ZTOC
PIPE DATASHEET

正道海洋科技
ZTOC

TCP (THERMOPLASTIC COMPOSITE PIPE)

Product Type		**TCP**																	
Nominal Diameter	inch	**2**						**3**						**4**					
	mm	DN50						DN75						DN100					
Design Pressure	psi	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600
	MPa	2	6	10	16	20	25	2	6	10	16	20	25	2	6	10	16	20	25
Test Pressure	psi	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400
	MPa	3	8	15	24	30	38	3	8	15	24	30	38	3	8	15	24	30	38
Burst Pressure	psi	900	2300	4500	6900	8700	10800	900	2300	4500	6900	8700	10800	900	2300	4500	6900	8700	10800
	MPa	6	17	30	48	60	75	6	17	30	48	60	75	6	17	30	48	60	75
Application		Oil,Gas,Water,H_2 ,CO_2																	
Specification Dimension																			
Inside Diameter	mm	50						75						100					
	in	2.0						3.0						3.9					
Outer Diameter	mm	68	69	71	74	75	77	95	96	101	104	107	111	123	126	131	135	139	143
	in	2.7	2.7	2.8	2.9	3.0	3.0	3.7	3.8	4.0	4.1	4.2	4.4	4.8	5.0	5.2	5.3	5.5	5.6
Weight	Kg/m	1.6	1.8	2.1	2.6	2.8	3.1	2.6	2.9	3.9	4.1	5.3	6.3	3.9	4.8	6.2	7.4	8.6	9.8
	lb/ft	1.1	1.2	1.4	1.7	1.9	2.1	1.7	1.9	2.6	2.8	3.6	4.2	2.6	3.2	4.2	5.0	5.8	6.6
Structural Layer																			
Liner Material		HDPE																	
Design Temperature	°C	65						65						65					
	°F	150						150						150					
Liner Material		PE-X																	
Design Temperature	°C	90						90						90					
	°F	194						194						194					
Liner Material		PA12																	
Design Temperature	°C	80						80						80					
	°F	176						176						176					
Liner Material		PVDF																	
Design Temperature	°C	130						130						130					
	°F	266						266						266					
Reinforcement Layer Material		Glass Fiber,Carbon Fiber																	
Minimum Bend Radius	m	0.6	0.6	0.6	0.6	0.6	0.6	0.9	0.9	0.9	0.9	0.9	0.9	1.1	1.1	1.1	1.1	1.3	1.5
	ft	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.6	3.6	3.6	3.6	4.3	4.9
Mechanical Properties																			
Hazen-Williams Coefficient,C		150						150						150					
Design Life	year	20																	
Notes		Specific design is based on actual projects and parameters may be slightly modified.																	

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

ZTOC
PIPE DATASHEET

正道海洋科技
ZTOC

TCP (THERMOPLASTIC COMPOSITE PIPE)

Product Type		**TCP**											
Nominal Diameter	inch	**6**						**8**					
	mm	DN150						DN200					
Design Pressure	psi	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600
	MPa	2	6	10	16	20	25	2	6	10	16	20	25
Test Pressure	psi	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400
	MPa	3	8	15	24	30	38	3	8	15	24	30	38
Burst Pressure	psi	900	2300	4500	6900	8700	10800	900	2300	4500	6900	8700	10800
	MPa	6	17	30	48	60	75	6	17	30	48	60	75
Application		Oil,Gas,Water,H_2 ,CO_2											
Specification Dimension													
Inside Diameter	mm	150						200					
	in	5.9						7.9					
Outer Diameter	mm	185	188	194	202	207	215	245	249	257	265	273	281
	in	7.3	7.4	7.6	8.0	8.1	8.5	9.6	9.8	10.1	10.4	10.7	11.1
Weight	Kg/m	9.3	10.5	13.1	16.6	19.0	22.9	15.7	18.0	22.7	27.5	32.5	37.6
	lb/ft	6.2	7.0	8.8	11.1	12.7	15.4	10.5	12.1	15.2	18.5	21.8	25.2
StructuralLayer													
Liner Material		HDPE											
Design Temperature	°C	65						65					
	°F	150						150					
Liner Material		PE-X											
Design Temperature	°C	90						90					
	°F	194						194					
Liner Material		PA12											
Design Temperature	°C	80						80					
	°F	176						176					
Liner Material		PVDF											
Design Temperature	°C	130						130					
	°F	266						266					
Reinforcement Layer Material		Glass Fiber,Carbon Fiber											
Minimum Bend Radius	m	1.6	1.6	1.6	1.7	1.8	2.1	2.2	2.2	2.4	2.4	2.8	2.8
	ft	5.2	5.2	5.2	5.6	5.9	6.9	7.2	7.2	7.9	7.9	9.2	9.2
Mechanical Properties													
Hazen-Williams Coefficient,C		150						150					
Design Life	year	20											
Notes		Specific design is based on actual projects and parameters may be slightly modified.											

