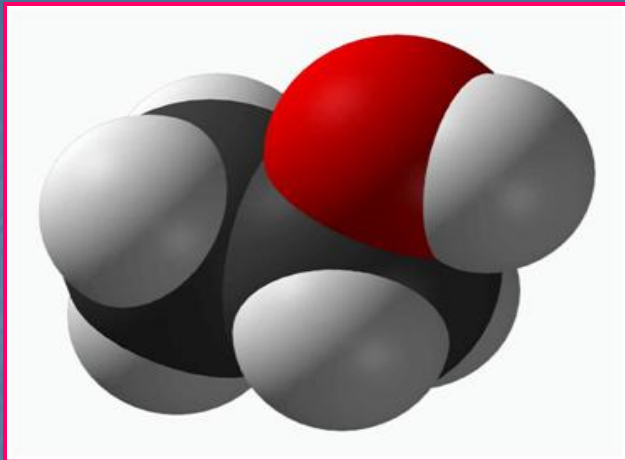


# HEAT TECHNOLOGY

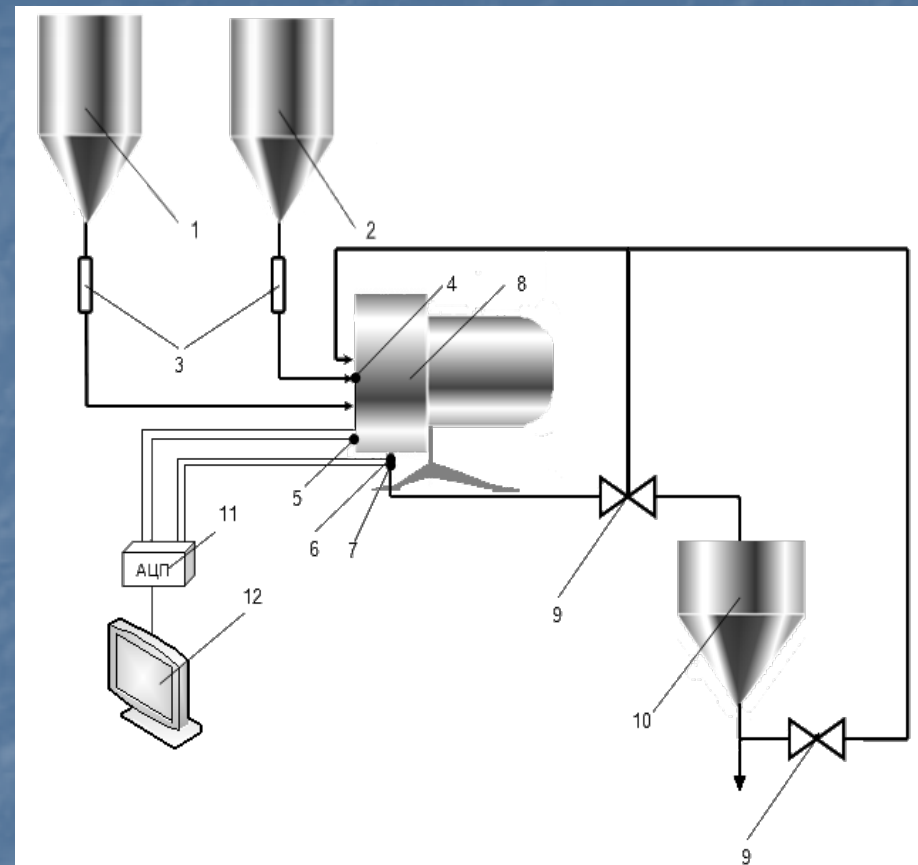
# THE METHOD OF RECEIPT OF WATER-METHANOL



On the basis of new method technology and apparatus-technological registration of receipt of water-methanol are worked out.

## The method provides:

- a receipt of product is with the improved **organoleptic** indexes;
- reduction of power charges



The technology is inculcated on ДП "ІМІДЖ ХОЛДІНГ" and ООО wild "Горобина".

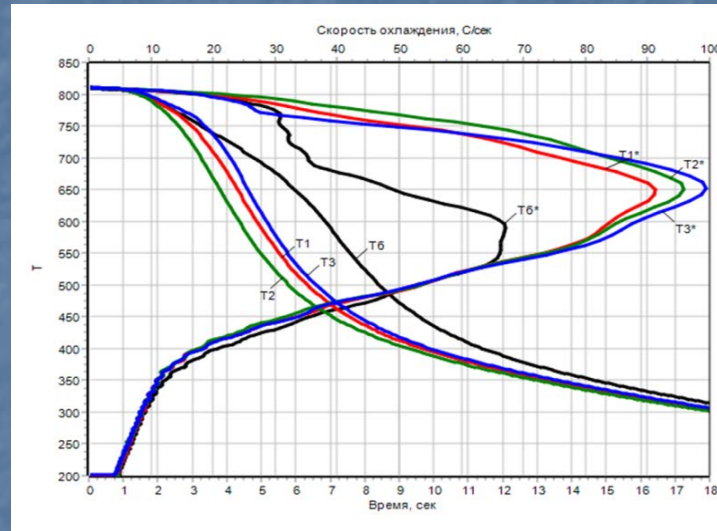
2, Bulakhovskoho str., Kyiv, Ukraine  
tel.: (044) 424-14-96, 424-13-06, e-mail: ittf\_tds@ukr.net

