

Neue Software für Produktionsberechnungen in der Flechtere

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Aufgabe

Berechnung der wichtigsten Parameter für die Produktion von Geflechten:

benötigte Garnlänge

Zeit für Spulvorbereitung

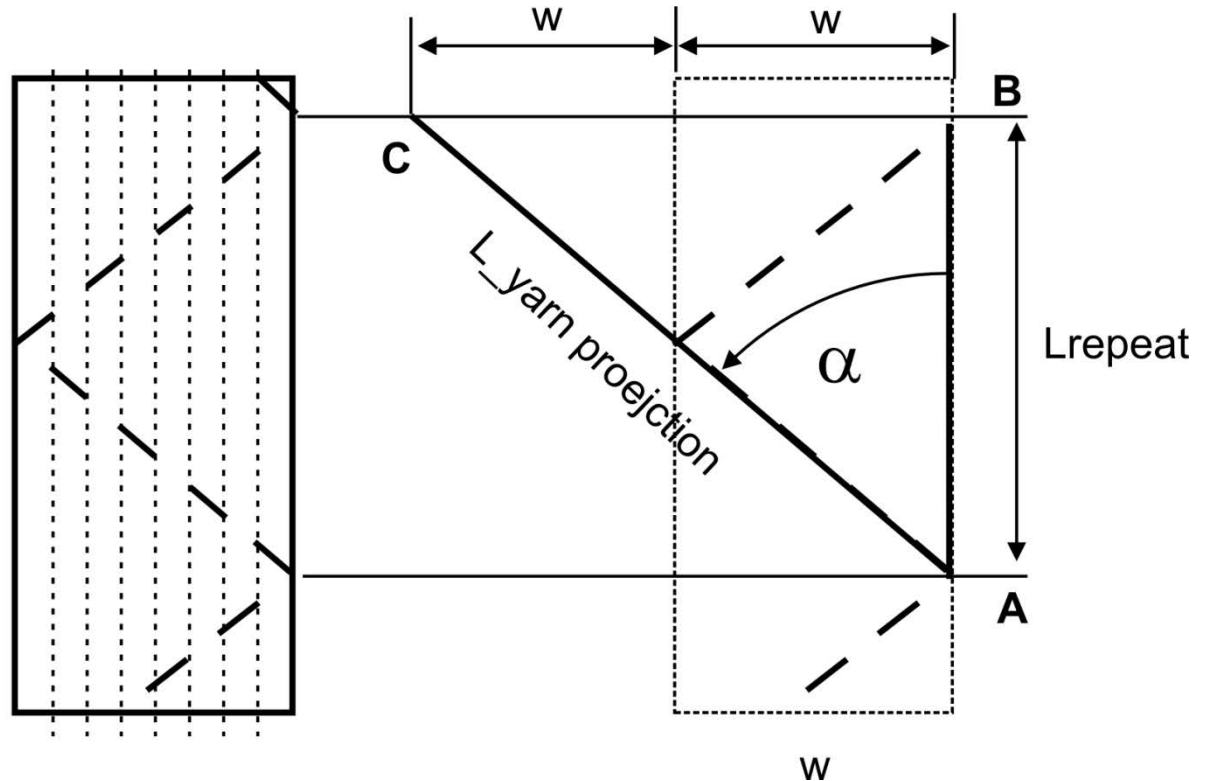
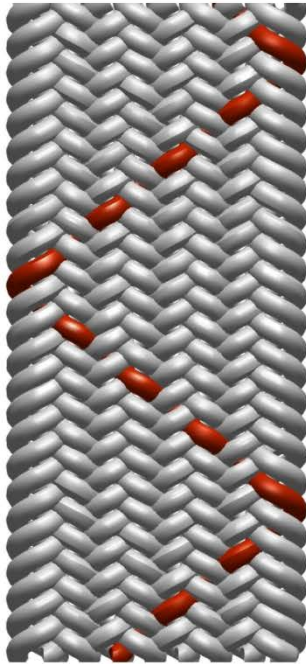
Länge des Geflechts ohne Knoten (pro Spule)

Gewicht pro Meter

Grundlagen:

