



## CONCRETE COMPACT SUBSTATION 20/0.4kV WITH OUTDOOR HANDLING

Concrete compact substations are produced as fully factory-assembled substations in accordance with IEC EN 62271-202. As all the electrical switchgear can be installed in the factory, according to the needs of the customer, a great deal of time can be saved without affecting the quality. This makes the installation process very simple, easy and fast. We just need to transport the substation to the place where it needs to be placed after the previously done excavation.

Transformer can be placed in the housing only from the upper side, after we have previously extracted the concrete covering, using lifting equipment.

The concrete housing is produced as monolithic concrete construction of high quality reinforced concrete. This type of substations is operated from the outside and it is installed partly below ground level.

Substations are located in places to which the general public has access. Due to this fact we must provide a high level of personal safety. We pay particular attention to protect the environment against the acoustic effects, harmful effects of electrical arc, leaking of transformer oil, the physical security of the facility.

TEP works to develop and supply the customers with products and solutions that do not have any harmful impact on the environment, are safe to use and can be recycled, reused or disposed safely.

The electrical equipment is cooled by natural ventilation through openings in the substation.

Small sizes and design of the substation has provided access in the urban area.

This substations can be used for a maximum altitude up to 1000m.

Concrete substations are available in two sizes:

TEP 800-1 concrete substation suitable for transformers up to and including 800 kVA, Ref. No.701243667

TEP 1250-1 concrete substation suitable for transformers up to and including 1250kVA, Ref. No. 701244667

Substations are defined as substations with type-tested equipment comprising:

- 20/0.4 kV oil insulated distribution transformer, hermetically sealed
- 20 kV, SF6 medium-voltage switchgear,
- 0.4 kV low-voltage switch - board,
- Connections, associated equipment



Transformer substation TEP800-1  
20(10)/0.4kV, 630kVA, Kumanovo

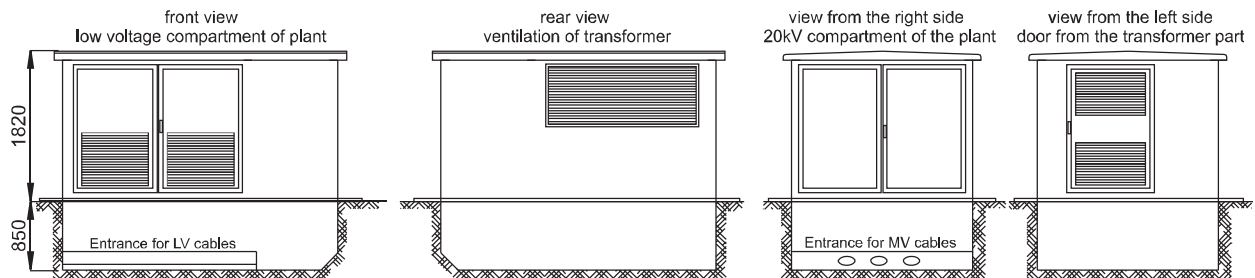
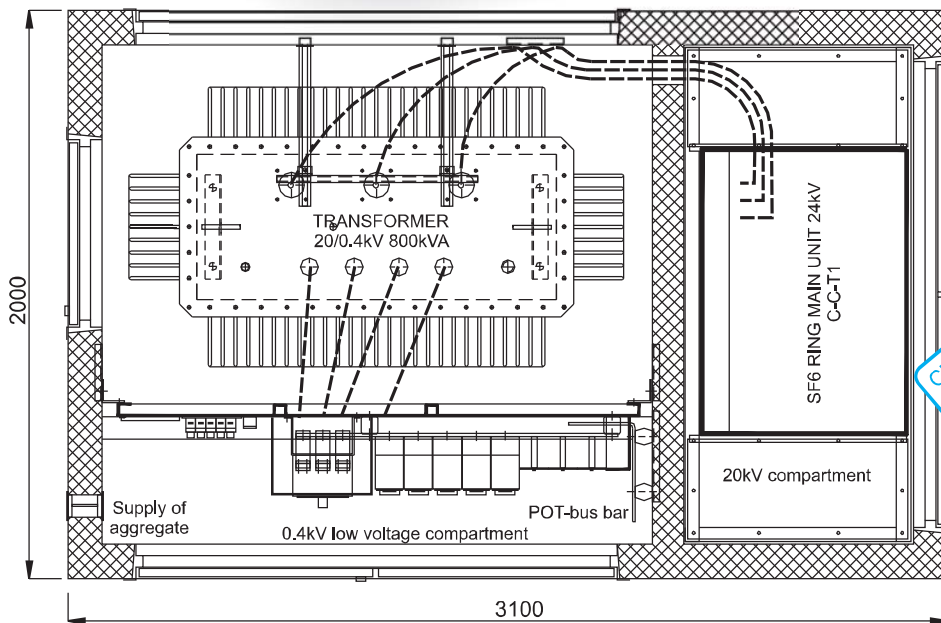