# THE LATEST TECHNOLOGIES OF STEEL PRODUCTS . HARDWARE - SOFTWARE SYSTEM FOR THERMAL - ACOUSTICAL DIAGNOSTIC OF QUENCHING PROCESSES AND TESTING OF COOLING MEDIA



## The advantages of modern quenching technologies:

- ❑ low deformation and lack of cracks;
- ❑ stable surface hardness without 'soft' spots;
- ❑ improved mechanical and operating properties;
- ❑ sanitary and ecological safety



## Application:

machine building and metallurgy industries.

## List quenching fluids:

water, water solutions of salts, polymers, mineral and vegetable oils with adjusting additives (see graph), and others.

**Recommendations for the use of the place:** the central laboratory and thermal management, laboratory specialized research institutes and universities.

2a, Zhelyabov str., Kyiv, Ukraine,  
tel. (044) 453-28-46  
e-mail: aaav1@i.com.ua

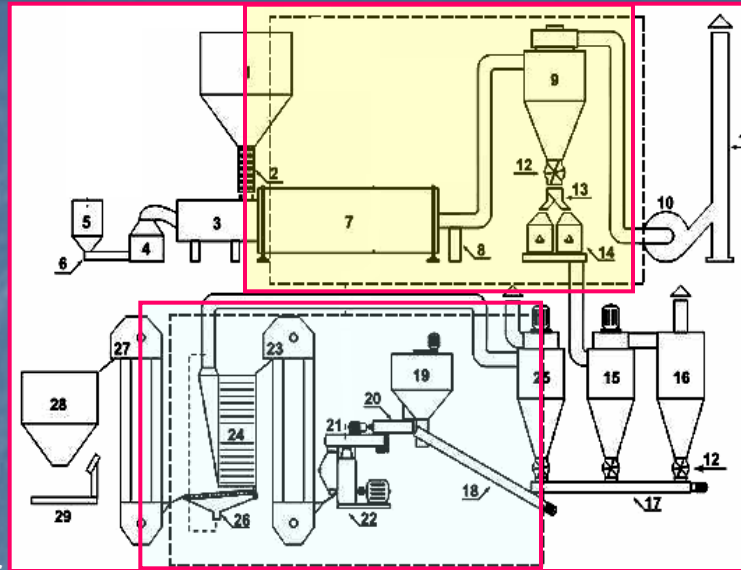
Joint investigations are currently fulfilled by ITTF of NAS of Ukraine, Institute of Macromolecular of NAS of Ukraine, "Intensive Technologies Ltd" and PC "Energomashspetsstal".

# TECHNOLOGY FOR PRODUCTION OF HIGH-ENERGY COMPOSITE SOLID BIOFUELS WITH PRODUCTIVITY UP TO 1200 KG/HOUR


Specifications of Ukraine  
02.2-05417118-051:2015  
GRANULATED FUEL MADE  
FROM PEAT, BIOMASS AND  
THEIR MIXTURES




Calorific value is up to 5300 kcal/kg  
Density is up to 1100 kg/cubic meter  
Attrition strength is up to 98,5%



1 – bunker; 2, 6, 17, 18 – conveyor; 3 – mixer; 4 – combustion chamber; 5 – bunker of heat generator; 7 – dryer-thermoreactor; 9, 25 – cyclone; 10 – smoke exhauster; 11 – smokestack; 12 – sluice; 13 – flow separator; 14 – hammer crusher; 15, 16 – cyclone; 19 – bunker of steaming; 20 – screw feeder; 21 – moistener; 22 – press or granulator; 23, 27 – transporter; 24 – cooling column; 26 – separator; 28 – bunker for products; 29 – scales.