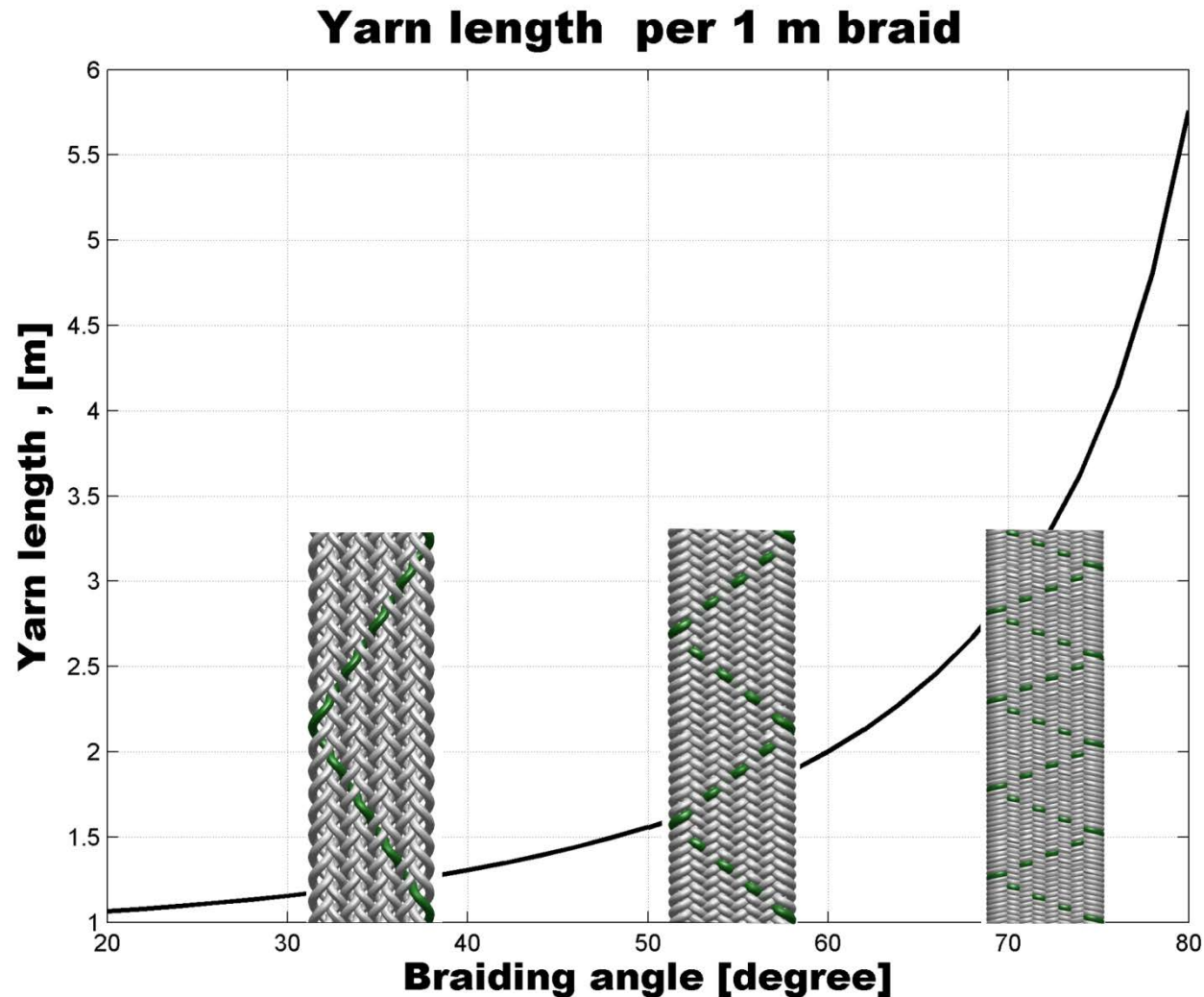
Kyosev, Y., Braiding Technology for Textiles, Woodhead Publishing, 2014

Flechtgeometrie



Quelle: Kyosev, Y., Braiding Technology for Textiles, Woodhead Publishing 2014

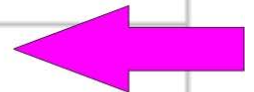
Garnlänge



Quelle: Kyosev, Y., Braiding Technology for Textiles, Woodhead Publishing 2014

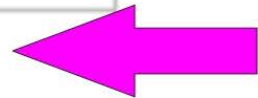
Abzugsgeschwindigkeit

	Dimension	Value
Main Data		
Number Carriers	--	16
Braid Type	--	tubular
Horn Gear rpm		250
Diameter/Width		8
Braiding Angle	Degree	45
Take Off Speed	m/min	16.67

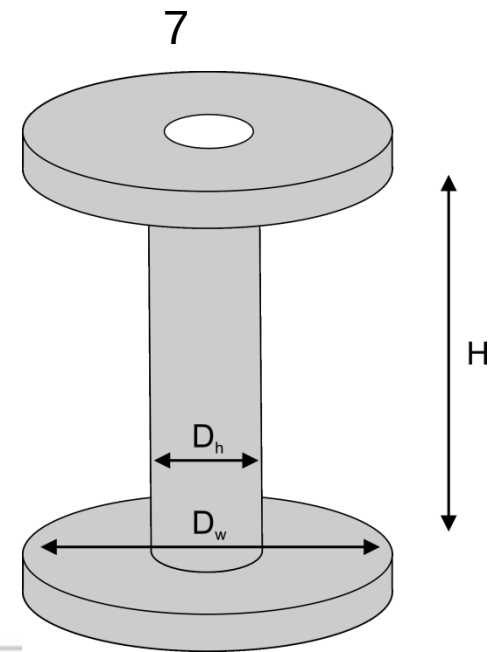


Effektive Feinheit (für gefachte Garne)

Take Off Speed	m/min	10.29
Yarn Data		
Yarn Linear Density	tex	80
Yarn Type	-Name-	PP
Yarn Density	g/cm ³	0.9
Number Plays in one yarn	--	3
Effektive Yarn Finnes per Carrier	tex	240.00



Garnlänge auf einer Spule



Effektive Yarn Finnes per Carrier	tex	240.00
Bobbin Data		
Bobbin Min Diameter	cm	1.2
Bobbin Max Diameter	cm	4
Bobbin Width	cm	400
Bobbin Volume	cm ³	4574.02
Wound Package Density	g/cm ³	0.7
Bobbin Masse	g	3201.82
Bobbin Length	km	13.34

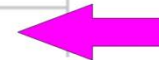
← 1

← 2

← 3

Zeit für Spulen einer Spule und allen Spulen für eine Maschine

Bobbin Length	km	13.34
Winding Machine Data		
Winding Velocity	m/min	100
Total Winding Time per Bobbin	min	133.41
Number Winding Heads	--	4
Total Winding Time for all carriers	min	533.64