Transformer substation TEP800-1  
20(10)/0.4kV, 630kVA, Skopje



# DISTRIBUTIVE SUBSTATION

- CONCRETE COMPACT SUBSTATION FOR POWER OF TRANSFORMER UP TO 800kVA  
**TEP 800-1**

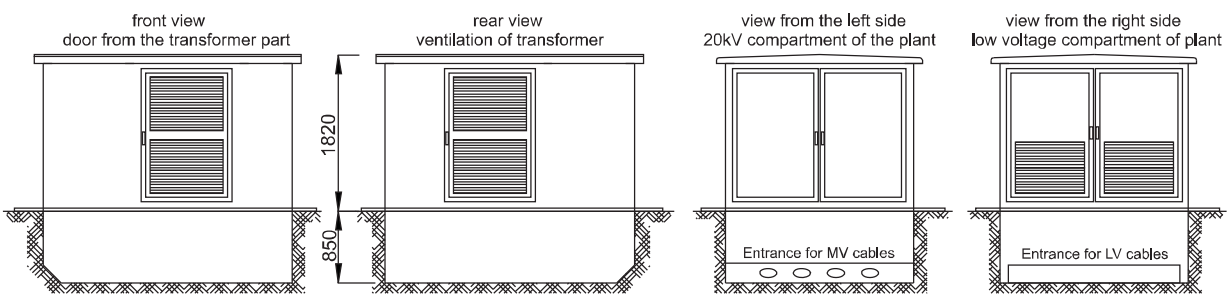
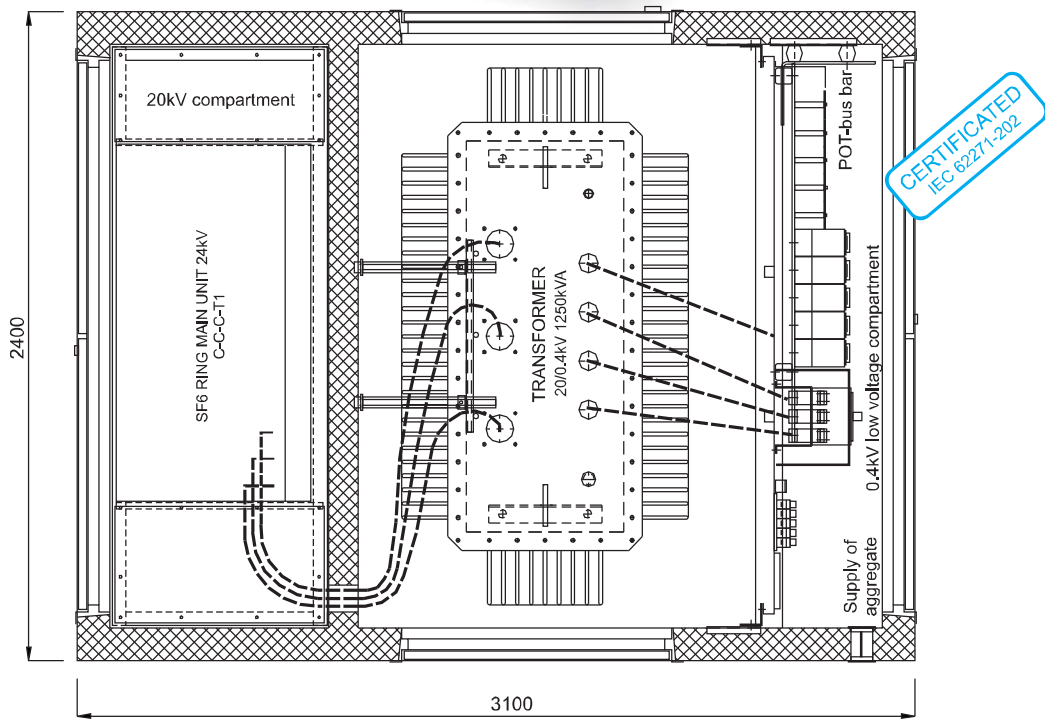


# DISTRIBUTIVE SUBSTATION



Rade Koncar-TEP

■ CONCRETE COMPACT SUBSTATION FOR POWER OF TRANSFORMER UP TO 800kVA  
TEP 1250-1





# DISTRIBUTIVE SUBSTATION

Rade Koncar-TEP

## ■ 20kV - SF6 Gas-Insulated Medium-Voltage Switchgear

20kV Ring Main Unit - SF6 Gas-Insulated Medium-Voltage Switchgear units, are mounted inside of a compact concrete substation. They have the following characteristics:

- Rated voltage 24kV
- Rated frequency 50/60Hz
- Rated normal current (bus bar) 630A
- Rated short-time current, main power circuit 20kA/1s
- Degree of protection Ip67 Main electric circuits  
Ip65 Fuses compartment  
Ip5x Operator's side with IP5 IEC, EN62271
- Made in accordance with norms

Standard equipment:

- Switch disconnector for outgoing feeder
- Switch fuse combination for transformer outgoing feeder
- Indicator for the pressure
- Capacitive connectors for voltage indicators and mechanical interlocks

Optional equipment:

- Motor drive for switch disconnector and vacuum circuit-breaker
- Short-circuit indicators

24kV Gas-Insulated Medium-Voltage Switchgear units are available in two versions:

