

## ***per-qualification document***

### **Company profile**

Krah d.o.o. and Spiral pipes technics d.o.o. are a Croatian manufacturer with more than 17 years of experience in the development, dimensioning and production of piping systems for drainage and sewerage. Our production was based on DIN 16961 and it has evolved to standard EN 13476-1: 2007 and EN 13476-3: 2009 for pipes and HRN EN 13598-2: 2010 for manholes. Also we produce winding mandrels for production of spiral pipes and we are able to produce all wall thickness pipes in winding technology. We are a pipe manufacturer that has its own production of mandrels and can respond to every requirement. Company KRAH d.o.o. has a long tradition and experience in manufacturing of PEHD pipes systems.

### **PRODUCTION**

#### **HDPE/PE pipes and manholes**

according to DIN 16961 and EN 13476-3 for pipes and EN 13598-3 for manholes.  
Dimension ID 300 to ID 3000

Manufacture of PEHD pump stations, tanks, reductions, branches and bends.

### **SERVICE**

The structure calculation of pipes and manholes with software EasyPipe and EasySchacht 98

Sales of welding equipment and accessories

Welding training

Technical support during production of PEHD pipes

Organization of sea transport

### **Compliance sheet whit international standard**

-HRN EN 13476-1 :2007 and HRN EN 13476-3:2009 (I/O5-zGP-2197 IGH ZAGREB)

- HRN EN 13598-2:2009 i HRN EN 13598-2:2009/Ispr.1:2010 (1/O5-ZGP-2196 IGH ZAGREB)

### **ISO certification**

ISO 9001:2008 , ISO 9001.2015 and ISO 14001:2008 ( CRO20260Q, CRO19483E, 234/17/BVC-Q, 235/17/BVC-Q **BUREAU VERITAS** )

### **The past of the company through ownership**

- company starts operations in 2001, company is located in Vrgorac. Then company was in mixed ownership German – Croatian.

- during 2011 year director (Ivica Vuković) of company bought all business shares and became 100% owner

-2015 year KRAH d.o.o. based company Spiral pipes technics d.o.o and start building a new plant

-2017 shift production to a new location in Zagvozd and raise capacity to 200%

- all time the company has about 40 workers

### **Location of the company**

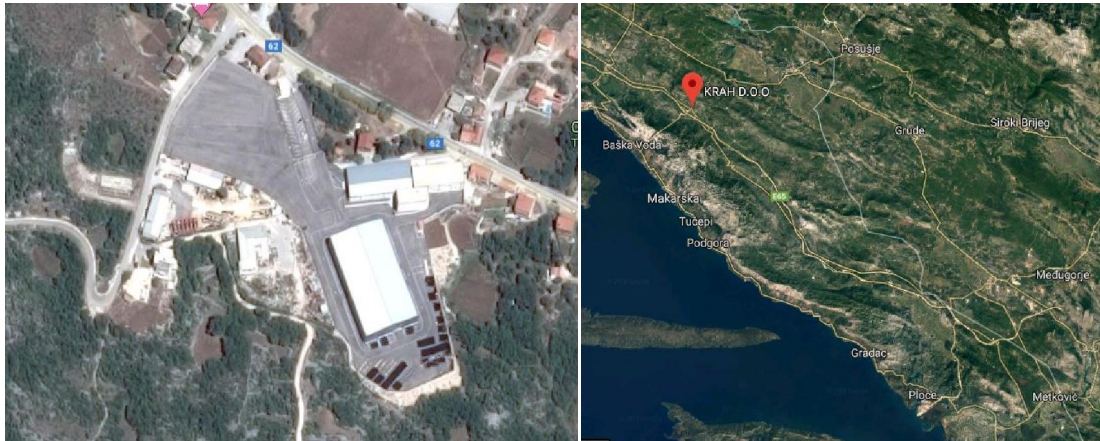
- company is located near the highway,

- of the port Ploce distance is 30 km

- Split Airport is 70 km away

- the total area of the company is 30 thousand square meters

- we own 15 thousand square meters of warehouse, which is enough for the entire annual production



## Production lines

We have two main production lines:

- KRAH KR 750 from 2001 year , 2015 year lines was completely restored and were installed accessories for production whit auxiliary pipe OD75. This production line is for pipes from DN 300-3000 mm

-MAINTOOLS MW 4300 from 2016 year complete new line for pipes DN700-DN4300 mm



- annual production capacity is 4000 tons

- all other production machines which are required for production spiral winding pipes we have it in our production plant like:

3x single-wall corrugatore for production auxiliary pipes for ribs

1x electrofusion wire production plant

1x stiffness measuring device according DIN 16961

-production of mandrils we have in own arrangement also like all accessories for welding



## Refernet list

In our 18 year production we did around approx 300 km of pipeline and more them 3000 pcs of manholes in different dimensions.