Gewicht pro Meter und Länge ohne Unterbrochene Fadenenden

Total Winding Time for all carriers	min	999.04
Braid Data		
Rope Length (without knots)	km	9.43
Rope Masse per meter	g	5.43
Braiding Machine Data		
Meters Rope per Hour	m	1000.20
Hours to next bobbin Change	hour	9.43

Gesamt Übersicht

Machine	Log	Settings	Calculations
Use current machine		Re-calculate	Print
Clear		Save	Export

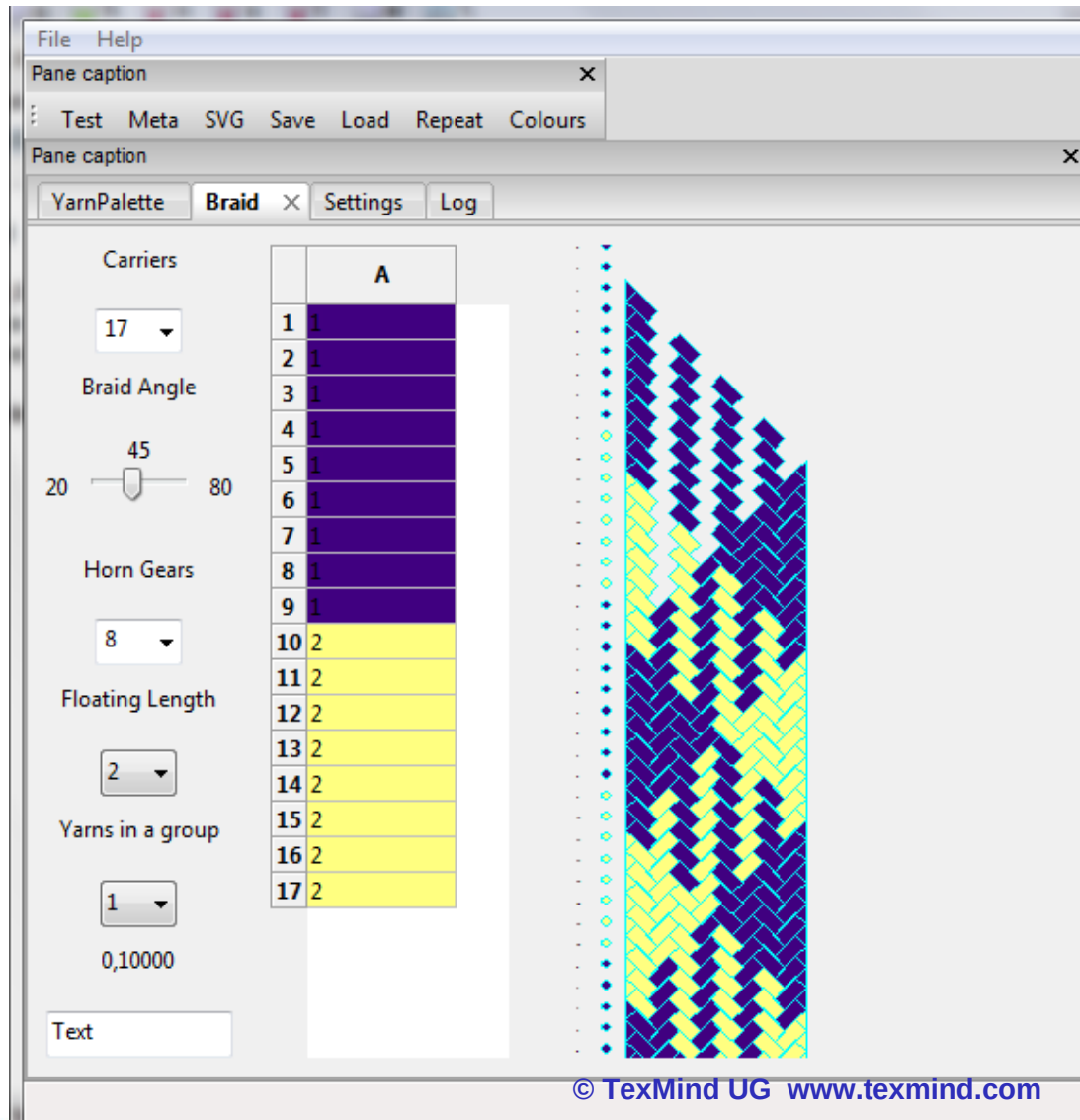
	Dimension	Value
Main Data		
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Braid Type	--	tubular
Horn Gear rpm		250
Diameter/Width		8
Braiding Angle	Degree	45
Take Off Speed	m/min	16.67
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Rope Masse per meter	g	5.43
Braiding Machine Data		
Meters Rope per Hour	m	1000.20
Hours to next bobbin Change	hour	9.43