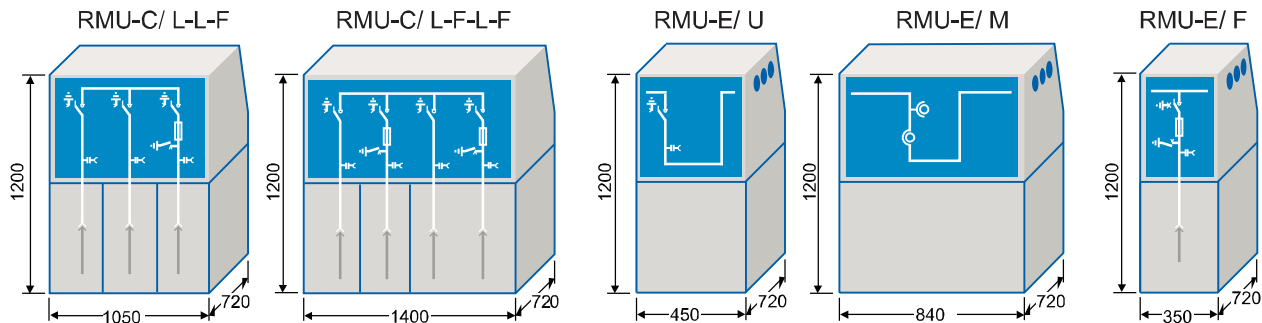
- RMU-C, COMPACT, (Non Extensible) no possibility to upgrade,
- RMU-E, (Extensible), with possibility to upgrade

With concrete compact substation we are using the following version of 24kV, MV Switchgear

Version	Dimensions			Weight kg
	width w	height h	depth d	
RMU-C/ L-L-F	1050 x	1200 x	720	~330
RMU-C/ L-L-L-F	1400 x	1200 x	720	~450
RMU-C/ L-F-L-F	1400 x	1200 x	720	~470
RMU-C/ L+L-L-L-F	1750 x	1200 x	720	~550
RMU-C/ L-L-L-L	1400 x	1200 x	720	~440
RMU-E/ U	450 x	1200 x	720	~180
RMU-E/ M	840 x	1200 x	720	~215
RMU-E/ F	350 x	1200 x	720	~160



- L - Outgoing feeder cable with switch disconnector
- F - Transformer outgoing feeder with switch fuse combination
- U - Busbar coupling panel
- M - Metering panel



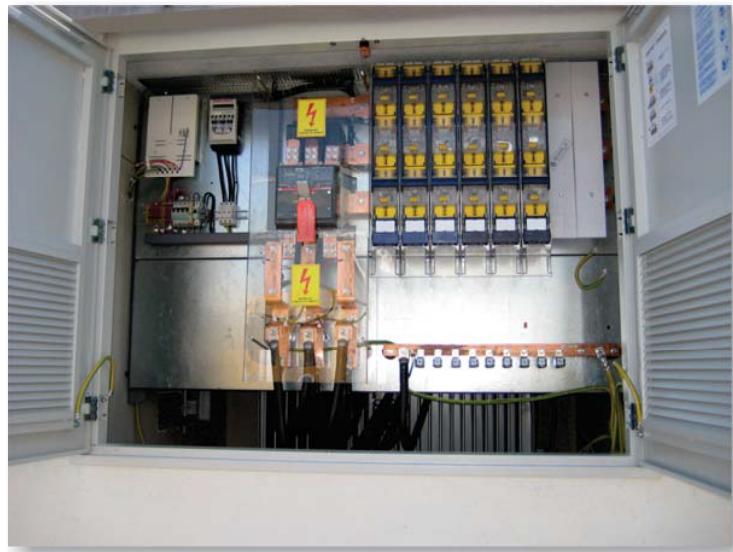


## ■ 0.4kV - Low voltage distribution panel

Low voltage panels on self standing framework are produced as an open panel structure. Made in accordance with standards MKS EN 60439 i.e. EN 61439 and all others standards and regulations IEC, DIN/VDE, MKS, EN, that refer to the substation with limited opportunities for ventilation. LV distribution panel are manufactured for the type of network TN-system of grounding. Minimum class of protection must be IP 20 that is requested with the IEC 60529. The LV distribution panel from transformer is used as main switch for supply:

- Fuse switch disconnectors 910A, three pole for power of transformers up to 250kVA
- Circuit breaker with electronic protection from overload and short circuit for power of transformers from 400 up to 1250kVA

As a protection of the LV outgoing feeders in the LV distribution panel we use fuse switch disconnectors with permanent load 630A (Rated making and breaking current  $I_e = 630A$ ,  $I_{cm} = 50kA$ ) according EN 60947-3. Fuse switch disconnectors are provided complete with clamps (i.e. bolt, bridge or V types) and covers for output terminals. LV distribution panel is equipped with half-indirect metering of electrical energy, over voltage protection-Type 2 - according to ICC EN 61643-1, equipped with metal oxide surge arresters, class C, 40 kA.



## ■ 20/0.4kV - TRANSFORMER

Within the concrete compact substation we build in oil transformers hermetically sealed without conservator, cooling system ONAN, in accordance with DIN42500. Connections of the HV part are performed as cone connectors which are completely insulated from touch voltage. On the LV side we build multi-pole connectors of the cables which are insulated from touch voltage.

