

HRVATSKI ZAVOD ZA JAVNO ZDRAVSTVO




Preporuke za rad na visokim temperaturama



Zlatko Šarić, mag. ing. agr.

Sadržaj



➤ **zašto nije propisana maksimalna temperatura na radnom mjestu?**

➤ **što napisati u procjeni rizika?**

➤ **preporuke**



Zakon o zaštiti na radu (NN 71/14, 118/14, 94/18, 96/18)

Priznata pravila zaštite na radu

Članak 14.

Ako u pravnom poretku Republike Hrvatske nisu na snazi pravna pravila zaštite na radu koja bi poslodavac trebao primijeniti radi sigurnosti i zaštite zdravlja radnika, primjenjivat će priznata pravila zaštite na radu koja podrazumijevaju norme, pravila struke ili u praksi provjerene načine, pomoću kojih se otklanjaju ili smanjuju rizici na radu i kojima se sprječava nastanak ozljeda na radu, profesionalnih bolesti, bolesti u vezi s radom te ostalih štetnih posljedica za radnike.

Pravilnik o zaštiti na radu za mjesta rada (NN 105/20)

Mjesta rada na otvorenom prostoru, članak 22., t. (5)

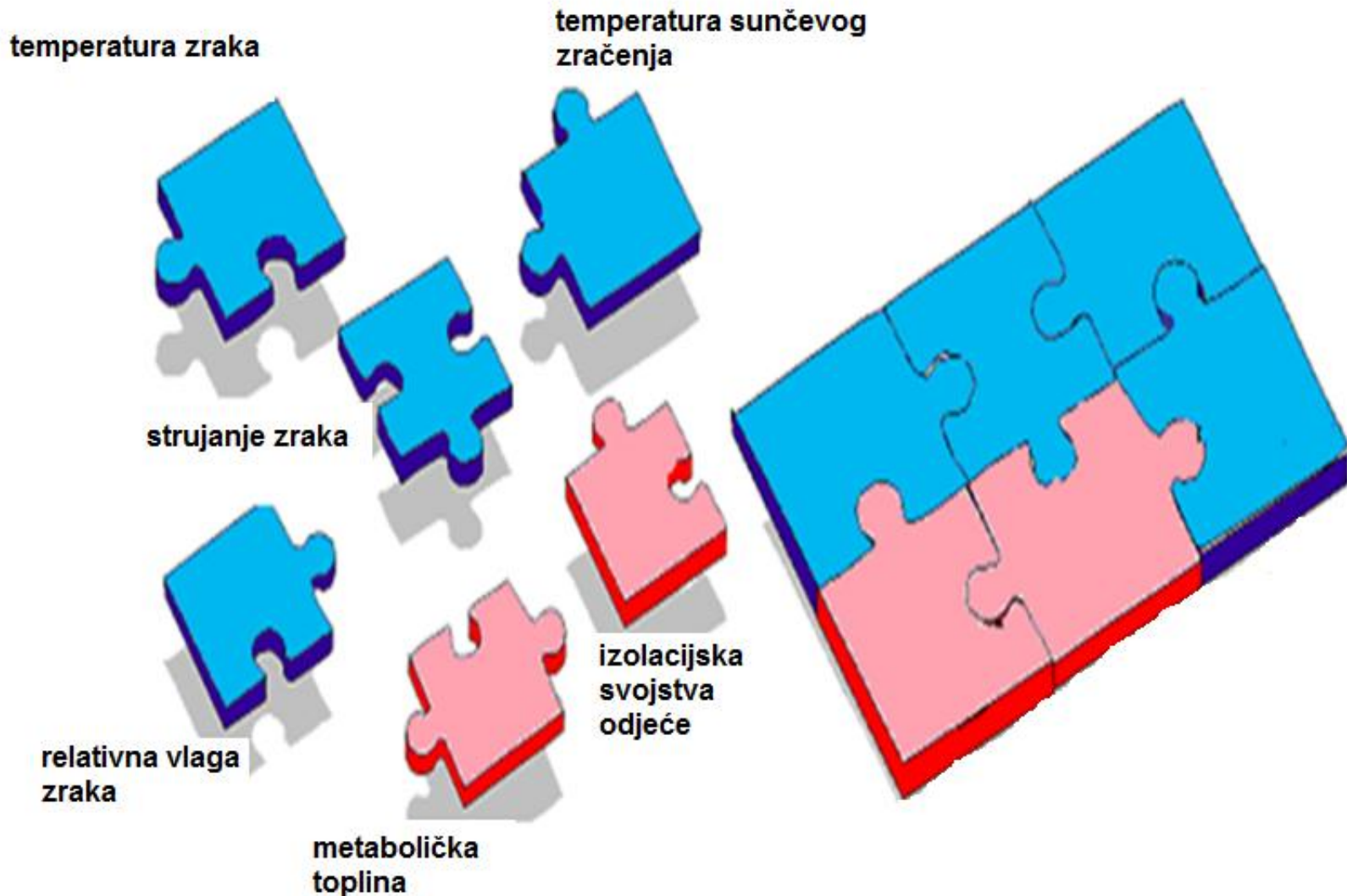
U odnosu na zaštitu od nepovoljnih vremenskih uvjeta (rad pri niskim i visokim temperaturama na otvorenom prostoru) poslodavac je dužan postupati u skladu s uputama i smjernicama nadležnog zavoda za javno zdravstvo u području medicine rada.