Übersicht

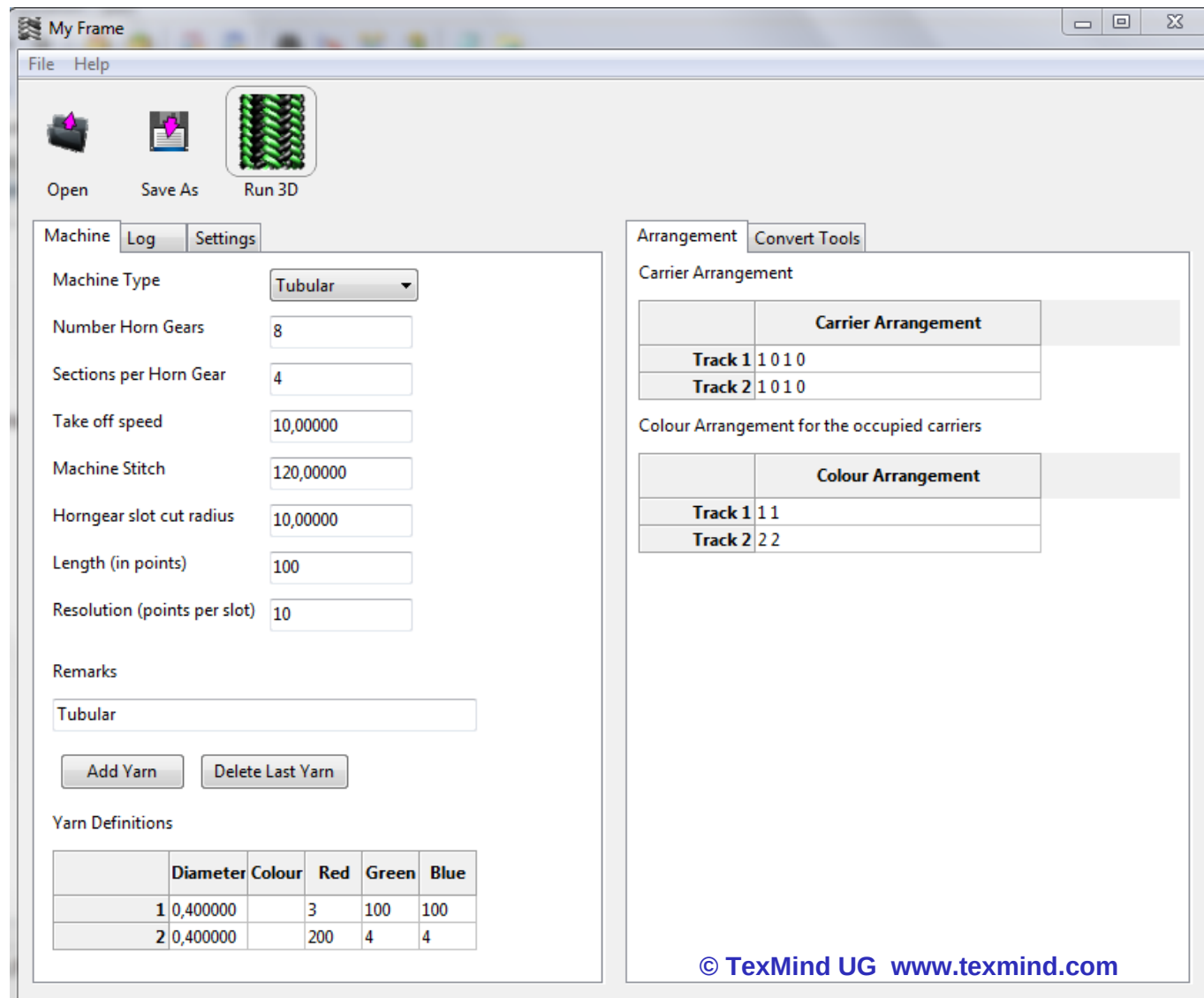
**von anderen implementierte Algorithmen
und Ergebnisse aus Untersuchungen**

in Software

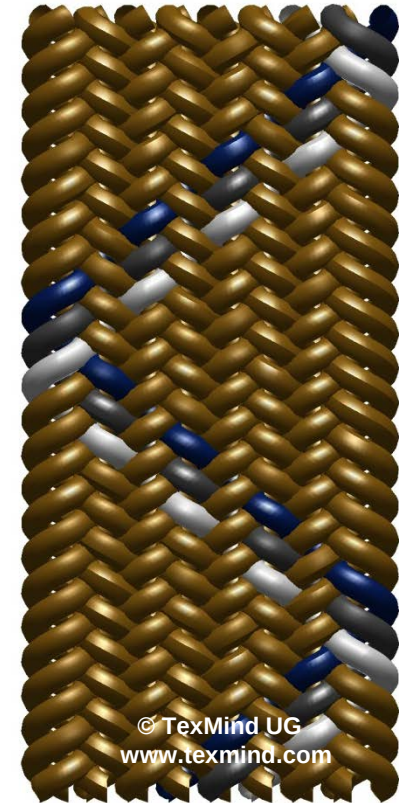
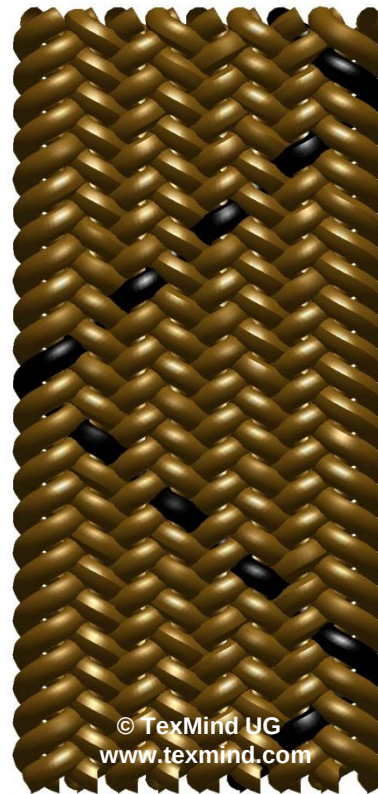
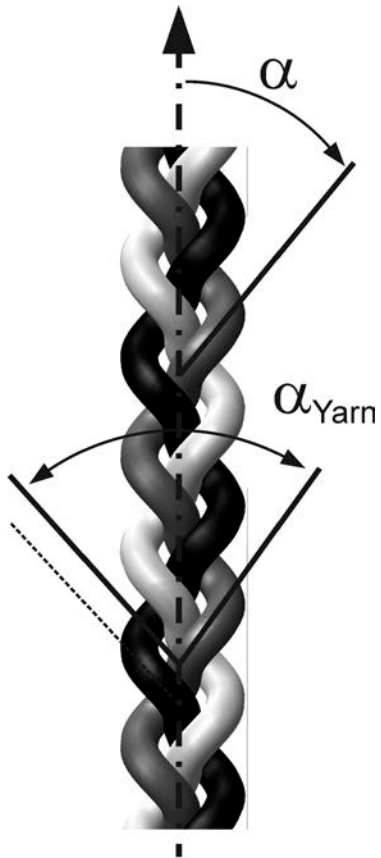
Farbmusterung für Flachgeflechte