## ■ CABLE CONNECTIONS IN CONCRETE DISTRIBUTION SUBSTATION

- 20kV connections of the transformer and MV switchgear is performed with single cable type: NA2XS(F)2Y-1x50mm<sup>2</sup>.
- 0.4kV connections of the transformer and LV switch board are performed with single cable type: NYY-0 - 1x240mm<sup>2</sup> Cu-Rm, number of cables depends on the power of the transformer.

## ■ GROUNDING

In LV compartment of the substation, a copper bus bar for equalization of potential, POT, is placed which is connected with a ring from the substation's grounding, with conductor H07V-K 1x50mm<sup>2</sup> in green yellow colour. All active parts in the substation that do not belong to the current working range are connected with POT-bus bar with conductor H07V-K 1x50mm<sup>2</sup> in green yellow colour. Certificated for 20kA/1s, according to IEC 62271.

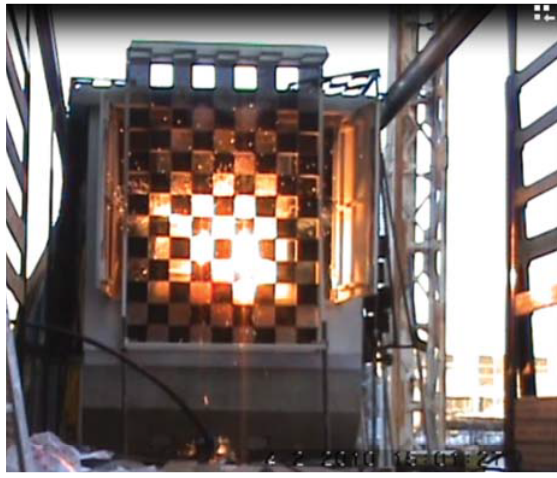




# DISTRIBUTIVE SUBSTATION

Rade Koncar-TEP

## ■ Certificates of Compact concrete substation



Compact substations TEP are designed and type-tested in accordance with the European standards EN 62271-202/2006.

The type tests for the substations were performed in the National Institute for examination and electrical engineering ICMET in Craiova - Romania. Each substation that we produce is supplied with factory, routine test, according to the same standard, within our own test laboratory.

The compact substations are produced in accordance with stringent quality and environmental procedures that Rade Koncar TEP has implemented. ISO 9001 and ISO 14001 certification guarantee quality and environmental considerations for all the products that has been produced in Rade Koncar TEP.

### -Type test IEC 62271-202 , Internal Arcing Test, class IAC-AB



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HIGH POWER DIVISION

HIGH POWER LABORATORY  
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Phone: +40 (0)744 621 427 Fax: +40 (0)744 621 426 E-mail: [info@icmet.ro](mailto:info@icmet.ro)

**TEST REPORT**  
No. 10585

**CUSTOMER:** "Rade Koncar - TEP" DOOEL - SKOPJE  
III sa Makedonska brigada 16, 1000 Skopje, Macedonia

**MANUFACTURER:** "Rade Koncar - TEP" DOOEL - SKOPJE  
III sa Makedonska brigada 16, 1000 Skopje, Macedonia

**TESTED PRODUCT:** 20 / 0.4 kV, 800 kVA Concrete Compact Transformer Station

**REFERENCE STANDARD:** IEC 62271-202/2006, clause 6.4

**TEST PERFORMED:** Short-time and peak, withstand current tests on:  
- Earthing circuit

**TEST DATE:** 08.09.2009

**TEST RESULT:** Passed the test

Report has 12 pages and it is edited in 4 copies from which copy 1 for laboratory and copies 2, 3 and 4 for customer.

**HEAD OF HIGH POWER DIVISION:** Dr. Eng. Goran Cvetkovic  
**HEAD OF LABORATORY:** Eng. Constantin Iancu

**DATE OF ISSUE:** 29.09.2009

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**TEST REPORT**  
No. 10717

**CUSTOMER:** "Rade Koncar - TEP" DOOEL - Skopje  
III sa Makedonska brigada 16, 1000 Skopje, Macedonia

**MANUFACTURER:** "Rade Koncar - TEP" DOOEL - Skopje  
III sa Makedonska brigada 16, 1000 Skopje, Macedonia

**TESTED PRODUCT:** 20/0.4 kV, 630 kVA Concrete Compact Transformer Substation

**REFERENCE STANDARD:** IEC 62271-202/2006 Annex A

**TEST PERFORMED:** Internal arc test

**TEST DATE:** 03-04-02-2010

**TEST RESULT:** Passed the test

Report has 28 pages and it is edited in 4 copies from which copy 1 for laboratory and copies 2, 3 and 4 for customer.