Prostorije za povremeno zagrijavanje ili rashlađivanje, članak 36

Za radnike izložene niskim ili visokim temperaturama prilikom obavljanja poslova (npr. rad u hladnjačama, ljevaonicama, na otvorenom prostoru u zimskom i ljetnom razdoblju i sl.) mora se ovisno o broju radnika osigurati dovoljno velika prostorija za zagrijavanje ili rashlađivanje.

Zašto nije propisana maksimalna temperatura na radu?

PARAMETRI RADA NA OTVORENOM PRI VISOKIM TEMPERATURAMA





Toplinski indeksi

- služe za procjenu uvjeta rada na otvorenom
- izražavaju se u °C

1. TVT (WBGT indeks)

2. HUMIDEKS indeks



HRN EN ISO 7243:2017

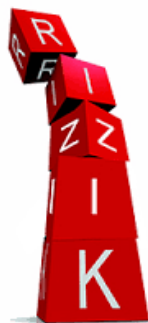
Ergonomija toplinskog okruženja -- Procjena toplinskog stresa pomoću WBGT indeksa (temperatura vlažnog termometra sfere) (ISO 7243:2017; EN ISO 7243:2017)



Procjena rizika



- utvrditi poslove na otvorenom i popisati ih
- utvrditi način dobivanja veličine indeksa (mjerjenje, očitavanje iz tablica ili putem stranica DHMZ)
- izraditi plan preventivnih mjera ovisno o veličini indeksa
- popisati osobnu zaštitnu opremu za rashlađivanje tijela koja će se dodjeljivati radnicima



Prije rada...

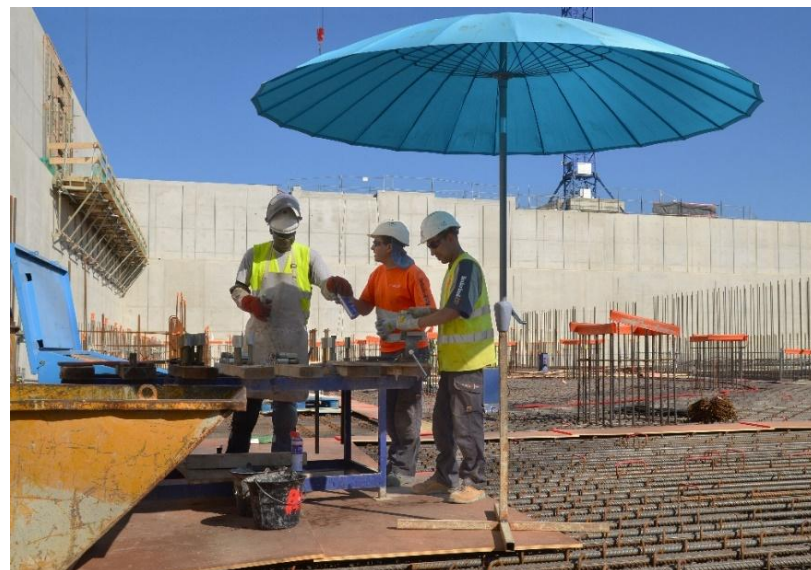
- osposobljavanje radnika za rad na siguran način (upoznati radnike s opasnostima utjecaja topline na tijelo i naučiti ih kako prepoznati prve simptome toplinskog stresa)
- osigurati radnicima prozračnu odjeću, vodu za piće (+ izotonični napitak kod rada duljeg od 6 sati)
- po mogućnosti osigurati veći broj radnika za vrijeme toplinskog vala
- osigurati sjenovito mjesto za odmor





Tijekom rada...