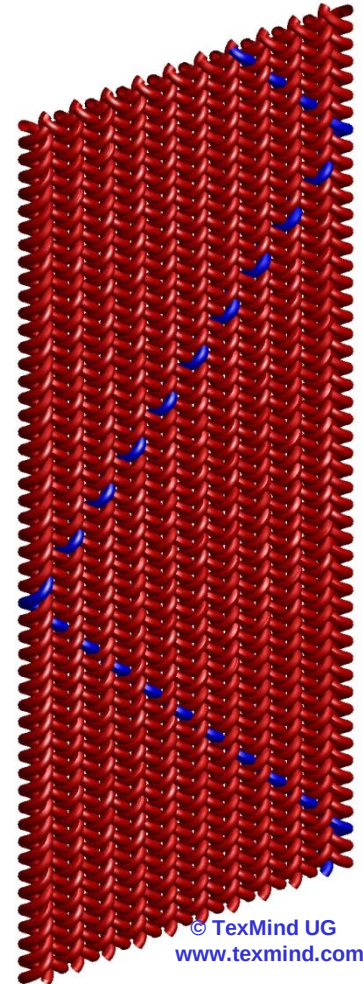
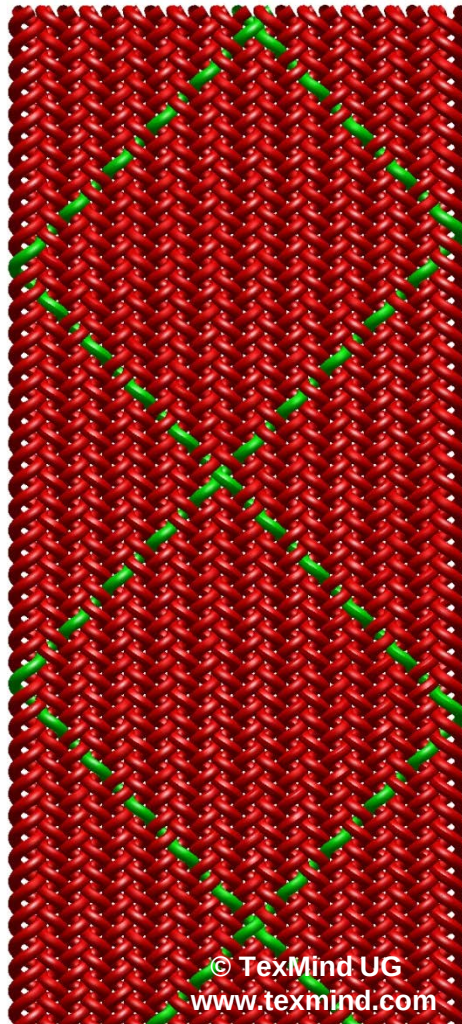
3D Geflecht Simulator (Braider Geo3D)