**HEAD OF HIGH POWER DIVISION:** Dr. Eng. Goran Cvetkovic  
**HEAD OF LABORATORY:** Eng. Constantin Iancu

**DATE OF ISSUE:** 01.03.2010

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**TEST REPORT**  
No. 10716

**CUSTOMER:** "Rade Koncar - TEP" DOOEL - Skopje  
III sa Makedonska brigada 16, 1000 Skopje, Macedonia

**MANUFACTURER:** "Rade Koncar - TEP" DOOEL - Skopje  
III sa Makedonska brigada 16, 1000 Skopje, Macedonia

**TESTED PRODUCT:** 20/0.4 kV, 630 kVA Concrete Compact Transformer Substation

**REFERENCE STANDARD:** IEC 62271-202 / 2006 clause 6.3

**TEST PERFORMED:** Temperature-rise test and determination of thermal class

**TEST DATE:** 02-02-2010

**TEST RESULT:** Passed the tests

Report has 23 pages and it is edited in 4 copies from which copy 1 for laboratory and copies 2, 3 and 4 for customer.

**HEAD OF HIGH POWER DIVISION:** Dr. Eng. Goran Cvetkovic  
**HEAD OF LABORATORY:** Eng. Constantin Iancu

**DATE OF ISSUE:** 01.02.2010

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[www.icmet.ro](http://www.icmet.ro), e-mail: [market@icmet.ro](mailto:market@icmet.ro)

**TEST REPORT**  
No. 42158 / 11.09.2009

**1. Customer:** RADE KONCAR TEP D.O.O.E.L. - Skopje  
**2. Customer's address:** III sa Makedonska brigada 16, 1000 Skopje, Macedonia  
**3. Manufacturer:** RADE KONCAR TEP D.O.O.E.L. - Skopje  
**4. Manufacturer's address:** III sa Makedonska brigada 16, 1000 Skopje, Macedonia

**5. BUT:** Inductively Coupled Transformer Substation 200.4 kV, 800 kVA

**6. Tests:** Measurement of electric field  
Measurement of magnetic field

**7. Test date:** 07.09.2009  
**8. Test standard:** European Directive 2004/10/EC  
**9. Test result:** The Results will be declared

**10. The Test Report contains 6 pages and was added in 4 copies of which 3 copies for Customer.**

**Head of High Voltage Division:** Eng. Ion Pădureț  
**Head of Laboratory:** Eng. George Stăvilă

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## ■ Certificates of Compact concrete substation