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

ZTOC
PIPE DATASHEET

正道海洋科技
ZTOC

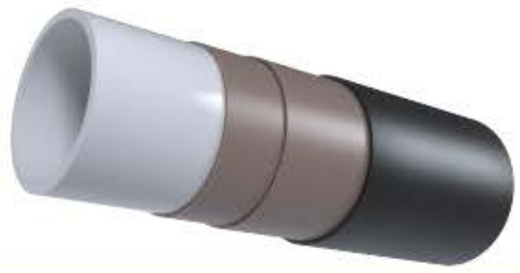
SCP (STEEL CORD REINFORCED PIPE)

Product Type		**SCP**																	
Nominal Diameter	inch	2						3						4					
	mm	DN50						DN75						DN100					
Design Pressure	psi	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600
	MPa	2	6	10	16	20	25	2	6	10	16	20	25	2	6	10	16	20	25
Test Pressure	psi	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400
	MPa	3	8	15	24	30	38	3	8	15	24	30	38	3	8	15	24	30	38
Burst pressure	psi	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800
	MPa	6	17	30	48	60	75	6	17	30	48	60	75	6	17	30	48	60	75
Application		Oil,Gas,Water,H_2 ,CO_2																	
Specification Dimension																			
Inside Diameter	mm	50						75						100					
	in	2.0						3.0						3.9					
Outer Diameter	mm	68	69	72	73	74	74	96	101	101	102	107	110	126	128	130	134	136	137
	in	2.7	2.7	2.8	2.9	2.9	2.9	3.8	4.0	4.0	4.0	4.2	4.3	5.0	5.0	5.1	5.3	5.4	5.4
Weight	Kg/m	1.0	1.8	2.2	2.9	3.5	3.6	3.2	4.4	5.4	5.6	6.8	8.7	5.2	6.0	7.8	9.6	11.5	12.1
	lb/ft	0.7	1.2	1.5	1.9	2.3	2.4	2.1	3.0	3.6	3.8	4.6	5.8	3.5	4.0	5.2	6.4	7.7	8.1
Structural Layer																			
Liner Material		HDPE																	
Design Temperature	°C	65						65						65					
	°F	150						150						150					
Liner Material		PE-X																	
Design Temperature	°C	90						90						90					
	°F	194						194						194					
Liner Material		PA12																	
Design Temperature	°C	80						80						80					
	°F	176						176						176					
Liner Material		PVDF																	
Design Temperature	°C	130						130						130					
	°F	266						266						266					
Reinforcement Layer Material		Steel Wire,Steel Cord																	
Minimum Bend Radius	m	0.6	0.6	0.6	0.6	0.6	0.6	0.9	0.9	0.9	0.9	0.9	0.9	1.1	1.1	1.1	1.1	1.1	1.1
	ft	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.6	3.6	3.6	3.6	3.6	3.6
Mechanical Properties																			
Hazen-Williams Coefficient,C		150						150						150					
Design Life	year	20																	
Notes		Specific design is based on actual projects and parameters may be slightly modified.																	

