



<b>Industry &amp; Facilities Division</b>		Page: 1/7
<b>INSPECTION REPORT N° INS/S-GZ-14-266</b>		<input type="checkbox"/> Interim <input checked="" type="checkbox"/> Final
<b>BV Job nr: INS/S-GZ-14-266</b>		

<b>PROJECT:</b> TPI WITNESS OF PRESHIPMENT PVC/PE PIPES TESTS	<b>Ref:</b> INS/S-GZ-14-266
<b>BV Client:</b> WUHAN KINGBULL PIPE INDUSTRY	<b>P/o nr:</b> INS/G-P14/258 <i>(client to BV)</i>
<b>Manufacturer:</b> WUHAN KINGBULL PIPE INDUSTRY	<b>P/o nr:</b> NA <i>(client to Manufacturer)</i>
<b>Inspection requested by:</b> WUHAN KINGBULL PIPE INDUSTRY	

SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY
Details see the next page		

DOCUMENTS OF REFERENCE : See continuation sheet for additional documents: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Title	Reference n°	Rev.	Approved by	Date
PE PIPES FOR WATER SUPPLY	GB/G 13663	2000	/	/
PE PIPES AND FITTINGS FOR WATER SUPPLY PART 2:PIPES	ISO 4427-2	2007	ISO	2010

<b>INSPECTIONS :</b> <u><b>Inspection place &amp; Date or Period:</b></u> Wuhan, Dec. 12,2004 <u><b>Stage of inspection :</b></u> <input type="checkbox"/> Before manufacturing <input type="checkbox"/> During manufacturing <input checked="" type="checkbox"/> Final <input type="checkbox"/> Packing  <u><b>Type of inspection:</b></u> <input type="checkbox"/> Pre-inspection meeting <input type="checkbox"/> Document and QC record review <input checked="" type="checkbox"/> Visual examination, checks <input checked="" type="checkbox"/> Witnessing tests <input type="checkbox"/> Manufacturing progress status <input type="checkbox"/> Vendor assessment <input checked="" type="checkbox"/> Final inspection <input type="checkbox"/> Packing <i>(for details see continuation sheet)</i> <u><b>Stamping :</b></u> <input checked="" type="checkbox"/> No <input type="checkbox"/>  <input type="checkbox"/> 	<u><b>Results of inspection :</b></u> <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory  <u><b>Non Conformities Reports (NCR):</b></u> <input type="checkbox"/> NCR's issued during reported period :  <input type="checkbox"/> List of outstanding NCR's :  <u><b>Main Conclusions &amp; Remarks:</b></u> (for details see continuation sheet) Performed VT, witnessed measurement of OD/THK/LENGTH, witnessed tests of elongation at break, density, melt mass flow rate, Rev'd test report of oxidation induction time test, hydrostatic test(at 100hrs/20deg C and 165hrs/80deg C) ,found satisfactory. <u><b>Next visit scheduled:</b></u> NA
--	--



## INSPECTION REPORT N° INS/S-GZ-14-266

**BV Job nr: INS/S-GZ-14-266**

### Description of the inspections carried out:

- **Introduction** (*Attendees, BV scope of work*)

**BV inspector: Tang Shouchun**

Performed appearance visual inspection, witnessed measurement of length/thickness/OD, witnessed tests of density, elongation at break, melt mass Flow rate, for hydrostatic tests and test of oxidation induction times reviewed Test reports.

- **Applicable Documents & Status of Approval** (*Type of documents reviewed & endorsed*) pls. refer to first page.

- **Manufacturing Progress Status** (*Quantities*):pre-shipment

- **Details of inspection activities carried out with respect to scope of work** (*Visual examination, witnessing NDT, dimensional checks, material identification...*)

Randomly selected one bundle for DN 90,110,160,225 (ACCORDING TO GB/T 13663-2000) and DN 63(ACCORDING TO ISO 4427-2) for VT, and OD/Thickness/length measurement witness, Result satisfactory.

Witnessed tests of density, melt mass flow rate, elongation at break of DN63,DN90 pipe samples, Result satisfactory.