<b>Croatia</b>		
Town	Dimension	Another product
Apsolut Split	<b>DN 600; DN 1000; DN 1400; DN 1600; DN 1800</b>	
Bjelovar	<b>DN 1200</b>	<b>Manholes</b>
Cerje	<b>DN 600</b>	<b>Manholes</b>
Čiovo	<b>DN 400; DN 800</b>	<b>Manholes</b>
Davor	<b>DN 600; DN 900</b>	<b>Manholes</b>
Dugopolje	<b>DN 1000; DN 800; DN 700</b>	<b>Manholes</b>
Hvar	<b>DN 500</b>	<b>Manholes</b>
Ičići	<b>DN 400</b>	<b>PE bend</b>
Ilok	<b>DN 500; DN 600; DN 700;DN 900</b>	
Imotski	<b>DN 800; DN 1000</b>	
Kaštela	<b>DN 900; DN 1200</b>	<b>Manholes</b>
Knin	<b>DN 1200; DN 1300</b>	

Kukuzovac	DN 400; DN 500; DN 600; DN 800; DN 900; DN 1000	
Karlovac	DN1400	Manholes
Makarska	DN 300; DN 400; DN 500; DN 600; DN800	Manholes
Našice	DN 500	House connection DN 160
Novska	DN 1200; DN 1400	Manholes
Nova Gradiška	DN 1200	
Umag	DN1000, DN1200, DN1400	Manholes
Ogulin	DN 400; DN 500; DN 700; DN 800; DN 900	House connection DN 160
Omiš	DN 800	Manholes
Omišalj	DN 300 , DN400, DN 500	Manholes
Osijek	DN 1000; DN 400; DN 700	Manholes; Retencion DN 1200
Pag		Pump station manholes
Pakoštane	DN 500; DN 600; DN 700	Manholes
Ploče	DN 300; DN 400; DN 500	
Pula		Tanks DN 2500 x 14000
Rab		Manholes
Rijeka	DN 1800	Manholes
Sinj	DN 1200	
Sisak	DN 300; DN 400; DN 500; DN 600; DN 800; DN 1000; DN 1200	Manholes
Slavonski Brod	DN 600; DN 800; DN 900; DN 1000; DN 1200; DN 1400; DN 1200; DN 700	Manholes
Split	DN 500; DN 800; DN 400; DN 1100; DN 1200	Manholes
Sveta Helena	DN 1300; DN 1400	Manholes
Varaždin	DN 1100; DN 1200; DN 1400	House connection DN 160; Manholes
Velika Gorica	DN 300	Manholes
Vodice		Manholes
Vrgorac	DN 400; DN 500; DN 600; DN 800	
Vrlika		Manholes
Vukovar	DN 1000; DN 1200; DN 1400; DN 1600; DN 2000	Manholes PEBends
Zadar	DN 1600	Manholes
Zagreb	DN 300; DN 400; DN 500; DN 600; DN700; DN 800; DN 900; DN1000; DN1200; DN 1300; DN 1400; DN 1500; DN 1800; DN 2000; DN2500	Manholes
Zaprešić	DN 700; DN 800; DN 900; DN 1000; DN 1100; DN 1200	Manholes



<b>Export</b>		
Town	Dimension	Another product
Austria	DN 800, DN1000, DN1200, DN 1400, Dn1600, DN1800, DN2000 ,DN 2200, DN 2500	
BiH – Bijeljina	DN 400; DN 500; DN 600; DN 700; DN 800; DN 900; DN 1100	Manholes
BiH – Mostar	DN 500; DN 600; DN 800; DN 1000; DN 1100; DN 1200; DN 1300	Manholes, PE Bends
BiH – Sanski Most	DN 400; DN 500; DN 600; DN 700; DN 800; DN 900; DN 1200	
BiH – Sarajevo	DN 1200	
BiH – Srebrenik	DN 300; DN 400; DN 500; DN 600; DN 700; DN 800; DN 900	
Bulgaria	DN 1400; DN 2000; DN 700	Pumps manholes, Manholes
Czech Republic	DN 600; DN 700; DN 1000; DN 1200; DN 1400; DN 1500; DN 1600; DN 1800; DN 2000	Manhols ,PE Bends, Pump stations
UK	DN 1100	
Ghana	DN 1200	
Italija	DN 2000	
New Zealand	DN 600, DN900, DN1200, DN1500, DN 1800, DN2000	
Poland	DN 1000; DN 1200	
SAD – Houston	Cijevi za tuljke DN 500; DN 600; DN 700; DN 900	
Slovakia	DN 800; DN 1000; DN 1200; DN 2000	
Monte Negro	DN 500	
Republic of Serbia	DN 1000, DN 900, DN 700, DN 600, DN 500 ,	Reviziona okna, Crpna okna
Spanish	DN 400; DN 500; DN 600; DN 700; DN 800 ;DN 1000; DN 1200; DN 1400; DN 1600	
Slovenia	DN1500 DN 2200	
Norway	DN 1300	

