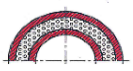
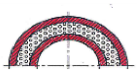
Technical data sheet for KG-PVC pipes and fittings

		Solid wall pipe	Multilayer pipe	Multilayer pipe	Solid wall fittings
					
		Ostendorf Kunststoffe	Ostendorf Kunststoffe	Ostendorf Kunststoffe	Ostendorf Kunststoffe
		PVC SN 10 plus	PVC SN 4 **Coex**	PVC SN 8 **Coex**	**PVC Fittings**
Pipe specifications	Applicable standards	**DIN EN 1401-1**	**DIN EN 13476-2**	**DIN EN 13476-2**	**DIN EN 1401-1**
	Certifications				
	SN Class (classified by standard)	8	4	8	4
	Load class	High load	Normal load	High load	High load
	Construction (smooth inner and outer skin)	**Solid wall**	**Co-extruded**	**Co-extruded**	**Solid wall**
	SDR (Standard Dimension Ratio) (d/e)	34	41	34	41
	Pipe series iaw. ISO 4065				
	Profile pipe iaw. DIN 16961 (for PVC pipes)	6	5	6	5
	Series iaw. DIN 8062 (for PVC pipes)	3	(≈ 2.5)	3	(≈ 2.5)
	Pipe class iaw. DIN 8062 (for PVC pipes)	C	(B)	(C)	(B)
Properties	**Ring stiffness iaw. DIN EN ISO 9969 [kN/m²]**	**> 10**	**> 4**	**> 8**	**> 10**
	Ring stiffness iaw. DIN 16961 [kN/m²]	≥ 63	≥ 31,5	≥ 63	≥ 63
	Material	PVC-U	PVC-U coex	PVC-U coex	PVC-U
	Content of mineral-based additives [%]	≈ 20	≈ 20	≈ 20	0% ; max. 4 %
	Median density	≈ 1.5	≈ 1.0	≈ 1.0	≈ 1.4
	Color	Orange-brown	Orange-brown	Orange-brown	Orange-brown
	Short-term modulus of elasticity [N/mm²]	3000	3000	3000	3000
	Long-term modulus of elasticity [N/mm²]	1500	1500	1500	1500
	Coefficient of linear expansion [mm/m x K]	≈ 0.08	≈ 0.08	≈ 0.08	≈ 0.08
	Thermal conductivity in [W/K x m]	≈ 0.16	≈ 0.16	≈ 0.16	≈ 0.16
	Surface resistance in Ω	$> 10^{12}$	$> 10^{12}$	$> 10^{12}$	$> 10^{12}$
	Chemical resistance	ph 2-12	ph 2-12	ph 2-12	ph 2-12
	Recyclability	100%	100%	100%	100%
	Abrasion per 100,000 load cycles a_m^{100}		≈ 0.17	≈ 0.20	
	Impact strength at 0°C	++	+	+	++
	Impact strength at -10°C	++			+
Recommendation	Use below traffic surfaces	SLW 60 compatible	SLW 60 compatible	SLW 60 compatible	SLW 60 compatible
	Coverage heights [m]	≈ 0.5-8.0	≈ 1.0-3.0	≈ 0.5-8.0	≈ 0.5-8.0
	Wall surface roughness k (from KRV handbook)	< 0.1 mm	< 0.1 mm	< 0.1 mm	< 0.1 mm
	Operational roughness (from ATV 110)	0.40 mm	0.40 mm	0.40 mm	0.40 mm
	Waste water temperatures:	DIN EN 476	DIN EN 476	DIN EN 476	DIN EN 476
	Wastewater — continuous load	45 (≤ DN 400)	45 (≤ DN 400)	45 (≤ DN 400)	45 (≤ DN 400)
	Water temperatures- — continuous load	35 (> DN400)	35 (> DN400)	35 (> DN400)	35 (> DN400)
	[°C] — short-term	60	60	60	60
	Tightness checks	0.5 bar water -0.3 bar air	0.5 bar water -0.3 bar air	0.5 bar water -0.3 bar air	0.5 bar water -0.3 bar air
	Suitability for high-pressure rinsing	suited	suited	suited	suited
	Grades	ATV A 110	ATV A 110	ATV A 110	ATV A 110
	Volumetric flow speeds	ATV A 110	ATV A 110	ATV A 110	ATV A 110
	Hydraulic output	ATV A 110	ATV A 110	ATV A 110	ATV A 110
	Installation and testing	DIN EN 1610	DIN EN 1610	DIN EN 1610	DIN EN 1610
Application	As inaccessible water main in the floor slab	yes	yes	yes	yes
	As water main in soil	yes	yes	yes	yes
	As lines for condensates from boiler plants	yes	yes	yes	yes
	As downpipes — provided the max. wastewater	yes	no	no	yes
	As collector pipes — temperature is < 45°C	yes	no	no	yes
	In groundwater areaa	yes	yes	yes	yes
	As below-ground pressure was wastewater and rainwater pipe (gravity fed drainage system)	yes	yes	yes	yes
Material characteristic va		From ATV A 127	From ATV A 127	From ATV A 127	From ATV A 127
	Material	PVC-U	PVC-U	PVC-U	PVC-U
	Short-term modulus of elasticity [N/mm²]	3000	3000	3000	3000
	Long-term modulus of elasticity [N/mm²]	1500	1500	1500	1500
	Short-term bending strength [N/mm²]	90	90	90	90
	Long-term bending strength [N/mm²]	50	50	50	50
	Density	13,5	10,0	10,0	13,5
	Vibration bandwidth σA	9	9	9	9
	Fire behavior	low flammability	low flammability	low flammability	low flammability
	Construction materials class iaw. DIN 4102-1	B1	B1	B1	B1
	Fire behavior classification - DIN EN 13501-1	E ; no burning droplets			E ; no burning droplets