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<p>RESEARCH, DEVELOPMENT AND TESTING NATIONAL INSTITUTE FOR ELECTRICAL ENGINEERING <b>ICMET CRAIOVA</b> HIGH POWER DIVISION HIGH POWER LABORATORY "Ovidiu Barbut"®</p> <p>200746 CRAIOVA, Bulev. FICELIAL No. 118A, ROMANIA Căminul nr. 200151 CRAIOVA, Calea București, ROMANIA Manufacturing certificate: J16312/1999, VAT number RO3871599 Phone: +40 (371) 402 427, Fax: +40 (371) 415482, (371) 404 890, E-mail: info@icmet.ro</p> <p><b>TEST REPORT</b> No. 10772</p> <p>CUSTOMER: "Rade Koncar - TEP" DOOEL - SKOPJE 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>MANUFACTURER: "Rade Koncar - TEP" DOOEL - SKOPJE 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>TESTED PRODUCT: 20(10) / 0.4 kV, 1000 kVA Concrete Compact Transformer Substation</p> <p>REFERENCE STANDARD: IEC 60756-10/2001</p> <p>TEST PERFORMED: Determination of sound level</p> <p>TEST DATE: 15.04.2010</p> <p>TEST RESULT: Passed the tests</p> <p>Report has 7 pages and it is edited in 4 copies from which copy 1 for laboratory and copies 2, 3 and 4 for customer.</p> <p>HEAD OF HIGH POWER DIVISION: Dr. Eng. George STANESCU HEAD OF LABORATORY: Eng. Constantin IANCU</p> <p>DATE OF ISSUE: 22.04.2010</p>	<p>RESEARCH, DEVELOPMENT AND TESTING NATIONAL INSTITUTE FOR ELECTRICAL ENGINEERING <b>ICMET CRAIOVA</b> HIGH POWER DIVISION HIGH POWER LABORATORY "Ovidiu Barbut"®</p> <p>200746 CRAIOVA, Bulev. FICELIAL No. 118A, ROMANIA Căminul nr. 200151 CRAIOVA, Calea București, ROMANIA Manufacturing certificate: J16312/1999, VAT number RO3871599 Phone: +40 (371) 402 427, Fax: +40 (371) 415482, (371) 404 890, E-mail: info@icmet.ro</p> <p><b>TEST REPORT</b> No. 10773</p> <p>CUSTOMER: "Rade Koncar - TEP" DOOEL - SKOPJE 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>MANUFACTURER: "Rade Koncar - TEP" DOOEL - SKOPJE 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>TESTED PRODUCT: 20(10) / 0.4 kV, 1000 kVA Concrete Compact Transformer Substation</p> <p>REFERENCE STANDARD: IEC 62271-202/2006, clause 6.4</p> <p>TEST PERFORMED: Short-time and peak withstand current tests on earthing circuit</p> <p>TEST DATE: 16.04.2010</p> <p>TEST RESULT: Passed the test</p> <p>Test Report has 11 pages and it is edited in 4 copies from which copy 1 for laboratory and copies 2, 3 and 4 for customer.</p> <p>HEAD OF HIGH POWER DIVISION: Dr. Eng. George STANESCU HEAD OF LABORATORY: Eng. Constantin IANCU</p> <p>DATE OF ISSUE: 22.04.2010</p>	<p>RESEARCH, DEVELOPMENT AND TESTING NATIONAL INSTITUTE FOR ELECTRICAL ENGINEERING <b>ICMET CRAIOVA</b> HIGH POWER DIVISION HIGH POWER LABORATORY "Ovidiu Barbut"®</p> <p>200746 CRAIOVA, Bulev. FICELIAL No. 118A, ROMANIA Căminul nr. 200151 CRAIOVA, Calea București, ROMANIA Manufacturing certificate: J16312/1999, VAT number RO3871599 Phone: +40 (371) 402 427, Fax: +40 (371) 415482, (371) 404 890, E-mail: info@icmet.ro</p> <p><b>TEST REPORT</b> No. 10775</p> <p>CUSTOMER: "Rade Koncar - TEP" DOOEL - SKOPJE 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>MANUFACTURER: "Rade Koncar - TEP" DOOEL - SKOPJE 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>TESTED PRODUCT: 20(10) / 0.4 kV, 1000 kVA Concrete Compact Transformer Substation</p> <p>REFERENCE STANDARD: IEC 62271-202 / 2006 clause 6.5</p> <p>TEST PERFORMED: Functional tests</p> <p>TEST DATE: 16.04.2010</p> <p>TEST RESULT: Passed the tests</p> <p>Test Report has 10 pages and it is edited in 4 copies from which copy 1 for laboratory and copies 2, 3 and 4 for customer.</p> <p>HEAD OF HIGH POWER DIVISION: Dr. Eng. George STANESCU HEAD OF LABORATORY: Eng. Constantin IANCU</p> <p>DATE OF ISSUE: 22.04.2010</p>
<p>RESEARCH, DEVELOPMENT AND TESTING NATIONAL INSTITUTE FOR ELECTRICAL ENGINEERING <b>ICMET CRAIOVA</b> HIGH VOLTAGE DIVISION - HV LOW VOLTAGE LABORATORY</p> <p>Address: Calea București No. 144, 200515 Craiova, ROMANIA Manufacturing certificate: J 160312/1999. Fiscal code RO3871599 Phone: 0371 404888, 0371 404889, Fax: 0371 415482, 0371 404890 www.icmet.ro, email: info@icmet.ro</p> <p><b>TEST REPORT</b> No. 20097 / 12.04.2010</p> <p>1. CUSTOMER: "RADE KONCAR - TEP" DOOEL - Skopje 3-ta Makedonska brigada bb, 1000 Skopje, MACEDONIA</p> <p>2. MANUFACTURER: "RADE KONCAR - TEP" DOOEL - Skopje 3-ta Makedonska brigada bb, 1000 Skopje, MACEDONIA</p> <p>3. TESTED PRODUCT: Prefabricated Transformer Substation, 20/10kV, 4 kV, 1000 kVA, type TEP 1250-1 (prototype)</p> <p>4. REFERENCE STANDARDS: IEC 62271-202-2006</p> <p>5. TESTS PERFORMED: 1. Dielectric tests on the low-voltage interconnection 2. Dielectric tests on auxiliary circuits 3. Verification of withstand of the enclosure against mechanical stress</p> <p>6. TEST DATE: 12 April 2010</p> <p>7. TEST RESULTS: The product PASSED the tests. This report contains 8 pages and it is edited in 4 copies from which 3 copies for customer and one copy for laboratory.</p> <p>HEAD OF HV DIVISION, Eng. Ion PATRU HEAD OF LABORATORY, Eng. Anuștița SCORNEA</p> <p>Issue date: 16.04.2010</p>	<p>RESEARCH, DEVELOPMENT AND TESTING NATIONAL INSTITUTE FOR ELECTRICAL ENGINEERING <b>ICMET CRAIOVA</b> HIGH VOLTAGE DIVISION - HV HIGH VOLTAGE LABORATORY - HV/L</p> <p>200515 Craiova, Calea București 144 Certificat de înmatriculare J 160312/1999. Cod de înregistrare fiscală RO3871599 Phone: 0371 - 424888, 0371 - 404889, Fax: 0371 - 415482, 0371 - 404819 www.icmet.ro, email: info@icmet.ro</p> <p><b>TEST REPORT</b> No. 42493 / 20.04.2010</p> <p>1. CUSTOMER: "Rade Koncar - TEP" DOOEL - Skopje 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>2. MANUFACTURER: "Rade Koncar - TEP" DOOEL - Skopje 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>3. TESTED PRODUCT: Prefabricated Transformer Substation 20 / 16 / 0.4 kV, 1000 kVA</p> <p>4. REFERENCE STANDARD: IEC 60529 / 2001</p> <p>5. TESTS PERFORMED: - Verification on the degree of protection IP - 43</p> <p>6. TEST DATE: 13.04.2010</p> <p>7. TEST RESULTS: The product passed the test</p> <p>8. Report has 5 pages and it is edited in 4 copies from which 3 copies for customer</p> <p>HEAD OF HIGH VOLTAGE DIVISION: Eng. PATRU Ion HEAD OF HV LABORATORY: Eng. UNGLEAȘU Anuștița</p> <p>DATE OF ISSUE: 16.04.2010</p>	<p>RESEARCH, DEVELOPMENT AND TESTING NATIONAL INSTITUTE FOR ELECTRICAL ENGINEERING <b>ICMET CRAIOVA</b> HIGH POWER DIVISION HIGH POWER LABORATORY "Ovidiu Barbut"®</p> <p>200746 CRAIOVA, Bulev. FICELIAL No. 118A, ROMANIA Căminul nr. 200151 CRAIOVA, Calea București, ROMANIA Manufacturing certificate: J16312/1999, VAT number RO3871599 Phone: +40 (371) 402 427, Fax: +40 (371) 415482, (371) 404 890, E-mail: info@icmet.ro</p> <p><b>TEST REPORT</b> No. 10770</p> <p>CUSTOMER: "RADE KONCAR TEP" DOOEL - Skopje 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>MANUFACTURER: "RADE KONCAR TEP" DOOEL - Skopje 3-ta Makedonska brigada bb, 1000 Skopje, Macedonia</p> <p>TESTED PRODUCT: 20(10) / 0.4 kV, 1000 kVA Concrete Compact Transformer Substation</p> <p>REFERENCE STANDARD: IEC 62271-202 / 2006 clause 6.3</p> <p>TEST PERFORMED: Temperature-rise test and determination of thermal class</p> <p>TEST DATE: 12-14.04.2010</p> <p>TEST RESULT: Passed the tests</p> <p>Report has 21 pages and it is edited in 4 copies from which copy 1 for laboratory and copies 2, 3 and 4 for customer.</p> <p>HEAD OF HIGH POWER DIVISION: Dr. Eng. George STANESCU HEAD OF LABORATORY: Eng. Constantin IANCU</p> <p>DATE OF ISSUE: 16.04.2010</p>