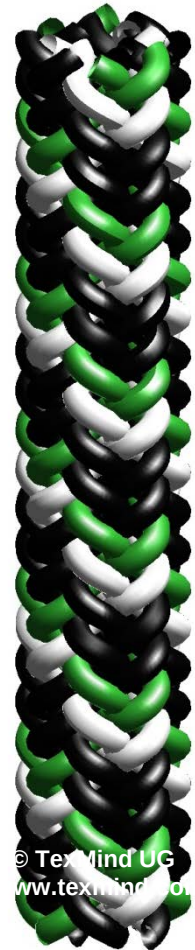
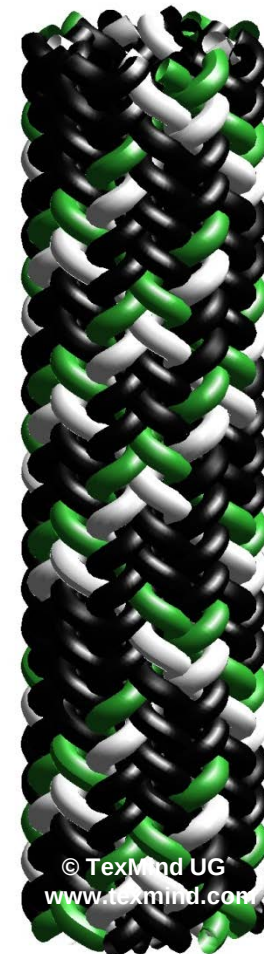
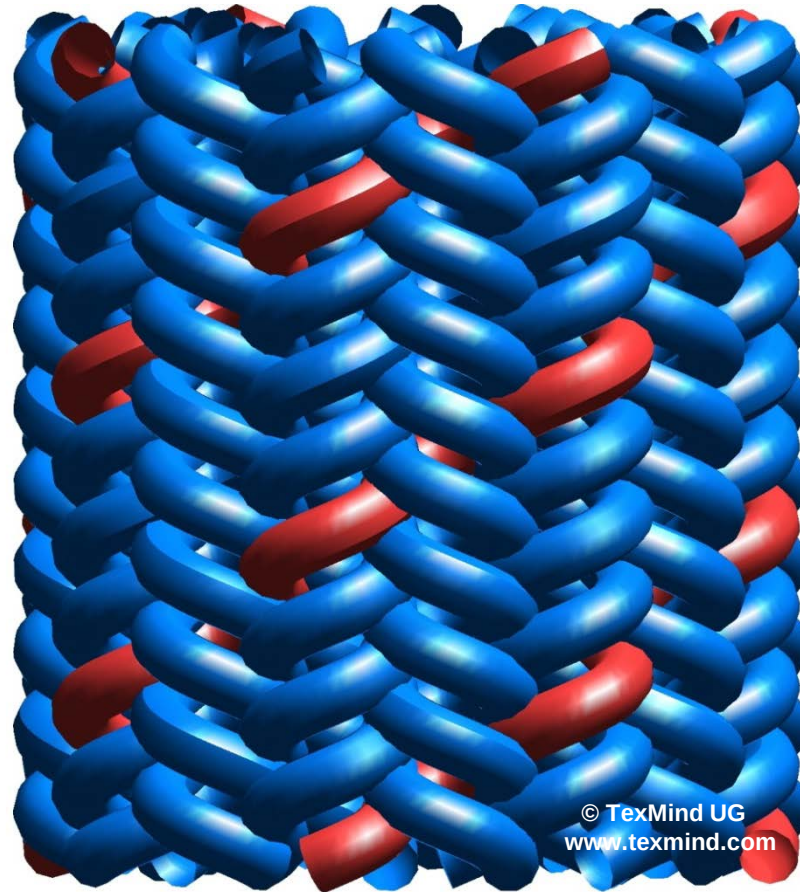
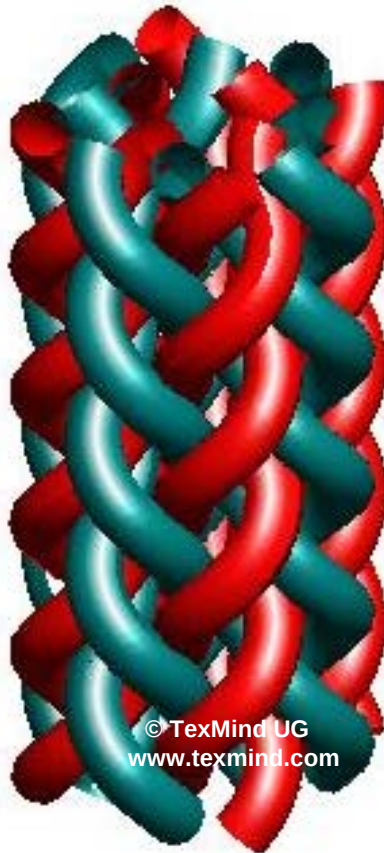
Simulierte Flachgeflechte