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

ZTOC
PIPE DATASHEET

正道海洋科技
ZTOC



SCP (STEEL CORD REINFORCED PIPE)

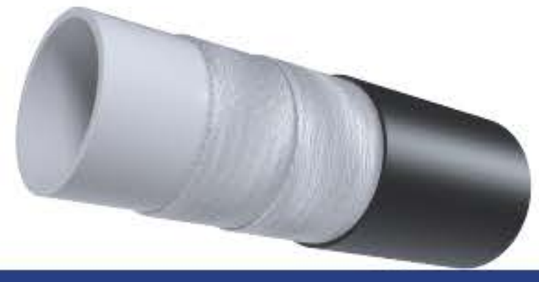
Product Type		**SCP**											
Nominal Diameter	inch	6						8					
	mm	DN150						DN200					
Design Pressure	psi	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600
	MPa	2	6	10	16	20	25	2	6	10	16	20	25
Test Pressure	psi	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400
	MPa	3	8	15	24	30	38	3	8	15	24	30	38
Burst pressure	psi	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800
	MPa	6	17	30	48	60	75	6	17	30	48	60	75
Application		Oil,Gas,Water,H_2 ,CO_2											
Specification Dimension													
Inside Diameter	mm	150						200					
	in	5.9						7.9					
Outer Diameter	mm	185	187	189	195	195	196	242	248	255	256	264	269
	in	7.3	7.4	7.4	7.7	7.7	7.7	9.5	9.8	10.0	10.1	10.4	10.6
Weight	Kg/m	10.1	11.9	14.8	19.6	20.4	21.9	14.9	22.5	27.9	31.9	42.1	46.5
	lb/ft	6.8	8.0	9.9	13.2	13.7	14.7	10.0	15.1	18.7	21.4	28.2	31.2
Structural Layer													
Liner Material		HDPE											
Design Temperature	°C	65						65					
	°F	150						150					
Liner Material		PE-X											
Design Temperature	°C	90						90					
	°F	194						194					
Liner Material		PA12											
Design Temperature	°C	80						80					
	°F	176						176					
Liner Material		PVDF											
Design Temperature	°C	130						130					
	°F	266						266					
Reinforcement Layer Material		Steel Wire,Steel Cord											
Minimum Bend Radius	m	1.5	1.5	1.5	1.5	1.5	1.5	1.9	1.9	1.9	1.9	1.9	1.9
	ft	4.9	4.9	4.9	4.9	4.9	4.9	6.2	6.2	6.2	6.2	6.2	6.2
Mechanical Properties													
Hazen-Williams Coefficient,C		150						150					
Design Life	year	20											
Notes		Specific design is based on actual projects and parameters may be slightly modified.											

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

ZTOC
PIPE DATASHEET

正道海洋科技
ZTOC

RTP (REINFORCED THERMOPLASTIC PIPE)