Witnessed sample removing from DN 63 and DN 90 PIPES for hydrostatic tests and oxidization induction time Test and paint marking samples( sample#E20141202019 for DN63,#E20141202022 FOR DN90), rev'd sample Test reports, found results satisfactory.

Product list as below:

ser No	production name	Spec	单位	quantity
1	PE Pipe dn225	PE100	m	362
2	PE Pipe dn160	PE100	m	3039



## INSPECTION REPORT N° INS/S-GZ-14-266

**BV Job nr: INS/S-GZ-14-266**

3	PE Pipe dn110	PE100	m	2159
4	PE Pipe dn90	PE100	m	7072
5	PE Pipe dn63	PE100	m	5785
<b>PE fittings</b>				
1	45° elbow dn225		↑	0
2	45° elbow dn160		↑	37
3	45° elbow dn110		↑	40
4	45° elbow dn90		↑	48
5	45° elbow dn63		↑	11
6	90° elbow dn225		↑	0
7	90° elbow dn160		↑	1
8	90° elbow dn110		↑	0
9	90° elbow dn90		↑	25
10	90° elbow dn63		↑	13
11	Tee dn225 × dn225		↑	0
12	Tee dn225 × dn160		↑	1
13	Tee dn160 × dn160		↑	1
14	Tee dn160 × dn110		↑	1
15	Tee dn160 × dn90		↑	2
16	Tee dn160 × dn63		↑	2
17	Tee dn110 × dn110		↑	0
18	Tee dn110 × dn90		↑	3
19	Tee dn110 × dn63		↑	7
20	Tee dn90 × dn90		↑	7
21	Tee dn90 × dn63		↑	9
22	Tee dn63 × dn63		↑	0
23	Special Tee dn225 × dn32 (DN25Inner Thread)		piece	0
24	Special Tee dn160 × dn32 (DN25Inner Thread)		piece	3



## INSPECTION REPORT N° INS/S-GZ-14-266

BV Job nr: INS/S-GZ-14-266

25	Special Tee dn110×dn32 (DN25Inner Thread 旋)		piece	1
26	Special Tee dn90×dn32 (DN25Inner Thread)		piece	9
27	Special Tee dn63×dn32 (DN25Inner Thread)		piece	1
28	底 Tee dn225×dn90		个	0
29	底 Tee dn160×dn90		个	3
30	Tee dn110×dn90		个	1
31	Tee dn90×dn90		个	3
32	Tee dn63×dn63		个	1
33	Reducer dn225×dn160		个	1
34	Reducer dn160×dn110		个	3
35	Reducer dn160×dn90		个	0
36	Reducer dn160×dn63		个	1
37	Reducer dn90×dn63		个	3
38	堵头 dn225		个	1
39	堵头 dn160		个	0
40	堵头 dn110		个	2
41	堵头 dn90		个	5
42	堵头 dn63		个	18
43	Flange & Rubber ring dn225		piece	4
44	Flange & Rubber ring dn160		piece	12
45	Flange & Rubber ring dn110		piece	16
46	Flange & Rubber ring dn90		piece	80
47	Flange & Rubber ring dn63		piece	72
<b>PVC Fittings and pipe</b>				
1	Flange & Rubber ring dn225		piece	0
2	Flange & Rubber ring dn160		piece	1
3	Flange & Rubber ring dn110		piece	0

## INSPECTION REPORT N° INS/S-GZ-14-266

**BV Job nr: INS/S-GZ-14-266**

4	Flange & Rubber ring dn90		piece	7
5	Flange & Rubber ring dn63		piece	0
6	PVC short pipe dn225		m	0
7	PVC short pipe dn160		m	2
8	PVC short pipe dn110		m	0
9	PVC short pipe dn90		m	4
10	PVC short pipe dn63		m	0

- **Surveillance with reference to ITP** (*Each activity elaborated in detail*), see above .
- **Results of Inspection** (*incl. calibration status of equipment / instruments used for the inspection / testing*) inspection results are acceptable, verified used instrument, **Steel tape #0-10m, vernier calliper #zh12090373, densitometer#p9916471, MMFR Tester#21208051, tester for elongation at break#11208029, found all calibration In effective status.**
- **Problems pending** (*Areas of Concern, punch list...*) none
- **Photos at site**