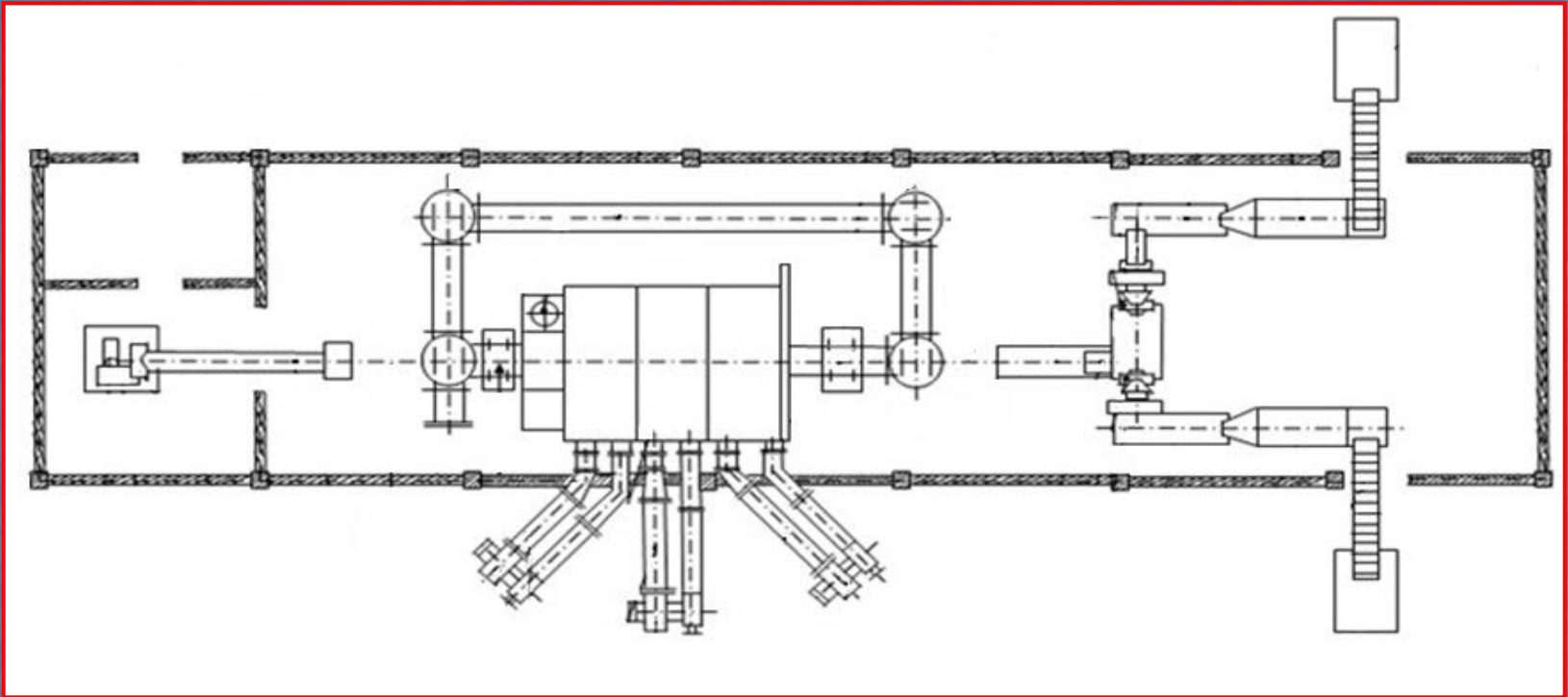
 -stage of drying and thermal processing

 -stage of hydrothermal treatment and granulation

Technology is implemented at “Vista-Dnipro” Ltd., Kovel, “Nasha energija” Ltd., Sosnytsya



# TECHNOLOGIES OF GETTING FUNCTIONAL (ANTIOXIDANT, PHYTOESTROGENIC, FOLATE AND PREBIOTIC) POWDERS FROM PLANT RAW-MATERIALS



The developed heat-technology for obtain functional food-powders from plant materials, which protected by patents for inventions. Established classification by which they have antioxidant, phytoestrogenic, folate and prebiotic properties. They approved by the regulatory and technical documentation. According to the developed technology, the technical characteristics of equipment for the production of powders are next: performance of raw materials 0,3-0,32 t/h, installed capacity 40 kW, expense of energy on evaporation of moisture 3360-3990 doJ/kg.

# PRODUCTION TECHNOLOGY OF FRUIT AND VEGETABLE CHIPS

Fruit and vegetable chips are natural sweet product with high dietary and taste properties with natural taste and they have a color that inherent in the feedstock and they had been dried to a low residual moisture content.

## Special distinction of chips is:

- no roasting process, cholesterol, carcinogens;
- low calorie;
- ease of use;
- duration of storage.

In a basis production technology of fruit and vegetable chips is the method of convective drying in modes of multistage dehydration pre-prepared materials.

The advantage of the developed technology is the fact that in the production of chips not use any additional tasty ingredients such as sugar, spices, essential oils, as well as artificial colors, which provides naturalness, conservation of natural phytocomplex, high consumer characteristics.

Technology is protected of 7 patents of Ukraine and tested in experimental-industrial conditions. Implementation of the technology will reduce the cost of chips in the trade network and will compete with similar products imported into Ukraine.