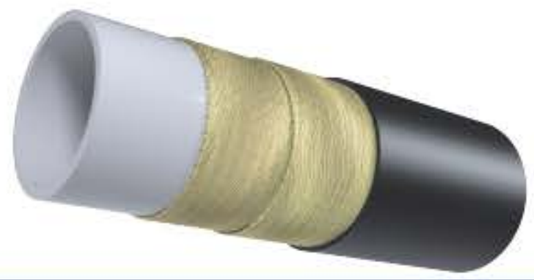
Product Type		**RTP**																	
Nominal Diameter	inch	2						3						4					
	mm	DN50						DN75						DN100					
Design Pressure	psi	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600
	MPa	2	6	10	16	20	25	2	6	10	16	20	25	2	6	10	16	20	25
Test Pressure	psi	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400
	MPa	3	8	15	24	30	38	3	8	15	24	30	38	3	8	15	24	30	38
Burst Pressure	psi	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800
	MPa	6	17	30	48	60	75	6	17	30	48	60	75	6	17	30	48	60	75
Application		Oil,Gas,Water,H_2 ,CO_2																	
Specification Dimension																			
Inside Diameter	mm	50						75						100					
	in	2.0						3.0						3.9					
Outer Diameter	mm	72	72	77	80	80	80	102	102	110	112	116	126	135	135	145	148	145	147
	in	2.8	2.8	3.0	3.1	3.1	3.1	4.0	4.0	4.3	4.4	4.6	5.0	5.3	5.3	5.7	5.8	5.7	5.8
Weight	Kg/m	1.7	1.9	2.2	2.5	2.7	2.8	3.1	3.3	4.2	4.7	5.3	6.7	4.9	5.6	7.1	7.9	7.1	7.4
	lb/ft	1.1	1.3	1.5	1.7	1.8	1.9	2.1	2.2	2.8	3.2	3.6	4.5	3.3	3.8	4.8	5.3	4.8	5.0
Structural Layer																			
Liner Material		HDPE																	
Design Temperature	°C	65						65						65					
	°F	150						150						150					
Liner Material		PE-X																	
Design Temperature	°C	90						90						90					
	°F	194						194						194					
Liner Material		PA12																	
Design Temperature	°C	80						80						80					
	°F	176						176						176					
Liner Material		PVDF																	
Design Temperature	°C	130						130						130					
	°F	266						266						266					
Reinforcement Layer Material		Polyester Fiber,Aramid Fiber																	
Minimum Bend Radius	m	0.7	0.7	0.7	0.7	0.7	0.7	0.9	0.9	0.9	0.9	0.9	0.9	1.2	1.2	1.2	1.2	1.2	1.2
	ft	2.3	2.3	2.3	2.3	2.3	2.3	3.0	3.0	3.0	3.0	3.0	3.0	3.9	3.9	3.9	3.9	3.9	3.9
Mechanical Properties																			
Hazen-Williams Coefficient,C		150						150						150					
Design Life	year	20																	
Notes		Specific design is based on actual projects and parameters may be slightly modified.																	

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

ZTOC
PIPE DATASHEET

正道海洋科技
ZTOC

RTP (REINFORCED THERMOPLASTIC PIPE)



Product Type		**RTP**											
Nominal Diameter	inch	6						8					
	mm	DN150						DN200					
Design Pressure	psi	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600
	MPa	2	6	10	16	20	25	2	6	10	16	20	25
Test Pressure	psi	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400
	MPa	3	8	15	24	30	38	3	8	15	24	30	38
Burst Pressure	psi	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800
	MPa	6	17	30	48	60	75	6	17	30	48	60	75
Application		Oil,Gas,Water,H_2 ,CO_2											
Specification Dimension													
Inside Diameter	mm	150						200					
	in	5.9						7.9					
Outer Diameter	mm	191	194	206	218	206	207	252	254	266	266	267	279
	in	7.5	7.6	8.1	8.6	8.1	8.1	9.9	10.0	10.5	10.5	10.5	11.0
Weight	Kg/m	9.6	10.9	13.4	16.1	12.6	13.7	16.5	18.0	22.1	20.3	22.5	24.7
	lb/ft	6.4	7.3	9.0	10.8	8.5	9.2	11.1	12.1	14.8	13.6	15.1	16.6
Structural Layer													
Liner Material		HDPE											
Design Temperature	°C	65						65					
	°F	150						150					
Liner Material		PE-X											
Design Temperature	°C	90						90					
	°F	194						194					
Liner Material		PA12											
Design Temperature	°C	80						80					
	°F	176						176					
Liner Material		PVDF											
Design Temperature	°C	130						130					
	°F	266						266					
Reinforcement Layer Material		Polyester Fiber,Aramid Fiber											
Minimum Bend Radius	m	1.8	1.8	1.8	1.8	1.8	1.8	2.4	2.4	2.4	2.4	2.4	2.4
	ft	5.9	5.9	5.9	5.9	5.9	5.9	7.9	7.9	7.9	7.9	7.9	7.9
Mechanical Properties													
Hazen-Williams Coefficient,C		150						150					
Design Life	year	20											
Notes		Specific design is based on actual projects and parameters may be slightly modified.											