**Length measuring**



**OD measuring**

# INSPECTION REPORT N° INS/S-GZ-14-266

BV Job nr: INS/S-GZ-14-266



Thk measuring



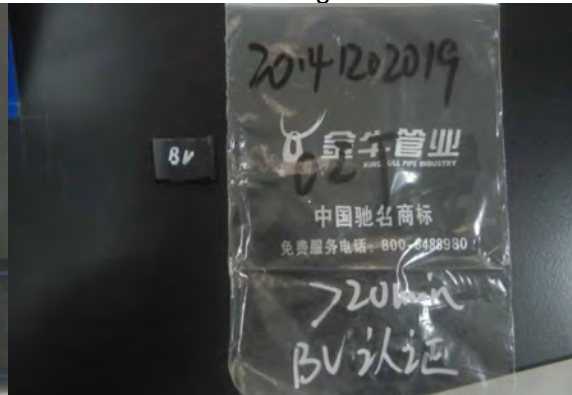
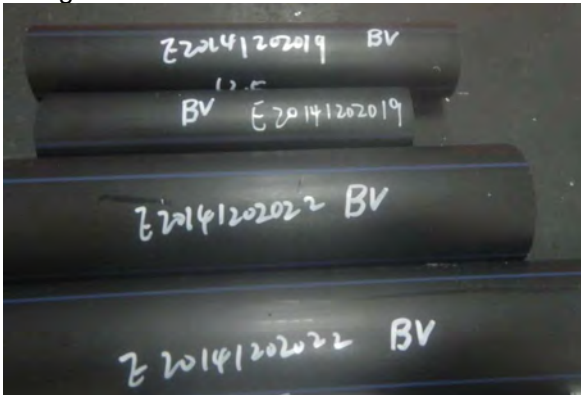
density test



Elongation at break test



MMFR measuring



Removed Samples for hydrotest and OIT test





Interim  
Final

# INSPECTION REPORT N° INS/S-GZ-14-266

BV Job nr: *INS/S-GZ-14-266*



Test Recording Chart for Elongation-at break



Elongation-at break tester

ANNEXES  Yes (Total number of pages: test report 6 pages )  No

**Inspected by:**

Name: Tang shouchun

Signature: *Tang*

Date of issue: 12/26/2014

**Inspection centre:** BV



**Checked by:**

Name: Qi Wang

Signature: *Qi*

Distribution:  CLIENT  MANUFACTURER

# Test Report

Report No.: E20141202019

Sample Name: PE100 Water Pipe

Customer: Pipe Group of QC Department

Inspection Category: Sampling Inspection

Test Center of Wuhan Kingbull Economic  
Development Co., Ltd





# Test Center of Wuhan Kingbull Economic Development Co., Ltd

Add: No. 8, Jinfu Rd, Huangjinkou Industrial Park, Hanyang, Wuhan, Hubei, China

Post code: 430050

Website: [www.wuhankb.com](http://www.wuhankb.com)


Tel.: 027-84469095

Fax: 027-84469067

## Test Report

Report No.: E20141202019

Page 1 of 2 pages

<b>Customer</b>	Pipe Team of QC Department	<b>Inspection Category</b>	Sampling Inspection
<b>Producer</b>	Wuhan Kingbull Economic Development Co., Ltd	<b>Trade Mark</b>	Kingbull
<b>Production time</b>	10 <sup>th</sup> Dec.2014	<b>Sample name</b>	PE100 Water Pipe
<b>Specification</b>	dn63 PN10	<b>Appearance</b>	Black
<b>Batch No.</b>	/	<b>Base sampling no.</b>	/
<b>Sample quantity</b>	1.0m	<b>Sample ID</b>	E20141202019
<b>Sampling site</b>	Ezhou Production Base	<b>Sampling time</b>	10 <sup>th</sup> Dec.2014
<b>Sampling department</b>	Pipe Team of QC Department	<b>Deliverer</b>	Chen qi bin
<b>Test Result</b>	<p>The samples of the products referred to this report have been tested in accordance with the standard of ISO 4427:2007 "Plastics piping systems - Polyethylene (PE) pipes and fittings for water supply". The results meet the requirement in the standard.</p> <div style="text-align: right;">  <p>Seal of the test union Issuing date: 19<sup>th</sup> Dec.2014</p> </div>		
<b>Remarks</b>	/		