Daily consumption of chips provide the body's need for natural vitamins, trace elements and other vital substances.



beet  
chips



pear chips



carrot  
chips



parsnip chips



apple chips



celery chips



persimmon  
chips



pumpkin chips

# CREATED HEAT-TECHNOLOGY TO PRODUCE OF RATIONS QUICK COOKING HOT FOOD FOR MILITARY PERSONNEL



Total weight of ration:  
477-650 g  
Calorific value:  
3630 - 4200 kcal

## Breakfast

Weight – 138 g  
Calorific value – 815 kcal

## Lunch

Weight – 129 g  
Calorific value – 1402 kcal

## Afternoon Lunch

Weight – 103 g  
Calorific value – 770 kcal

## Dinner

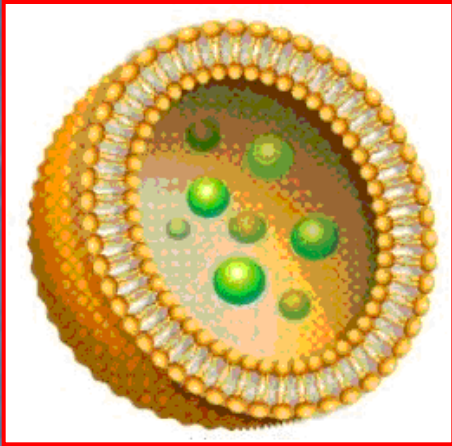
Weight – 107 g  
Calorific value – 643 kcal

Developed  
**45** options of dishes



# INDUSTRIAL TECHNOLOGY OF PRODUCTS AND DRUGS WITH VESICULAR NANOSTRUCTURE

Vesicular form of food products and preparations designed to increase the efficiency of target delivering biologically active compounds directly to cells



## APPLICATION OF TECHNOLOGY:

### FOOD INDUSTRY

Special diet products for complex medical therapy



### ADVANTAGES OF TECHNOLOGY

- production of functional materials with adjusted properties;
- complex mechanical, hydrodynamic and hydroacoustic effect on the lipid material;
- reduction of specific electricity consumption per unit of production by at least 5 times;
- manufacturing of products and preparations.

### AGRICULTURE

Production of preparations for processing of seeds and vegetating plants



2a, Zhelyabov str., Kyiv, Ukraine,  
Phone.: (044) 453-28-44; e-mail: sharkova2007@ukr.net



# TECHNOLOGY OF DRY HYDROLYZED PRODUCT (SPECIFICATIONS TU 15.8-05417118-41 : 2011)

## PURPOSE

protein and energy deficiency, pre- and postoperative period, including wounded soldiers in critical condition.

## ADVANTAGES OF TECHNOLOGY

- intensification of heat and mass transfer processes by using the method of discrete input pulse energy;
- high quality of end-product;
- decline in wholesale prices in **2-5 times** compared to foreign analogues.



**Efficiency of hydrolyzed protein product is confirmed by clinical researches**

- Kyiv Children's Gastroenterological Center at CCH № 9 of Podilskyi District, Kyiv
- Military Hospital m/p A2923

2a, Zhelyabov str., Kyiv, Ukraine,  
Phone: (044) 453-28-44; e-mail: avdeeva22@ukr.net

# TECHNOLOGY OF DRIED MIXTURES FOR CHILDREN'S HYPOALLERGENIC NUTRITION

Mixtures intended for infants and young children with food allergy risk to animal and vegetable proteins, severe disfunctions of digestive system.

## ADVANTAGES OF TECHNOLOGY

- reduction of energy consumption;
- reduction of technological cycle duration;
- cost reduction in 2,5-5 times comparing to foreign analogues;
- expanding the range of native products of strategic importance.



## THE EFFECTIVENESS OF THE DRY MIXTURES CONFIRMED BY CLINICAL STUDIES

- State Institution «Institute of Pediatrics, Obstetrics and Gynecology of NAMS of Ukraine»
- Kyiv Children's Gastroenterological Center at CCH № 9 of Podilskyi District, Kyiv

2a, Zhelyabov str., Kyiv, Ukraine,  
Phone: (044) 453-28-44; e-mail: sharkova2007@ukr.net

# MULTIPLE-USE MOISTURE-ABSORBING REGENERATIVE INSOLES FOR SERVICEMEN

Thermo insoles are designed to create comfortable conditions for the feet due to the optimization of the thermal regime of the foot, moisture absorption and bactericidal action of sorbents.



Moisture-absorbing thermo insole consists of three layers: the top layer is made of vapor-permeable material; the medium layer is hydrophilic sorption absorbent material; the lower layer is made of a hydrophobic insulating material.

2, Bulahovskiy str., Kyiv, Ukraine,  
Phone: (044) 424-13-96, 424-98-86, e-mail: [htplab@ukr.net](mailto:htplab@ukr.net), [www.htplab.kiev.ua](http://www.htplab.kiev.ua)