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

ZTOC
PIPE DATASHEET

正道海洋科技
ZTOC

OTP (OFFSHORE THERMOPLASTIC PIPE)

Product Type		**OTP**																	
Nominal Diameter	inch	4						6						8					
	mm	DN100						DN150						DN200					
Design Pressure	psi	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600
	MPa	2	6	10	16	20	25	2	6	10	16	20	25	2	6	10	16	20	25
Test Pressure	psi	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400
	MPa	3	8	15	24	30	38	3	8	15	24	30	38	3	8	15	24	30	38
Burst Pressure	psi	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800
	MPa	6	17	30	48	60	75	6	17	30	48	60	75	6	17	30	48	60	75
Application Area		Oil,Gas,Water																	
Specification Dimension																			
Inside Diameter	mm	101.6						152.0						203.2					
	in	4.0						6.0						8.0					
Density in the air	g/cm3	1.3-1.6						1.3-1.6						1.3-1.6					
Density in seawater		0.3-0.6						0.3-0.6						0.3-0.6					
Structural Layer																			
Liner Material		HDPE																	
Design Temperature	°C	65						65						65					
Liner Material		PE-X																	
Design Temperatur	°C	90						90						90					
Liner Material		PA12																	
Design Temperature	°C	80						80						80					
Liner Material		PVDF																	
Design Temperature	°C	130						130						130					
Thermal Conductivity	W/m·K	0.4						0.4						0.4					
Thermal Conductivity of Thermal Insulation Materials		0.02						0.02						0.02					
Coefficient Of Thermal Expansion	m/m·°C	1.0E-04						1.0E-04						1.0E-04					
Smooth Bore Surface Roughness	mm	0.001						0.001						0.001					
	in	3.9E-05						3.9E-05						3.9E-05					
Carcass Surface Roughness	mm	0.5-3.0						0.5-3.0						0.5-3.0					
	in	0.02-0.12						0.02-0.12						0.02-0.12					
External Environment																			
Water Depth		200						200						200					
Collapse Pressure	MPa	>2.0						>2.0						>2.0					
Design Life	year	20																	
Notes		Specific design is based on actual projects and parameters may be slightly modified.																	

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

ZTOC
PIPE DATASHEET

正道海洋科技
ZTOC

OTP (OFFSHORE THERMOPLASTIC PIPE)

Product Type		**OTP**											
Nominal Diameter	inch	10						12					
	mm	DN250						DN300					
Design Pressure	psi	300	800	1500	2300	2900	3600	300	800	1500	2300	2900	3600
	MPa	2	6	10	16	20	25	2	6	10	16	20	25
Test Pressure	psi	500	1200	2300	3500	4300	5400	500	1200	2300	3500	4300	5400
	MPa	3	8	15	24	30	38	3	8	15	24	30	38
Burst Pressure	psi	900	2400	4500	6900	8700	10800	900	2400	4500	6900	8700	10800
	MPa	6	17	30	48	60	75	6	17	30	48	60	75
Application Area		Oil,Gas,Water											
Specification Dimension													
Inside Diameter	mm	254.0						304.8					
	in	10.0						12.0					
Density in the air	g/cm3	1.3-1.6						1.3-1.6					
Density in seawater		0.3-0.6						0.3-0.6					
Structural Layer													
Liner Material		HDPE											
Design Temperature	°C	65						65					
Liner Material		PE-X											
Design Temperatur	°C	90						90					
Liner Material		PA12											
Design Temperature	°C	80						80					
Liner Material		PVDF											
Design Temperature	°C	130						130					
Thermal Conductivity	W/m · K	0.4						0.4					
Thermal Conductivity of Thermal Insulation Materials		0.02						0.02					
Coefficient Of Thermal Expansion	m/m · °C	1.0E-04						1.0E-04					
Smooth Bore Surface Roughness	mm	0.001						0.001					
	in	3.9E-05						3.9E-05					
Carcass Surface Roughness	mm	0.5-3.0						0.5-3.0					
	in	0.02-0.12						0.02-0.12					
External Environment													
Water Depth		200						200					
Collapse Pressure	MPa	>2.0						>2.0					
Design Life	year	20											
Notes		Specific design is based on actual projects and parameters may be slightly modified.											

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by