Technical Services

The standard is binding for all departments of the company and external organizations which order and accept pipe bends for pipeline in ORLEN Unipetrol RPA, s.r.o. It does not apply to the Litvínov and Kralupy refinery unit.

The departments are obliged to present the standard to all external organizations for which the standard is also binding.

Table of contents:

# 1. General provisions

## 1.1 Scope of validity

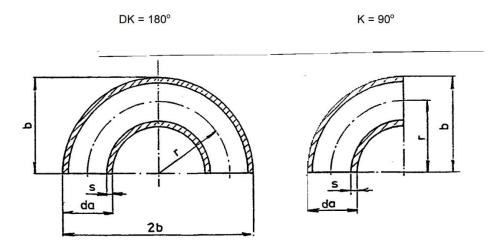
The standard is valid for ordering and acceptance of pipe bends for pipeline in Chemopetrol, a.s.

# **1.2 Application**

Only pipe bends delivered with acceptance as per ČSN 42 0250.12 and with 100% test of inner overpressure of 6 MPa of all pipes used for manufacture of the bends may be used in the company. Železárny Podbrezová, however, does no perform test of original pipes by inner overpressure and replaces it with 100% non-destructive test.

# 2. Pipe bends manufactures as per standards of VN and ŽP standards

2.1 Pipe bends are manufactured with central angle of 180° or 90° (DK or K shape)



### 2.2 Pipe bends as per VN standards

2.2.1 Pipe bends manufactured as per VN standards are delivered in the following dimensions: Ø108 x 3,6 Ø 133 x 4 Ø 159 x 4,5
2.2.2 Other dimensions are specified in detail in standard VN 42 5760.
2.2.3 Technical requirements, material, testing, verification and delivery are specified in standard VN 42 0155

It replaces:	Administrator:	Valid from:
N 3 576 from 4/1979	Reliability and documentation department	1.3.2000

# 2.3 Pipe bends as per ŽP standards

2.3.1 Železárny Podbrezová manufacture and deliver pipe bends of the following dimensions:

Ø 31,8 x 2,6	Ø 38 x 2,6	Ø 44,5 x 2,6
Ø 76,1 x 2,9	Ø 88,9 x 3,2	Ø 57 x 2,9

2.3.2 Other dimensions are specified in detail in standard ŽP 42 5760.

2.3.3 Technical requirements, material, testing, verification and delivery are specified in standard  $\check{Z}P$  05-05/96

2.4 Designation

2.4.1 Designation of pipe bends is performed in accordance with VN 42 5760 or ŽP 42 5760. 2.5 Ordering

2.5.1 Pipe bends are ordered in accordance with VN 42 5760 or ŽP 42 5760.

# 3. Atypical pipe bends and imported bends

3.1 With respect to many possibilities of execution and manufacture, it is not possible to unambiguously determine the complex way of ordering and acceptance of atypical bends and bends delivered by foreign manufacturers. It is necessary to negotiate the individual deliveries always with the manufacturer (supplier) with regard to application in the company. Only general principles for ordering may be defined, that concern individual material classes.

## 4. Amendment – List of quoted and related standards

Quoted	
ČSN 42 0250	Hot formed seamless tubes of steels grade 10 to 16. Technical delivery terms.
VN 42 0155	Steel pipe bends. Technical delivery terms.
VN 42 5760	Steel pipe bends. Type 3 and 5. Dimensions.
ŽP-05-04/96	Pipe bends. Technical delivery terms.
ŽP 42 5760	Pipe bends. Dimensions
Related	

ČSN 42 0251	Seamless steel tubes with guaranteed properties at elevated	
	temperatures. Technical delivery regulations.	
ČSN 42 0252	Seamless stainless tubes of steels grade 17. Technical delivery terms.	

Standards ŽP – company standards of Železárny Podbrezová a.s. - Slovakia

Standards VN - company standards of VÍTKOVICE, a.s. Ostrava

It replaces:	Administrator:	Valid from:
N 3 576 from 4/1979	Reliability and documentation department	1.3.2000