- pratiti parametre okoliša i procjenjivati toplinsko opterećenje
- poduzimati odgovarajuće mjere ovisno o dobivenim vrijednostima
- poticati radnike na pijeње vode





Organizacija rada

zamjena teškog fizičkog rada strojevima

provođenje aklimatizacije radnika

uvođenje dodatne radne snage, rotacija
poslova

osiguranje prostorija za odmor



Organizacija rada

izbjegavanje rada u najtoplijem dijelu dana,
organiziranje rada u smjenama

smanjenje emisije toplinskog zračenja sa
vrućih površina

skidanje OZO za vrijeme pauze

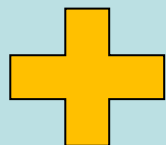
osiguranje dovoljne količine napitaka

osposobljavanje potrebnog broja radnika za
pružanje prve pomoći

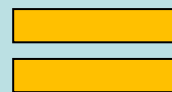


Imajte na umu

Nikada ne treba podcijeniti prve simptome toplinskog stresa bez obzira na izmjerene vrijednosti indeksa !!!



ODMOR



SIGURAN RAD



Služba za medicinu rada i sporta, prevenciju invalidnosti i psihosocijalne rizike na radnom mjestu

Ispiši stranicu

Hrvatski zavod za javno zdravstvo / Služba za medicinu rada i sporta, prevenciju invalidnosti i psihosocijalne rizike na radnom mjestu

Seminari

Tečajevi

Smjernice

Maligni tumori kao profesionalne bolesti



Upravljanje stresom na radnom mjestu



Komunikacijske vještine u radnoj sredini



Rad s opasnim tvarima



Rad na otvorenom u uvjetima visokih temperatura



- Zdravstveni rizici pri djelovanju visokih temperatura na organizam
- Pravilna prehrana i nadoknada tekućine pri izlaganju visokim temperaturama
- Predstavljanje alata za praćenje uvjeta rada pri izlaganju visokim temperaturama (WBGT indeks)
- Preporuke vezane za planiranje, poduzimanje, kontroliranje i unaprjeđivanje mjera za smanjenje rizika pri radu na otvorenom u uvjetima visokih temperatura
- Radionica s primjerima konkretnih uvjeta rada i predlaganjem mjera za organiziranje rada uz korištenje WBGT indeksa

RAD NA OTVORENOM U UVJETIMA VISOKIH TEMPERATURA



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Vrućina i zdravlje – upozorenje na toplinske valove

Hrvatski zavod za javno zdravstvo / Aktualnosti / Vrućina i zdravlje – upozorenje na toplinske valove

Zadnja izmjena:

18. lipnja 2024.

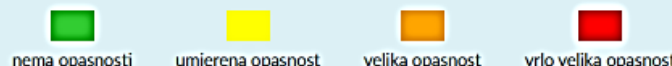
14:42

Ispiši stranicu

Ovdje objavljujemo upozorenja na toplinske valove koji mogu djelovati na **zdravlje**.

Izvor podataka je **Državni hidrometeorološki zavod**, Služba za vremenske analize i prognoze.

	Četvrtak 12.2.2026.	Petak 13.2.2026.	Subota 14.2.2026.	Nedjelja 15.2.2026.	Ponedjeljak 16.2.2026.
Osijek	🟢	🟢	🟢	🟢	🟢
Zagreb	🟢	🟢	🟢	🟢	🟢
Karlovac	🟢	🟢	🟢	🟢	🟢
Gospic	🟢	🟢	🟢	🟢	🟢
Knin	🟢	🟢	🟢	🟢	🟢
Rijeka	🟢	🟢	🟢	🟢	🟢
Split	🟢	🟢	🟢	🟢	🟢
Dubrovnik	🟢	🟢	🟢	🟢	🟢



Ako je za Vaše klimatsko područje označeno ŽUTO, NARANČASTO ili CRVENO, ovdje pratite **naputke za zaštitu od**

Povezane objave

- Preporuke za ponašanje tijekom velikih vrućina
- Preporuke za zaštitu od vrućina
- Lepeza Zaštitimo se od vrućine
- **SIGURNO NA SUNCU** – Preporuke za ponašanje tijekom velikih vrućina
- Pripremate li pravilno hranu?
- Preporuke za zaštitu od vrućina
- Upozorenje na toplinske valove koji mogu djelovati na zdravlje
- Upozorenje na toplinske valove koji mogu djelovati na zdravlje
- Zdravstvene preporuke uoči koncerta na zagrebačkom Hipodromu – 5. srpnja 2025.
- Svjetski dan prevencije utapanja 2024.

