Характер-ка влияния способа закрепления на стопе	Характер-ка влияния способа обработки краев наружных деталей верха
	Натуральная кожа хромо-вого дубления K=0,03	Натуральная кожа K=0,03	Перед гладкий K=0,01	Без декоративных де-талей K=0	Застежка-молния K=0,02	Загибка K=0,01
	Лакированная кожа K=0,05	Искусственная кожа K=0,2	Перед гладкий внутренний и наружный K=0,03	Декоративная строчка K=0,01		Окрашивание + загибка K=0,02
	Замша K=0,04	Текстильный материал K=0,1	Перед с язычком K=0,04	Перфорация K=0,03		Отсекание + окраши-вание + загибка K=0,04
	Текстильный материал K=0,01		Носок с крыльями K=0,02	Перфорация + декора-тивная строчка K=0,04		Загибка + горячее формование K=0,045
	Искусственная кожа K=0,02		Фигурный носок K=0,03	Продержка K=0,035		Обработка окантовоч-ной деталью K=0,03
	Синтетическая кожа K=0,015		Прямолинейная задинка K=0,02	Продержка + перфорация K=0,05		Окрашивание K=0,015
	Натуральная кожа + ис-кусственная кожа K=0,035		Округлённая задинка K=0,03	Тиснение K=0,02		
	Натуральная кожа + тек-стильный материал K=0,03		Т-образная задинка K=0,04	Накладные детали K=0,045		
	Искусственная кожа + текстильный материал K=0,025		Фигурная задинка K=0,05	Фурнитура K=0,04		
	Натуральная кожа + замша K = 0,06		Прямолинейное голенище внутреннее и наружное K=0,02			
		Фигурное голенище наружное и прямолинейное внутреннее K=0,04				

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Показатели технологичности						
Модель (типовая конструкция)	Характер-ка влияния пакета материалов для наружных деталей верха	Характер-ка влияния пакета материалов для внутренних деталей верха	Характер-ка влияния членения зво и конфигурация деталей	Характер-ка влияния вида отделки деталей верха	Характер-ка влияния способа закрепления на стопе	Характер-ка влияния способа обработки краев наружных деталей верха
	Натуральная кожа хромо-вого дубления K=0,03	Натуральная кожа K=0,03	Союзка гладкая круговая K=0,02	Без декоративных деталей K=0	Без дополнительных закреплений на ноге K=0	Загибка K=0,01
	Лакированная кожа K=0,05	Искусственная кожа K=0,2	Мокасиновая вставка K=0,01	Декоративная строчка K=0,01	Резинка K=0,02	Окрашивание + загибка K=0,02
	Замша K=0,04	Текстильный материал K=0,1	Союзка с язычком круговая K=0,03	Перфорация K=0,03	Ремень с велькро K=0,03	Отсекание + окрашивание + загибка K=0,04
	Текстильный материал K=0,01		Союзка с язычком составная K=0,04	Перфорация + декоративная строчка K=0,04		Загибка + горячее формование K=0,045
	Искусственная кожа K=0,02		Союзка круговая K=0,035	Продержка K=0,035		Обработка окантовочной деталью K=0,03
	Синтетическая кожа K=0,015		Язычок K=0,02	Продержка + перфорация K=0,05		Окрашивание K=0,015
	Натуральная кожа + искусственная кожа K=0,035		Прямолинейный борец K=0,035	Тиснение K=0,02		
	Натуральная кожа + текстильный материал K=0,03		Прямолинейная задинка K=0,02	Накладные детали K=0,045		
	Искусственная кожа + текстильный материал K=0,025		Задний наружный ремень прямолинейный K=0,01	Фурнитура K=0,04		
	Натуральная кожа + замша K=0,06					

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	ISI (Dubai, UAE)	= 1.582	ПИИЦ (Russia)	= 0.191	PIF (India)	= 1.940
	GIF (Australia)	= 0.564	ESJI (KZ)	= 8.100	IBI (India)	= 4.260
	JIF	= 1.500	SJIF (Morocco)	= 7.184	OAJI (USA)	= 0.350

This system of indicators of technological effectiveness predetermined the need for concretization and objectivity of the indicators of design and technological solutions of the ZVO, that is, There is discharge clear criteria technology constructions top shoes.

The design of the upper part of the shoe is considered as an object of production. Technological the process of its assembly depends on design and technological solutions. Therefore, to ensure the technological efficiency of the assembly of the ZVO, the design and technology must have such properties that make it easy to manufacture, transport, store, and operate products. Upper shoe designs are divided into three levels of complexity: smooth, trimmed, and shaped. The complexity category is characterized by the configuration of the cutparts, the number of parts and the type of finish. The complexity of the model affects the labor costs, related With technological advances of the ZVO.

Manufacturing technology determines the volume of work on preparing for production, the complexity of manufacturing and the ease of assembly. Operational technology determines volume works and costs on maintaining external species products.

To identify the criteria of technological effectiveness, the range of modern products was studied. children's footwear. Let us present in Table 1.2 the characteristics of the criteria influencing the technological efficiency constructions top children's shoes.

The most studied is the determination of the assessment of labor intensity and material

consumption directly at the stage of designing and manufacturing shoes, thereby assessing the manufacturability of the shoe upper structure. A complex and less studied stage is the determination of the assessment of manufacturability at the stage of preliminary design. It requires the development of a methodology for assessing the manufacturability of the shoe upper structure based on specific indicators. In this regard, the manufacturability of the ZVO structure can be considered as a "complex system". A systematic approach to assembling the ZVO allows us to consider the provision technology constructions how complex interconnected subsystems.

The latest technologies, methods of leading European companies and modern equipment allow us to manufacture reliable and comfortable footwear in accordance with the requirements of GOST 26165-2003, TR CU 007/2011, 017/2011 Characteristics of criteria influencing technological capability constructions top children's shoes, given V Table 1. 2.

Conclusion

Features of the considered design and technological indicators of the shoe upper allow us to formulate a certain set of measures to improve the efficiency of children's footwear production by increasing the level of production technologies with the achievement of an economic effect. The developed method for determining the assessment of manufacturability assemblies ZVO children's shoes allows highlight peculiarities design designs of uppers for children's shoes of a wide range with any price category, providing to her efficiency the production itself.

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