Approved by: 嘉成

Examined by: 陈琪斌





# Test Report

Report No.: E20141202022

Sample Name: PE100 Water Pipe

Customer: Pipe Group of QC Department

Inspection Category: Sampling Inspection

Test Center of Wuhan Kingbull Economic  
Development Co., Ltd






# Test Center of Wuhan Kingbull Economic Development Co., Ltd

Add: No. 8, Jinfu Rd, Huangjinkou Industrial Park, Hanyang, Wuhan, Hubei, China  
 Post code: 430050 Website: [www.wuhankb.com](http://www.wuhankb.com)  
 Tel.: 027-84469095 Fax: 027-84469067

## Test Report

Report No.: E2014120222

Page 1 of 2 pages

<b>Customer</b>	Pipe Team of QC Department	<b>Inspection Category</b>	Sampling Inspection
<b>Producer</b>	Wuhan Kingbull Economic Development Co., Ltd	<b>Trade Mark</b>	Kingbull
<b>Production time</b>	12 <sup>th</sup> Dec.2014	<b>Sample name</b>	PE100 Water Pipe
<b>Specification</b>	dn90 SDR17	<b>Appearance</b>	Black
<b>Batch No.</b>	/	<b>Base sampling no.</b>	/
<b>Sample quantity</b>	1.0m	<b>Sample ID</b>	E2014120222
<b>Sampling site</b>	Ezhou Production Base	<b>Sampling time</b>	12 <sup>th</sup> Dec.2014
<b>Sampling department</b>	Pipe Team of QC Department	<b>Deliverer</b>	Shi jian jun
<b>Test Result</b>	<p>The samples of the products referred to this report have been tested in accordance with the standard of GB/T 13663-2000 "Polyethylene piping for water supply". The results meet the requirement in the standard.</p> <div style="text-align: right;">                       Seal of the test union                      Issuing date: 19<sup>th</sup> Dec.2014                 </div>		
<b>Remarks</b>	/		

Approved by:                     

Examined by:                     



# Test Center of Wuhan Kingbull Economic Development Co., Ltd

Add: No. 8, Jinfu Rd, Huangjinkou Industrial Park, Hanyang, Wuhan, Hubei, China

Post code: 430050

Website: [www.wuhankb.com](http://www.wuhankb.com)

Tel.: 027-84469095

Fax: 027-84469067

## Test Report

Report No.: E20141202022

Page 2 of 2 pages

No.	Test Items	Requirements	Results	Judgment
1	Appearance	The internal and external surfaces of pipes shall be smooth, clean and free from scoring, cavities and other surface defects. The pipe ends shall be cut cleanly and square to the axis of the pipe.	Up to standard	Qualified
2	Dimensions, mm	$90.0 \leq d_n \leq 90.9$	90.5	Qualified
		$e_{max}: 6.3$	5.76	
		$e_{min}: 5.4$	5.58	
		Ovality: $\leq 1.8$	0.8	
3	compound density, kg/m <sup>3</sup>	/	951	/
4	Elongation at break, %	$\geq 350$	576.39	Qualified
5	Hydrostatic strength	Circumferential stress 12.4MPa, 20°C, 100h No failure of any test piece during test period	No failure	Qualified
		Circumferential stress 5.5MPa, 80°C, 165h No failure of any test piece during test period	No failure	Qualified
6	Melt mass-flow rate (MFR), %	$\leq \pm 20$	3.9	Qualified
7	Oxidation induction time (OIT), 200°C, min	$\geq 20$	36.15	Qualified
<b>The following is blank</b>				
Remark	/			

Mainly Tested by :