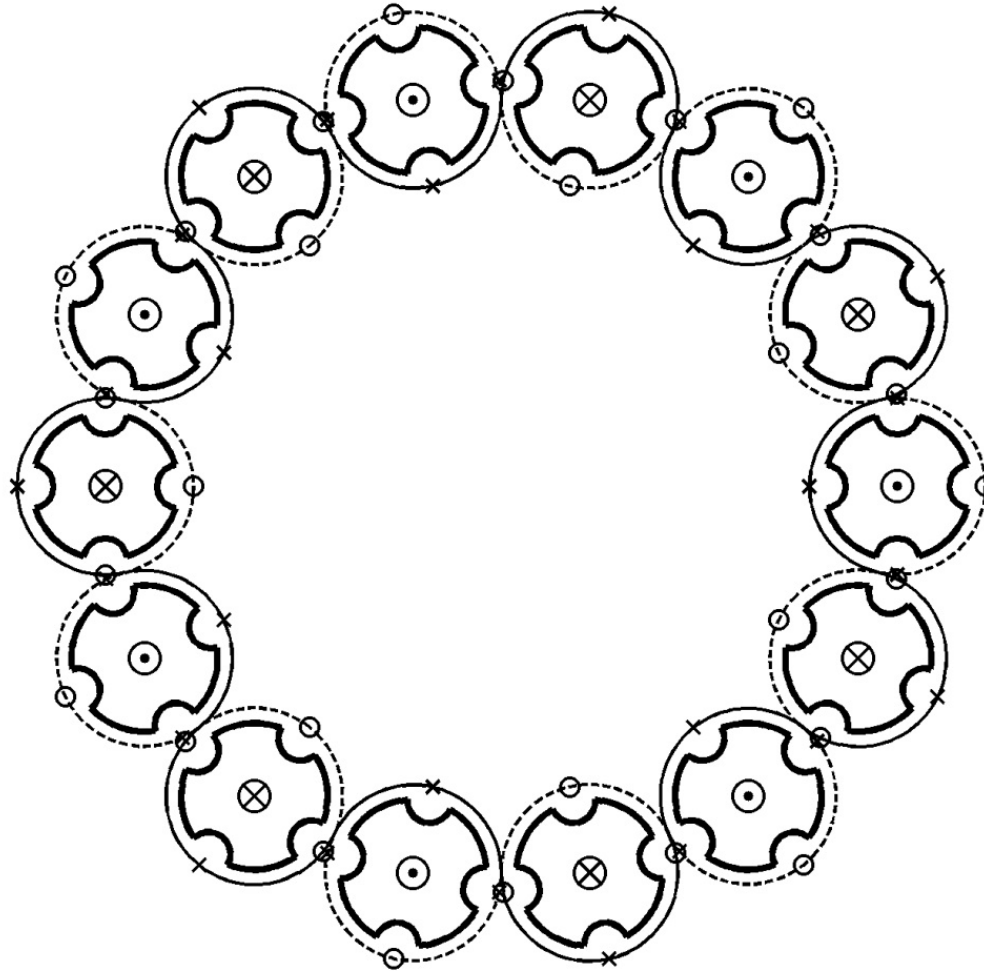
Flachgeflechte



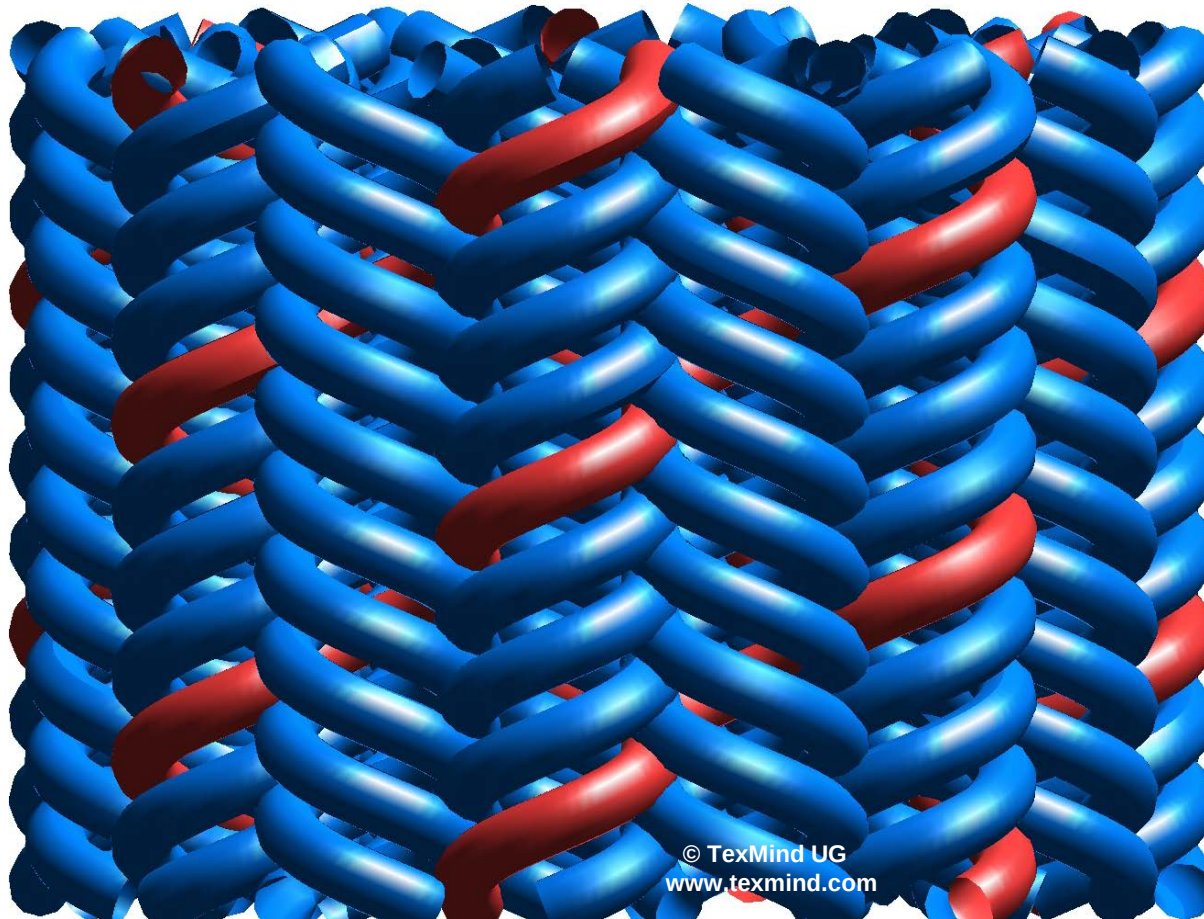
Rundgeflechte



Maschinenkonfiguration



Dreiflechtiges Muster



Konfigurator für benutzerdefinierten Maschinen

My Frame

File Help

Machine **Horn Gears** x TransferPlaces Carrier Arrangements

	Slots	Radius	coord xc	coord yc	direction	start angle
1	4	40,00	40	40	0	0
2	4	40,00	120	40	0	0
3	4	40,00	200	40	0	0
4	4	40,00	280	40	0	0
5	4	40,00	40	120	0	0
6	4	40,00	120	120	0	0
7	4	40,00	200	120	0	0
8	4	40,00	280	120	0	0
9	4	40,00	40	200	0	0
10	4	40,00	120	200	0	0
11	4	40,00	200	200	0	0
12	4	40,00	280	200	0 </td <td>0</td>	0
13	4	40,00	40	280	0	0
14	4	40,00	120	280	0	0
15	4	40,00	200	280	0	0
16	4	40,00	280	280	0	0