# DISTRIBUTIVE SUBSTATION

Rade Koncar-TEP

## METAL PREFABRICATED SUBSTATIONS 10(20)/0.4kV WITH OUTDOOR HANDLING

Distributive prefabricated substations are made as fully equipped facilities ready for work, with outdoor handling in accordance with IEC EN 60298. Assembled they are transported to site where they are placed on the previously prepared concrete base. A transformer is placed additionally through the doors into the prefabricated substation. Prefabricated substations are consisted of parts, made of galvanized metal sheets that have epoxy powder coating. Colour is resistant to the external atmospheric influence for outdoor mounting. Standard shade in our use is RAL 7035, other colours are available on request.

**KEY BENEFITS:** Quick and easy installation and operation,  
Low internal condensation - improve electrical equipment lifetime.

The standard equipment of prefabricated substation is:

- 10(20) kV, switching unit in two versions:
  - Air insulated switchgear, type SBI10 and SBI20
  - SF6 Gas-Insulated Medium-Voltage Switchgear
- 0.4kV Low voltage switchboard - panel version
- 10(20)/0.4kV oil transformer, hermetical version

**Main feature:** High level of security for the operators and public.



On special request we manufacture substation with different configurations and dimensions from those given in the table below.

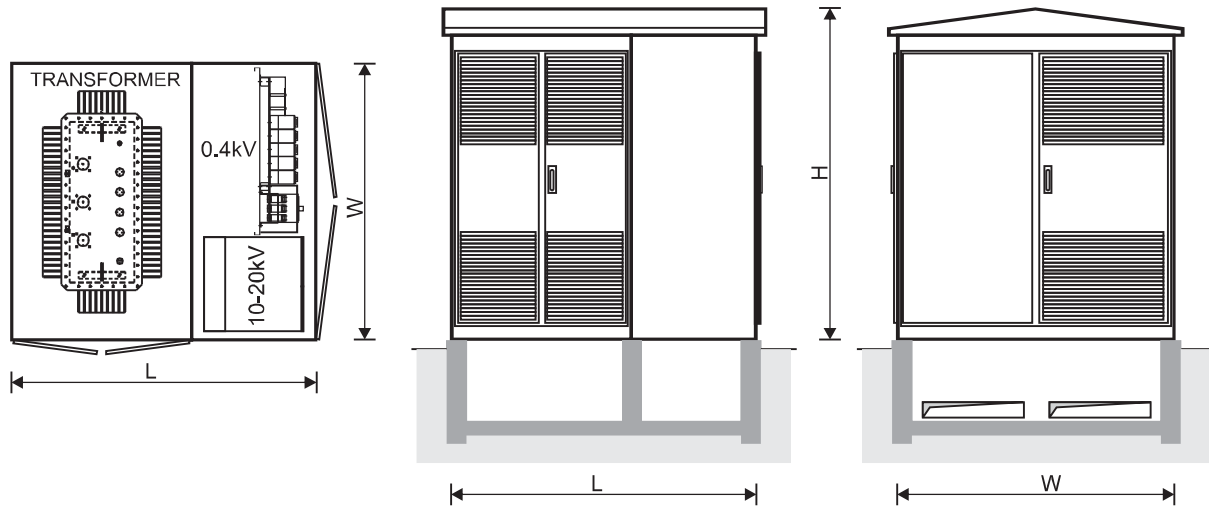
Type of substation	Order numbers	Type of Medium Voltage switchgear	Type of Low Voltage switchboard	Dimensions (mm)		
				Width W	Lenght L	High H
BTS 10/0.4kV, 400-630kVA incoming	701041667	air insulated SBI10-1T, RK-TEP	Panel version RK-TEP	2000 x 2200 x 2180		
		gas insulated SF6 E-F,		2000 x 2200 x 2180		
BTS 10/0.4kV, 400-630kVA incoming - outgoing	701042667	air insulated SBI10-1T-2Dz, RK-TEP	Panel version RK-TEP	2000 x 2800 x 2180		
		gas insulated SF6 L-L-F		2000 x 2800 x 2180		
BTS 20/0.4kV, 400-630kVA incoming	701043667	air insulated SBI20-1T, RK-TEP	Panel version RK-TEP	2000 x 2200 x 2380		
		gas insulated SF6 E-F		2000 x 2200 x 2380		
BTS 20/0.4kV, 400-630kVA incoming - outgoing	701044667	air insulated SBI20-1T-2Dz, RK-TEP	Panel version RK-TEP	2600 x 2800 x 2380		
		gas insulated SF6 L-L-F		2000 x 2800 x 2380		
BTS 10-20/0.4kV, 1000kVA incoming - outgoing	701045667	air insulated SBI20-1T-2Dz, RK-TEP	Panel version RK-TEP	2600 x 3100 x 2380		
		gas insulated SF6 L-L-F		2600 x 3100 x 2380		