# KRAH d.o.o.



-project Vukovar-CROATIA from DN1000-DN2000



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# KRAH d.o.o.



**S.P.T.**  
Spiral pipes technics d.o.o.



Za potrebe odvodnje i kanalizacije Međunarodne Zračne luke Zagreb temeljem Ugovora o isporuci cijevi i revizionih okana i pružanja tehničke podrške za montažu na gradilištu zaključenim s proizvođačem VIADUKT d.d. Kranjčevićeva 2; 10000 ZAGREB, uz tehnički nadzor glavnog izvođača BOUYGUES BATIMENT INTERNATIONAL – CROATIA BRANCH Savska cesta 106; 10000 ZAGREB, KRAH d.o.o. Fra.Ivana Rožića 23; 21276 VRGORAC je isporučio:

1. PE 100 spiralno namotavane cijevi s glatkom unutrašnjom i profiliranom vanjskom površinom po HRN EN 13476 - 3 oblik B nazivnog tlaka 1 bar za netlačnu podzemnu odvodnju i kanalizaciju. Standardne dužine cijevi 6 metara. Cijevi imaju u naglavku integriranu elektro - fuzijsku spojnicu. Cijevi su crne boja. Statički proračun po ATV-DVWK-A127, ugradnja i ispitivanje po HRN EN 1610. Tjemena krutost cijevi po EN ISO 99 69. Nadzor i kontrola proizvodnje IGH d.d. Zagreb.

DN/ID 300	388,17 metara	DN/ID 400	1.752,13 metara
DN/ID 500	2.067,29 metara	DN/ID 600	1.279,29 metara
DN/ID 700	2.049,77 metara	DN/ID 800	1.660,24 metara
DN/ID 900	884,42 metara	DN/ID 1000	916,70 metara
DN/ID 1100	2.180,59 metara	DN/ID 1200	390,21 metara
DN/ID 1300	533,97 metara	DN/ID 1400	387,47 metara
DN/ID 1500	2.013,49 metara	DN/ID 1600	100,00 metara
DN/ID 1800	24,96 metara		

UKUPNO:16.629,44 metra

2. PE 100 revizionna okna MONOLITNA zavarene izvedbe napravljena su iz tijela okna traženog unutrašnjeg promjera i visine H opremljene s PEHD stupaljka po HRN EN 13 101 MS5. Okna su opremljena ulazom D1, izlazom D2, i dnom sve po HRN EN 13598 – 2 razred D. Revizionna okna spajaju se na sustav s E spojnicom. Statički proračun okna prema ATV 127, ugradnja i ispitivanje po HRN EN 1610. Nadzor i kontrola proizvodnje IGH d.d. Zagreb.

UKUPNO KOMADA: 161

Ovaj dokument izdaje se na zahtjev KRAH.d.o.o. i služi kao referent lista i u druge svrhe se ne može koristiti.

Zagreb, 12.09.2017.

BOUYGUES BATIMENT INTERNATIONAL – CROATIA BRANCH  
Savska cesta 106  
10 000 ZAGREB

  
BOUYGUES BATIMENT INTERNATIONAL  
- HRVATSKA PODRUŽNICA -  
ZAGREB

-project Airport ZAGREB investor Bouygues Batiment International (2 years project)

