

# LINER SAMPLE DELIVERY NOTE FOR MATERIAL TESTING



INITIAL TEST



REPEATED TEST

for Test Report No.

## 1. Sampling data:

Sample taken by:		Test institute:	
Date / time:		Address:	

## 2. Sample identification:

Project:		Material ID:	
Project owner / client:		Sample description:	
Cost centre:		Sewer line description:	
Installer firm:		Nominal diameter:	
Liner manufacturer:		Date installed:	
Carrier material:		Host pipe condition:	<input type="radio"/> I <input type="radio"/> II <input type="radio"/> III
Resin material:		Sampling location:	<input type="radio"/> MH-MH line <input type="radio"/> final MH <input type="radio"/> interm. MH
Pipe geometry:	<input type="radio"/> circular <input type="radio"/> egg shape	Sampling position:	<input type="radio"/> crown <input type="radio"/> springline <input type="radio"/> invert

## 3. Required initial properties according to structural design calculations:

Flexural E-modulus $E_f$ [N/mm <sup>2</sup> ]:		Circumferential E-modulus $E_U$ [N/mm <sup>2</sup> ]:	
Bending stress $\sigma_{fB}$ [N/mm <sup>2</sup> ]:		Initial ring stiffness $S_0$ [N/m <sup>2</sup> ]:	
Wall thickness $d$ [mm]:		Maximum creep $K_{N24}$ [%]:	
Reduction factor $A_1$ :		Density $\delta$ [g/cm <sup>3</sup> ]:	

## 4. Test results:

Flexural modulus, bending stress acc. to DIN EN ISO 178



Date tested	E <sub>f</sub> [N/mm <sup>2</sup> ]	σ <sub>fB</sub> [N/mm <sup>2</sup> ]	h [mm]
Load type <input type="radio"/> axial <input type="radio"/> radial			

24 h creep after DIN EN ISO 899-2



Date tested	K <sub>N</sub> [%]

Circumf. E-modulus, initial ring stiffness acc. to DIN EN 1228



Date tested	E <sub>U</sub> [N/mm <sup>2</sup> ]	S <sub>0</sub> [N/m <sup>2</sup> ]	h [mm]

24 h creep after DIN EN 761



Date tested	K <sub>N</sub> [%]

Water tightness acco. to DIN EN 1610



Date tested	Load period	Test pressure [bar]	Test result
	30 minutes		<input type="radio"/> passed (tight) <input type="radio"/> failed (leaking)

Calcination method acc. to DIN EN ISO 1172



Date tested	Resin [%]	Total residues [%]	Glass content [%]	Additive [%]

Spectral analysis after ASTM D 5576 (FT-IR)



Date tested	EP resin	UP resin	VE resin	Other resin

Density acc. to DIN EN ISO 1181-1 or -2



Date tested	δ [g/cm <sup>3</sup> ]

Thermal analysis acc. to DIN EN ISO 11357-1 / DSC analysis DIN 53765 Method A



Date tested	Glass transition temperature [°C]	Enthalpy [J/g]
	T <sub>G1</sub> T <sub>G2</sub> ΔT <sub>G</sub>	<input type="radio"/> exothermic <input type="radio"/> endothermic

Residual styrene content acc. to DIN 53394-2 (GC)



Date tested	Weighed-in quantity [mg]	Residual styrene [mg/kg]	Residual styrene [%]	Weight-in quantity referred to
				<input type="radio"/> Total quantity <input type="radio"/> Pure resin

## 5. Evaluation of results:

Requirement	met	not met
Flexural-E-modulus $E_f$	<input type="radio"/>	<input type="radio"/>
Bending stress $\sigma_{fB}$	<input type="radio"/>	<input type="radio"/>
Wall thickness $d$	<input type="radio"/>	<input type="radio"/>
Water tightness	<input type="radio"/>	<input type="radio"/>

Requirement	met	not met
Circumfer. E-modulus $E_U$	<input type="radio"/>	<input type="radio"/>
Initial ring stiffness $S_0$	<input type="radio"/>	<input type="radio"/>
24 h creep $K_N$	<input type="radio"/>	<input type="radio"/>
Density $\delta$	<input type="radio"/>	<input type="radio"/>

## 6. Remarks:

## 7. Signature of tester / lab: