Werkstoffauswahl mithilfe von Kennwerten

17. Oktober 2022

„Jour Fixe“ des Clusters CU West

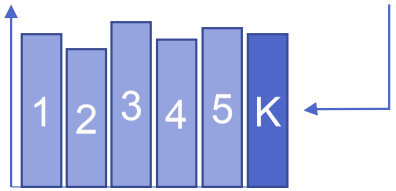
Leibniz-Institut für Verbundwerkstoffe

www.thefutureiscomposite.com

Dr.-Ing. Sebastian Schmeer

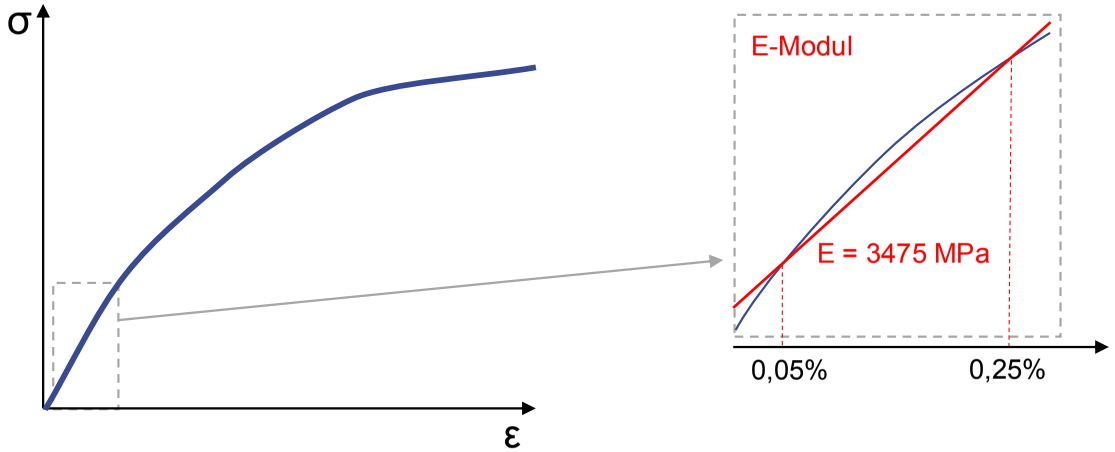
Definition Kennwerte

- Kennwerte sind charakteristische Zahlenwerte, die eine Leistungsfähigkeit beschreiben



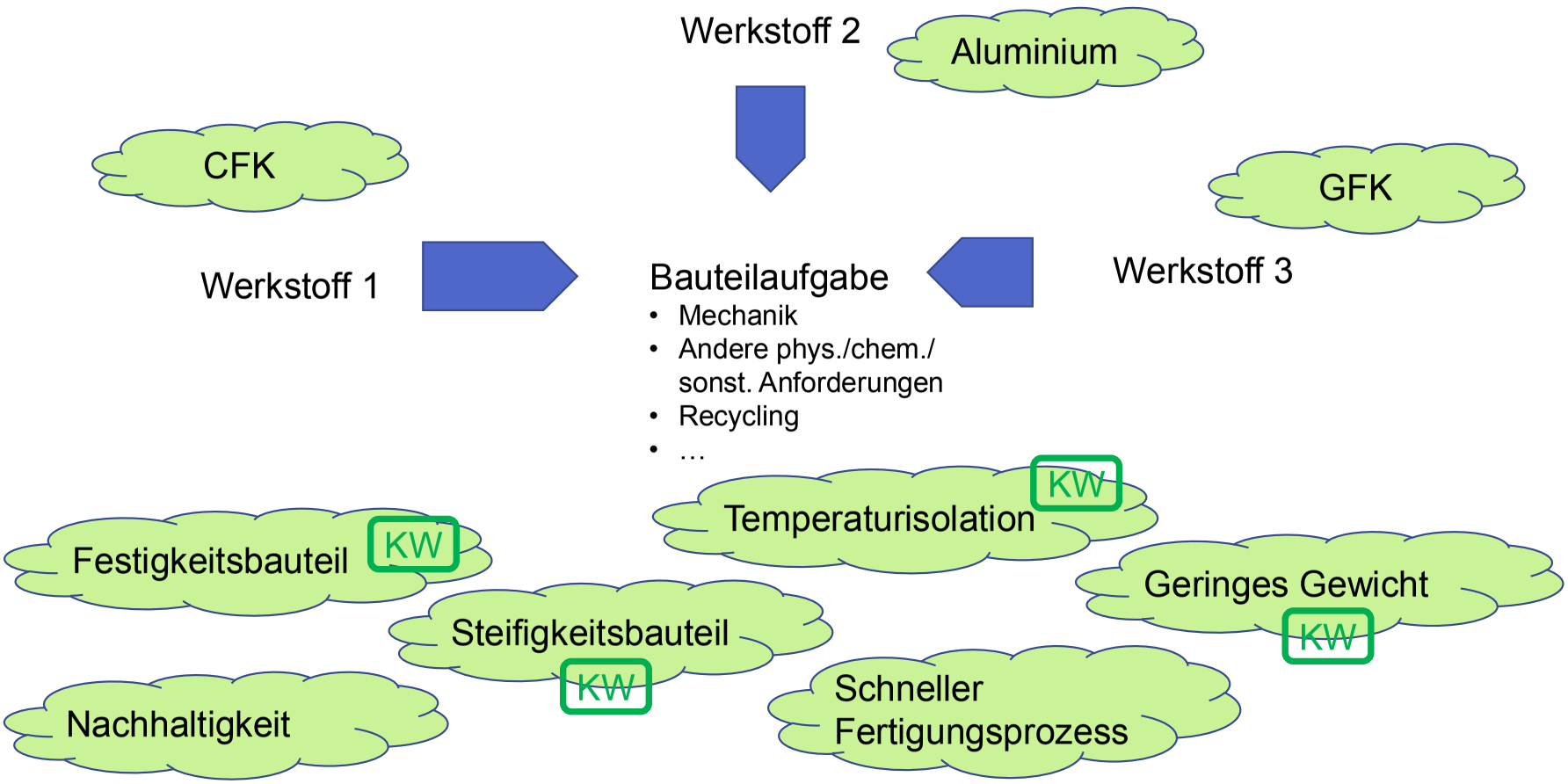
- Kennwerte sollen das Werkstoffverhalten beschreibbar machen → Vereinfachung

Beispiel:
Spannungs-
Dehnungs-
Beziehung



- Kennwerte müssen vergleichbar sein → Normen (DIN, ISO,…)

Ziel: Vorteilhafter Einsatz von Werkstoffen



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Werkstoffauswahl unterstützt durch Datenbanken

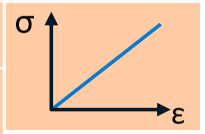
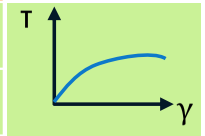
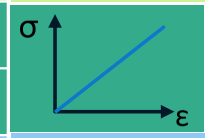
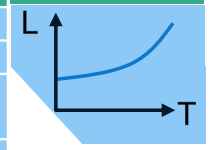
Leibniz Gemeinschaft

Leibniz-Institut für Verbundwerkstoffe

CAMPUS cFRTP

Public launch Oct 2019

End users

	Material Properties		Testing Condition -40°C	Testing Condition 23°C	Testing Condition 85°C	Standard	
General Properties	Thickness	dry		✓			
	ρ	dry		✓		ISO 1183-1; ISO 1183-2; ISO 1183-3	
		cond.		✓			
	φ (or V_f)	dry		✓		ISO 11667	
Tensile Properties	E_1	dry	✓	✓		ISO 527-4; ISO 527-5	
		cond.		✓	✓		
	R^t_1	dry	✓	✓		ISO 527-4; ISO 527-5	
		cond.		✓	✓		
	E_2	dry	✓	✓		ISO 527-4; ISO 527-5	
		cond.		✓	✓		
	R^t_2	dry	✓	✓		ISO 527-4; ISO 527-5	
		cond.		✓	✓		
	v_{12} (or v_{21})	dry		✓		ISO 527-4; ISO 527-5	
Shear Properties	G_{12}	dry	✓	✓		ISO 14129	
		cond.		✓	✓		
	R_{12}	dry	✓	✓		ISO 14129	
		cond.		✓	✓		
Bending Properties	E_{1f} , R_{1f}	dry		✓		ISO 14125 3-Point-Bending	
		cond.		✓			
	E_{2f} , R_{2f}	dry		✓		ISO 14125 3-Point-Bending	
		cond.		✓			
Thermal Properties	α_{T1}	dry		✓		ISO 11359-2	
	α_{T2}	dry		✓		ISO 11359-2	
	T_m/T_g	dry		✓		DIN EN ISO 11357-2/3	
	Heat deflect. temperature	dry		✓		ISO 75-3	

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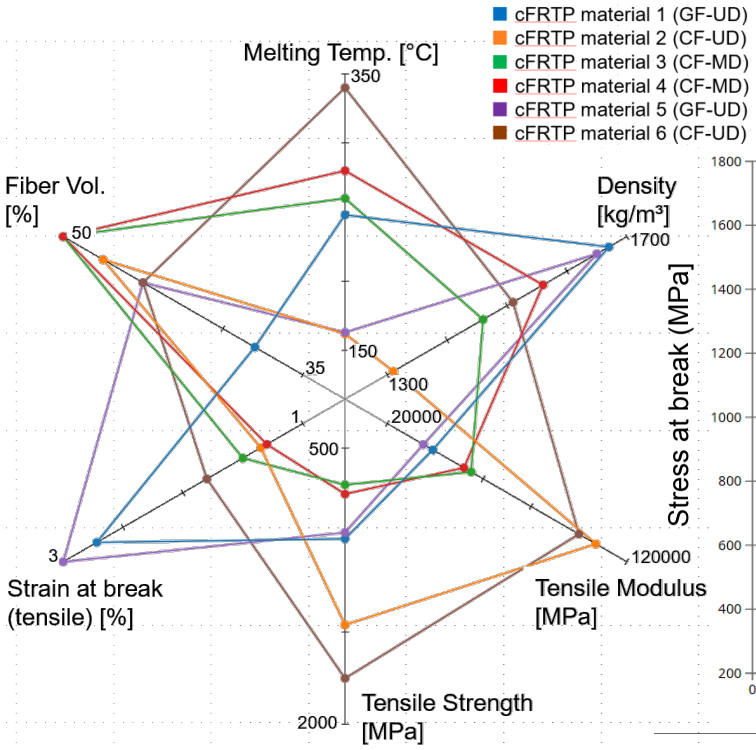
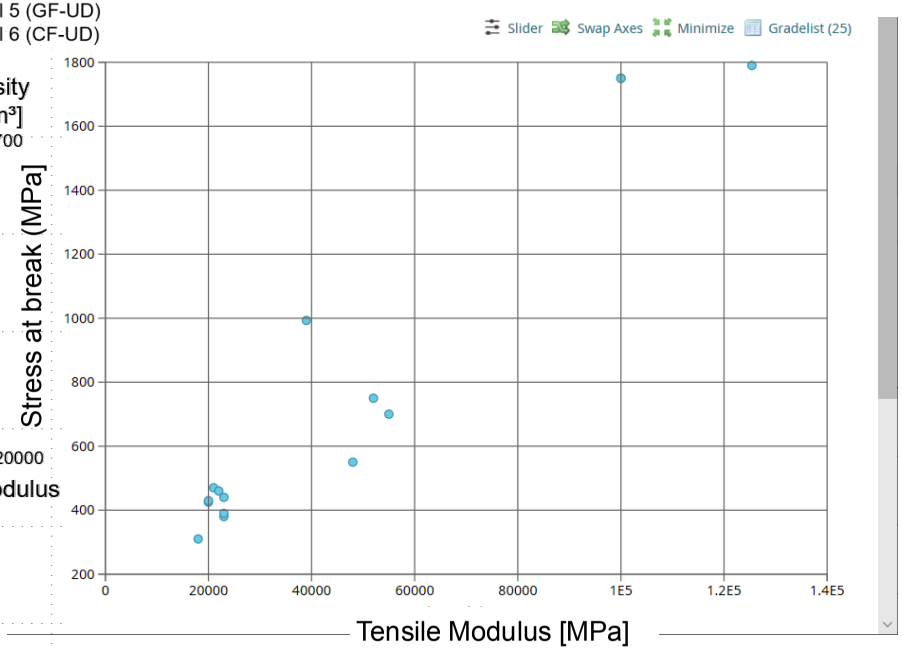
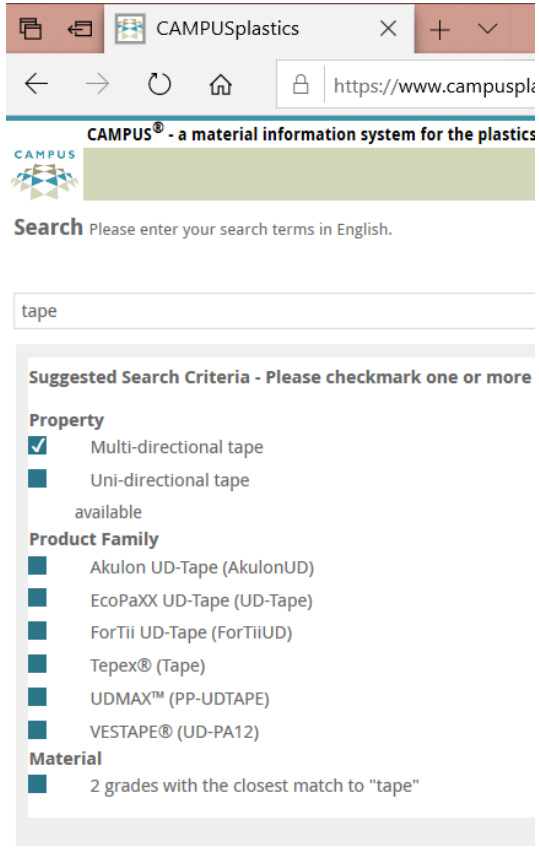
https://www.campusplastics.com/campus/







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Thank you for your attention

For further technical details

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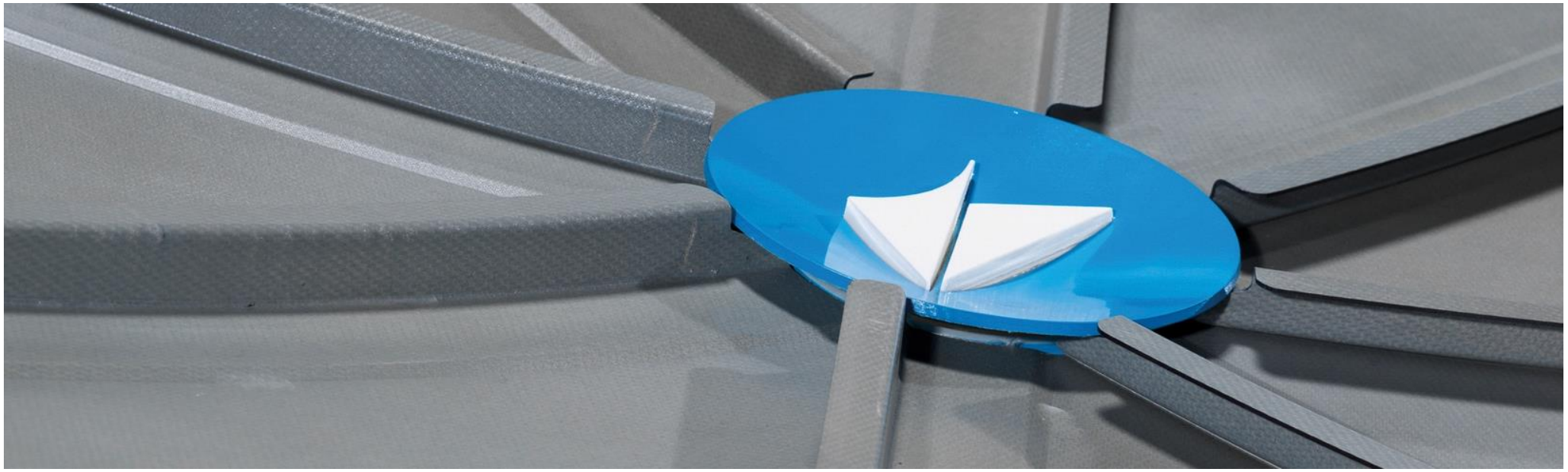

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