Nedavne objave

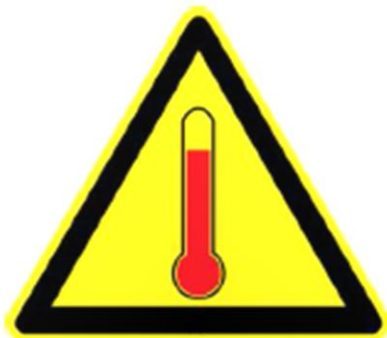
- Popuštanje zabrane prema Rusiji
- Natječaj za zasnivanje radnog odnosa za doktore medicine na neodređeno vrijeme zbog provođenja specijalističkog usavršavanja
- Gripa u Hrvatskoj u sezoni 2025./2026. (6. tjedan



MINISTARSTVO RADA, MIROVINSKOGA
SUSTAVA, OBITELJI I SOCIJALNE POLITIKE



PREPORUKE PRILIKOM RADA U UVJETIMA VISOKIH TEMPERATURA



U cilju očuvanja zdravlja, radne sposobnosti i optimalne učinkovitosti radnika prilikom izloženosti visokim temperaturama, Zavod za unapređivanje zaštite na radu iznosi preporuke

Srpanj 2016.



VRUĆINA NA RADU – SMJERNICE ZA MJESTA RADA



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Work Heat Action Plan

WHAP

About HEAT-SHIELD

The Horizon 2020 research project is dedicated to address the negative impact of increased workplace heat stress on the health and productivity of five strategic European industries: manufacturing, construction, transportation, tourism and agriculture.

The Consortium consists of a group of twelve research institutions, two policy-making organizations, four industrial entities and two civil society organization from across the EU.

The project is endorsed by policy, civil society and industrial stakeholders.

[Download Executive Summary here](#)

GUIDE FOR EMPLOYERS AND ENTERPRISES

[A ready-made heat-defense plan for keeping workers safe and productive in the heat.](#)

PDF file

[A heat- defense plan for keeping workers safe and productive in the heat.](#)

PDF file

[HEAT-SHIELD weather platform](#)

HEAT-SHIELD Forecast

[Catching up with HEAT-SHIELD:](#)

Shedding important light on the effects of heat exposure on industrial workers' productivity

Read more...



HEAT SHIELD

[Home](#) [Heat Maps](#) [Public Guidance](#) [News](#) [Scientific](#) [About HEAT-SHIELD](#) [Contact](#)

Guide for employers and enterprises

- [A READY-MADE HEAT-DEFENSE PLAN FOR KEEPING WORKERS SAFE AND PRODUCTIVE IN THE HEAT](#)
- [A HEAT-DEFENSE PLAN FOR KEEPING WORKERS SAFE AND PRODUCTIVE IN THE HEAT](#)

PDF file

PDF file

OCCUPATIONAL HEAT STRESS IN TOURISM

How to stay safe and productive in hot working environments

Use these **MEASURES** to protect against the heat

PLAN HEAT DEFENCE	TAKE BREAKS	HYDRATE	RE-ARRANGE WORK	OPTIMIZE CLOTHING
Pay attention to weather forecasts & create a heat plan before the beginning	Small cool breaks (e.g. 15 min) every 1-2 hours, taking advantage of shade	Drink regularly to avoid dehydration. Hydration helps your body cope	Plan outdoor activities, rearrange work during peak heat of the day	Wear outdoor work clothes & shoes that are light, loose fitting, made of moisture wicking fabric

When you work in hot conditions you are more likely to suffer heat stress or work injury. Occupational capacity is reduced & your productivity is lowered by more than 50%.

Your risk is higher if you have additional risk factors, or your work is physically demanding, or you have limited access to shade.

HEAT SHIELD STAY PROTECTED Get professional support at www.heatshield.eu

HEAT INJURIES ARE OCCUPATIONAL INJURIES

How to keep workers safe and productive in hot weather

Individuals working in hot conditions are more likely to suffer heat stress & their productivity is lowered by more than 50%

Use these **MEASURES** to protect workers from heat – risk options can have the biggest impact on heat on health & productivity

PLAN HEAT DEFENCE	TAKE BREAKS	HYDRATE	RE-ARRANGE WORK	OPTIMIZE CLOTHING
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The risk is higher for workers who work outdoors, have hot tasks, perform physically demanding tasks, or have limited access to shade.