\*picture of pipes on Airport Zagreb is from newspaper



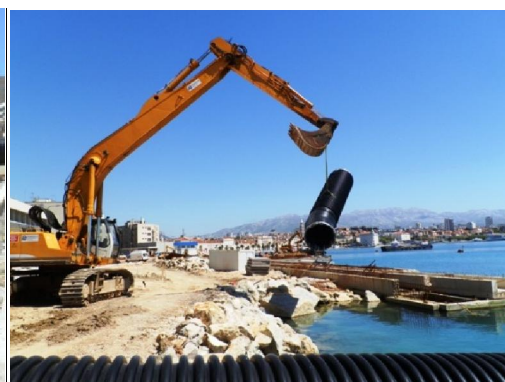
**KRAH d.o.o.**



*Spiral pipes technics d.o.o.*

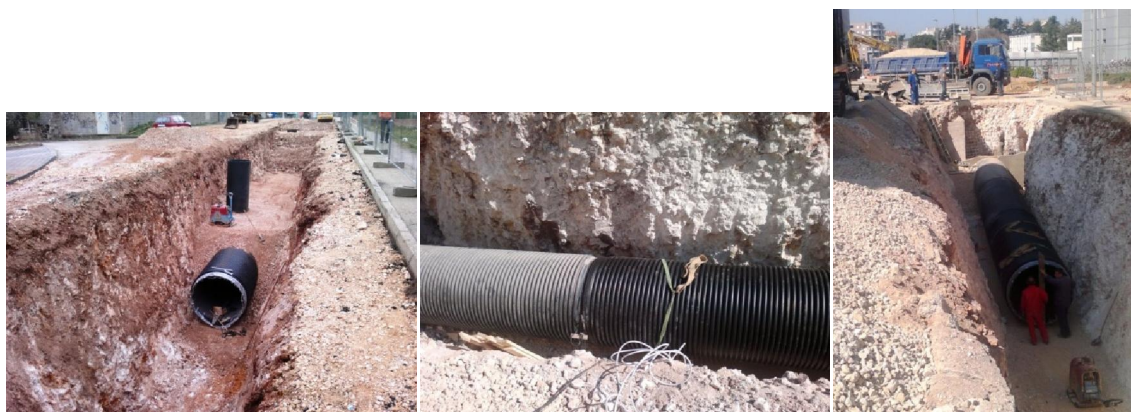


-project KUKUZOVA SPLIT-Croatia



-project SPLIT port sea outfall ID 1200





-project ZADAR DN 1600-DN1800- Croatia



-tank 450m3 ID 1300 Osijek-Croatia



# KRAH d.o.o.



-project Zagreb-Croatia DN2000



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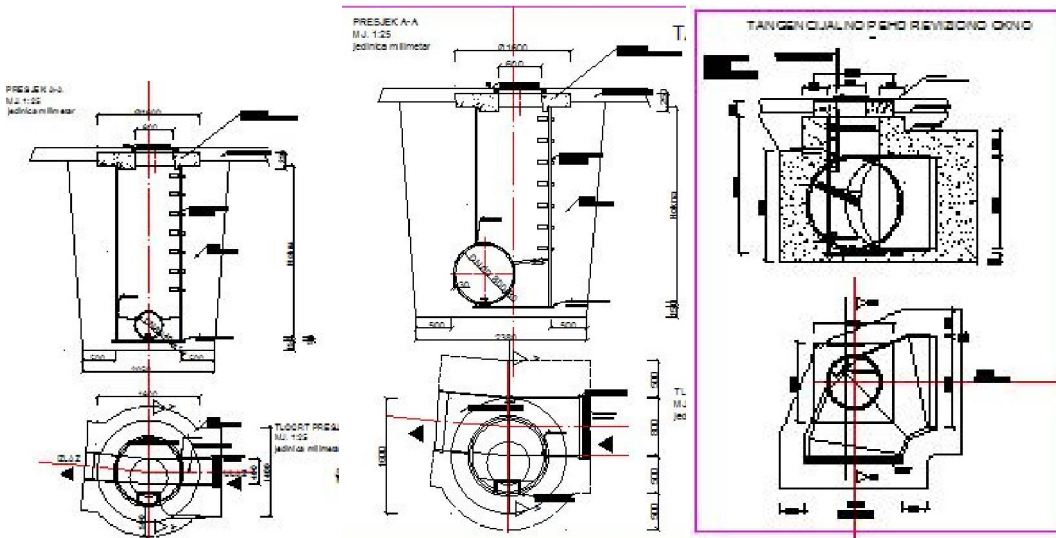
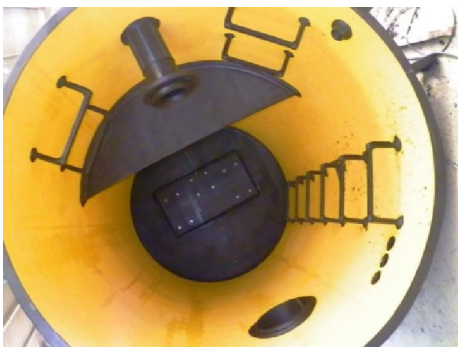
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-examples of manhole from production



# KRAH d.o.o.



-project New Zeland



-project Trogir-Croatia

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