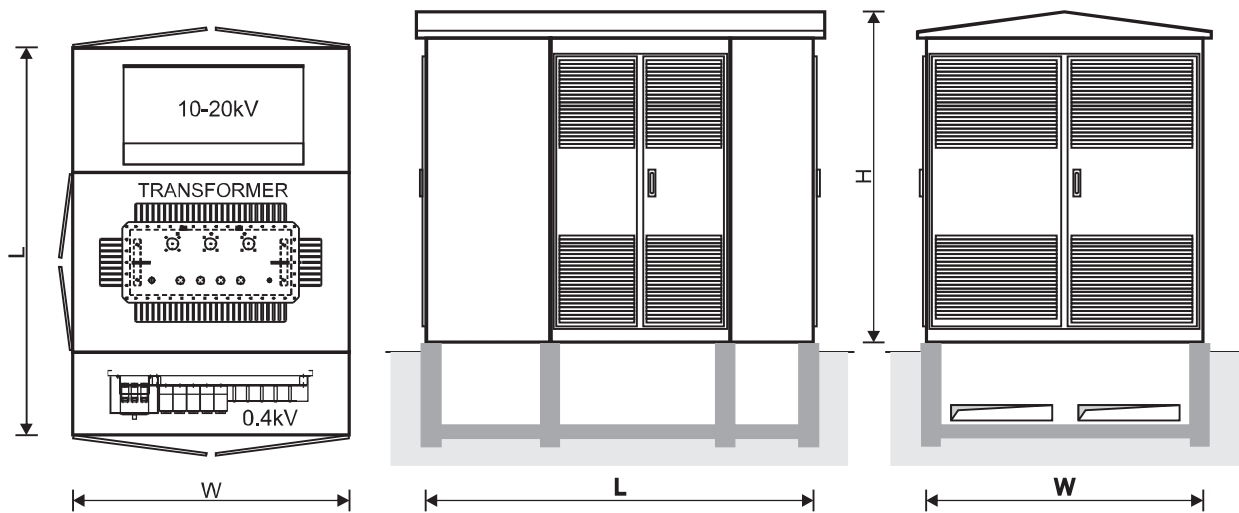


## METAL PREFABRICATED SUBSTATIONS 10(20)/0.4kV WITH OUTDOOR HANDLING

### ■ PREFABRICATED METAL SUBSTATION - LAST IN THE ROW OF SUBSTATIONS



### ■ PREFABRICATED METAL SUBSTATION - INCOMING - OUTGOING





# DISTRIBUTIVE SUBSTATION

Rade Koncar-TEP

## ELECTRICAL SUBSTATIONS 10(20)/0.4kV DESIGNING FOR SPECIAL NEEDS AND SPACES

This type of distribution substations is intended for power supply of larger consumers in various activities such as:

- all kind of industrial facilities
- shopping centers
- health centers
- administrative and commercial buildings
- residential buildings



Substation 6x1600kVA City Mall, Skopje



0.4kV Main distribution board City Mall Skopje

**Rade Koncar -TEP**, is offering a complete solution with complete performance in the electrical distribution:

- Determination of the needs for electrical power
- Project preparations for electrical power which includes:
  - High voltage plant 10 (20) kV
  - Transformer
  - Low-voltage parts (distribution boards, power generators, installations, control, management)
- Full production of power plants
- Installation, connection, testing and commissioning of the substation



Transformer part - 1600 kVA, 20kV



Transformer substation 1000 kVA, 20kV  
Pilot training center in Petrovec