Signs of extreme hyperthermia: Nauseating, Big thirst, Irritability, Headache, Dizziness, Weakness, Flushing

HEAT SHIELD STAY PROTECTED Get professional support at www.heatshield.eu

OCCUPATIONAL HEAT STRESS IN TRANSPORTATION

How to stay safe and productive in hot working environments

Use these **MEASURES** to protect against the heat

PLAN HEAT DEFENCE	TAKE BREAKS	HYDRATE	RE-ARRANGE WORK	OPTIMIZE CLOTHING
Pay attention to weather forecasts & create a heat plan before the beginning	Small cool breaks (e.g. 15 min) every 1-2 hours, taking advantage of shade	Drink regularly to avoid dehydration. Hydration helps your body cope	Plan outdoor activities, rearrange work during peak heat of the day	Wear outdoor work clothes & shoes that are light, loose fitting, made of moisture wicking fabric

Reduce solar radiation effects on the cabin & the driver by using air, heat transferring heat exchanger cooling systems, solar shading solutions (parasols), & light-reflective paints

Get professional support at www.heatshield.eu

WORKING IN THE HEAT?

Dehydration is a serious threat to your health

70% OF SUBJECTS WORKING IN HIGH HEAT ARE DEHYDRATED

THIRST GOES IF PROTECTED? No! Thirst may not be sufficient to indicate dehydration.

WATER AND SALT: Heat stress causes dehydration and electrolyte loss. Rehydrate with water and salt.

HABITS MAY TO SAVE: Hydration and electrolyte balance are essential for health and performance.

HEAT SHIELD STAY PROTECTED Get professional support at www.heatshield.eu

HEAT AFFECTS YOUR HEALTH AND PRODUCTIVITY

HOT FACTS upon which you can ACT to minimize the detrimental effects on your organization's performance

ACCIDENTS / WORKERS' HEALTH / ORGANIZATION PERFORMANCE

Heat stress impairs physical and mental work capacity. Lowering OTC in hot heat.

Heat impairs cognitive function, leads to decreased vigilance & work errors.

Exhausted workers in the heat are more likely to be injured or involved in safety incidents.

Requires the development of a heat response plan for your organization

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HEAT SHIELD STAY PROTECTED Get professional support at www.heatshield.eu

OCCUPATIONAL HEAT STRESS IN AGRICULTURE

How to stay safe and productive in hot weather

Use these **MEASURES** to protect against the heat

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When you work in hot conditions you are more likely to suffer heat stress or work injury. Occupational capacity is reduced & your productivity is lowered by more than 50%.

Your risk is higher if you work outdoors, in agriculture, or your work is physically demanding, or you have limited access to shade.

HEAT SHIELD STAY PROTECTED Get professional support at www.heatshield.eu

OCCUPATIONAL HEAT STRESS IN CONSTRUCTION

How to stay safe and productive in hot weather

Use these **MEASURES** to protect against the heat

PLAN HEAT DEFENCE	TAKE BREAKS	HYDRATE	RE-ARRANGE WORK	OPTIMIZE CLOTHING
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HEAT SHIELD STAY PROTECTED Get professional support at www.heatshield.eu

OCCUPATIONAL HEAT STRESS IN MANUFACTURING

How to stay safe and productive in hot working environments

Use these **MEASURES** to protect against the heat

PLAN HEAT DEFENCE	TAKE BREAKS	HYDRATE	RE-ARRANGE WORK	OPTIMIZE CLOTHING
Pay attention to weather forecasts & create a heat plan before the beginning	Small cool breaks (e.g. 15 min) every 1-2 hours, taking advantage of shade	Drink regularly to avoid dehydration. Hydration helps your body cope	Plan outdoor activities, rearrange work during peak heat of the day	Wear outdoor work clothes & shoes that are light, loose fitting, made of moisture wicking fabric

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Your risk is higher if you work outdoors, in manufacturing, or your work is physically demanding, or you have limited access to shade.

HEAT SHIELD STAY PROTECTED Get professional support at www.heatshield.eu



Heat-Shield introduction video



Creating individualized heat action plans



Clothing and occupational heat stress

Hvala za pozornost



medicina.rada@hzjz.hr