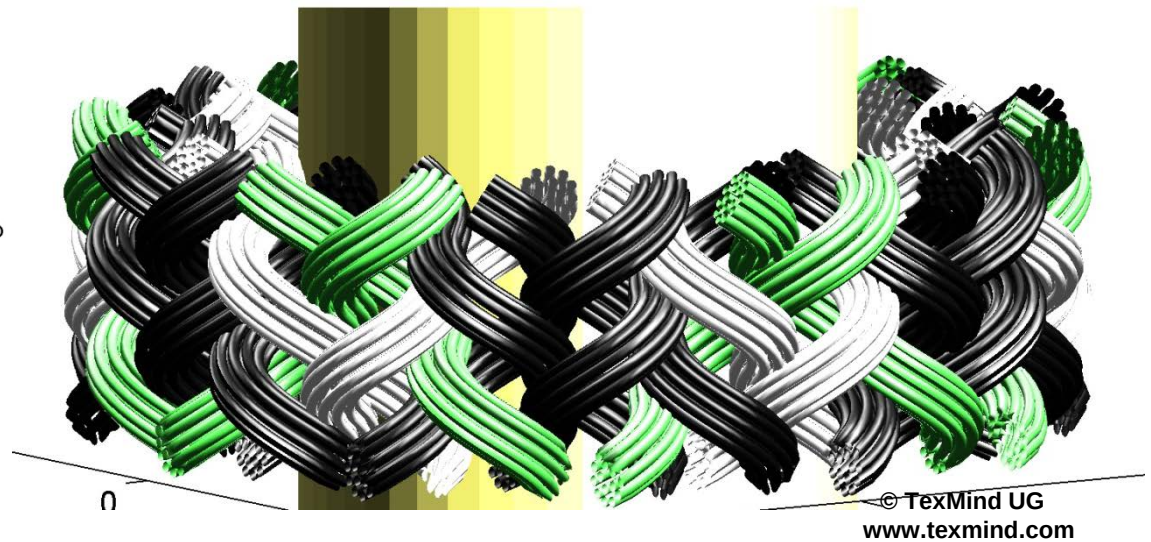
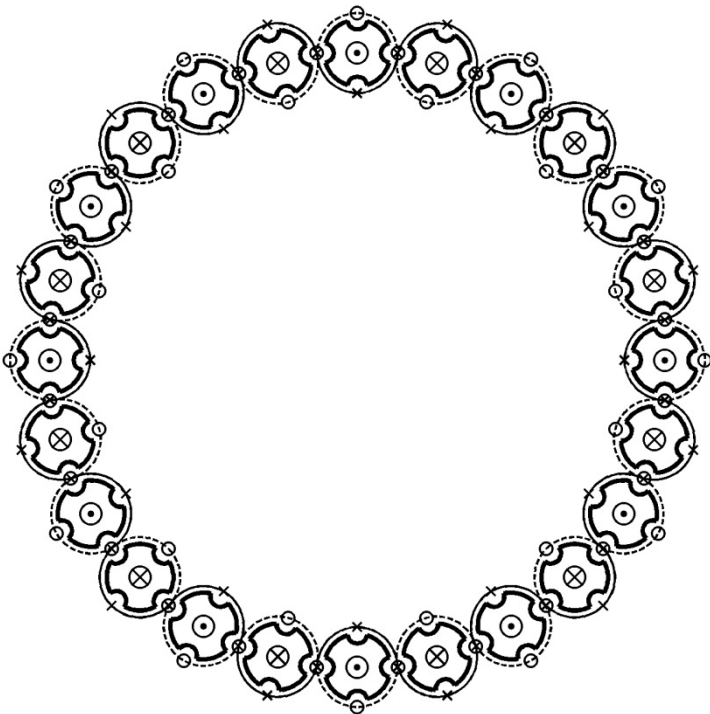
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Braiding technology for textiles: Principles, design and processes

Yordan Kyosev, Niederrhein University of Applied Sciences, Germany

Woodhead Publishing Series in Textiles No. 158

Braided fabrics are made by intertwining yarns or strips of fabric. Braiding produces a wide range of structures for technical textile applications from medical sutures to cables for anchoring ships. Written by one of the world's leading experts in the field, the book reviews the basic principles, design and processes used in braiding. The book also discusses specialised braiding techniques such as spiral braiding and lace technology.

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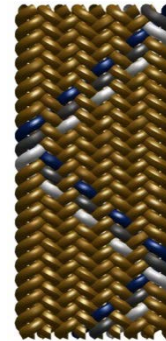
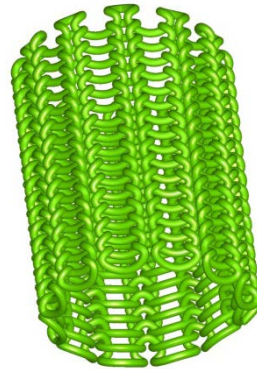
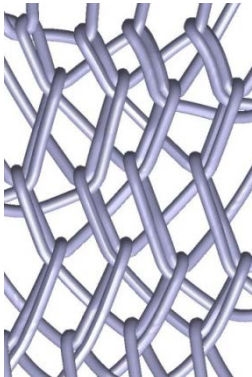
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