

【Criteria ver.1】 ※ This criteria should be appropriately updated in response to changes in circumstances, such as the evaluation of the sustainability of composite fibers and the innovation of manufacturing technologies and facilities and so on.


Phase	Allotment	Sec.	Evaluation and scoring calculation	Speciation	Coefficient	Evaluation Comment	Sustainable points (reasons)	
Design (55)	25	Triacetate (Soalon)	25p X composition ratio(%) X 1		1	Making triacetate(Cellulosic certification yarn) a criterion of coefficient ,as a sustainable fiber	Reference: coefficient at the past evaluation (uncertified 0.5 → Biomass Certified 0.6→ FSC-COC 0.8→Bluesign Approved 1)	
		Mixed yarn	25p X coefficient X composition ratio(%)	Plant fiber (cotton and linen etc.)	0.5	Inferior water resource efficiency in water risk areas	Each coefficient is set considering the degree of environmental burden, the content and extent of risk collateral with the certification system. (compared it and balanced with triacetate ,such as environment- friendly certified fibers, natural fibers, regenerated fibers, etc.). cf Annex fig-1 Conjugated fibers are judged according to composition. Use of biological proteins such as spider silk, euglena, etc. also categorized as bio. * a: Superior in terms of CO2 emissions not including carbon. Although it is easy to recycle, it is difficult to divide from textile (other materials are used as CO2 emission sources in the combustion method and are meaningless in the general composition ratio), and, conversely, its discomfort is a demerit and it is difficult to achieve durability as a clothing textile. ⇒ Inferior LCA Inventory Assessment Product Life. Meanwhile,extremely low mixing rate may be assumed in the composite scene, so aside from the evaluation of the material itself, as a composite yarn it is evaluated as inferior compared to other yarns.	
				Ditto, certified type	0.9			
				Animal fiber (animal hair)	0.4	GHG impacts and risk of the food crisis by livestock		
				Ditto, certified type	0.7			
				Silk, etc.	0.9			
				Ditto, certified type	1			
				Regenerated fiber	0.5	Chemical substances in manufacturing		
				Ditto, certified type	1			
				Synthetic fiber	0.4			
				Ditto, Recycled yarn	0.6			
				Ditto, Certified recycled yarn	0.8	There is a conformity rule regarding recycling composition ratio, etc		
				Bio-derived synthetic fiber	0.6+ (0.4x bio-degree%)	100% bio becomes coefficient 1.		
				Metallic fiber , inorganic fiber	0.2	In terms of CO2 emissions, it is dominant, but*a		
				Weaving Knitting (20)	6	Number of fiber type in a textile 6p X coefficient		One type (100%)
Two types (TA100)	1							
Two or more kinds of different	0							
4	Interchangeability of the warp and the weft	No 0p Yes(and knitted) 4p			Whether wp yarns can be used wf yarns (loss management)			
		Content of constituent yarns	20p X coefficient by twisting type Xcoefficient of Twist constant ÷ number of yarn types ※ Multiple yarn type:calculate individually each yarn and sum up later Textile:wp 12 points wf 8 points (reference) ※ The actual allocation of points is based on the actual design. Distribute 20 points by wp/wf weight ratio. Knitting: 20 points			Coefficient by twisting type	Twist constant — coefficient	 The coefficient of twist constant is adopted by calculation based on the total combined yarn fineness.
Simple twist/Plied yarn	1				Less than 90	1		
Multi-process, special twist yarn	0.5				90 to less than 150	0.5		
Slab, etc. fancy twist yarn	Composite process yarns, composed of two or more types of yarn (including false-twist)				150 to less than 200	0.3		
Single yarn false-twist							0.6	
Film yarn, metal yarn, etc.	0							
Weaving Knitting (20)	4			With or without sizing	With 0p Without (and knitted) 4p		Process · glue · energy (for sizingmachine/beam delivery etc)	
		1	Loom beam		Number of warper's beams addition and subtraction points	1B		0p
	2B			-2p				
	3B or more (knitted) Tricot			-5p				
	(knitted) Circular			0p				
				+1p				
	5	Weaving loss Knitting loss	※ Loss factor : all losses with design value 5p X coefficient	Within 0-5%	1	Strictly, only weaving loss(knitting loss) is enough. (separately,there is evaluation of constituent yarn twists), but duplication is negligible. Evaluated by total loss based on the simplicity of calculation. Large loss rate ⇒ Multiple processes are also supposed.		
				5 ↑ to less than 10%	0.6			
				10% or more	0			
	5	Rotational speed/Pick (wf density / gauge)	weft density of greige 5p X coefficient ※ For knitted fabrics, gauges are conveniently substituted.	90/inch or less	1	Production Efficiency: The production efficiency is regarded as the equivalent proportion of energy consumption. Model efficiency and electrical energy are neglected.		
more than 90/inch ~ less than110/inch				0.6				
110/inch or more				0				
5	Warping length	length of greige ÷ finish length (with design value) 5p X coefficient	~ Less than 1.2	1	Ditto			
			1.2~ Less than 1.5	0.6				
			1.5~	0				
Dyeing Finishing (20)	5	Input lot	Bath ratio	Coefficient values for each classification				
				Set coefficient based on the bath ratio in each division according to greige weight range coefficients are set positive and negative. 5p X coefficient	piece/B	<12 kg/piece	12 ≤ α ≤ 23 kg/piece	23 < kg/piece
					12 ≤	1.0	1.0	1.0
					10	0.0	1.0	1.0
					6~8	-0.5	0.0	1.0
	≤4	-1.0	-0.5	0.0				
	5	Number of wet processes	5p X coefficient	Once (HE-dyed)	1	Evaluate the amount of processes by the number of times using dyeing pot.		
				2 times (HE-RX-dyed)	0			
				3 times (HE-RX-dyeing-AF)	-0.4			
				Water-free dyeing	Add points		+5p	Water Resource Efficiency Perspective Evaluated with the certification. * The standard is set to ±0 by considering the addition point in the certification. Increase in dyestuffs and auxiliaries and deterioration in water efficiency Evaluation of additional chemical agents. Wrinkling as AF, LRM, SNR, etc. are excluded (evaluated by the number of steps in the dyeing pot).
Disperse (cationic) dyeing				Standard	0p			
Double bath dyeing	Deduct points	-5p						
One bath two-stage	Deduct points	-5p						
Special post-processes , incidental processes (Per 1 incidental processing)	Deduct points	-2p						
5	Processing technique	Certified for dye staffs , chemical agents, etc. Or organic origin, etc.	Add points	+5p	Point addition item (Including sakai ovex-inclusive certification by oeko-tex)			
			Add points					
Other (5)	5	Evaluation of the additive elements that do not fit into the above-mentioned endpoints but should be taken into account.	Add points	0 ⇔ +5p				

fig-1: [coefficient setting chart]

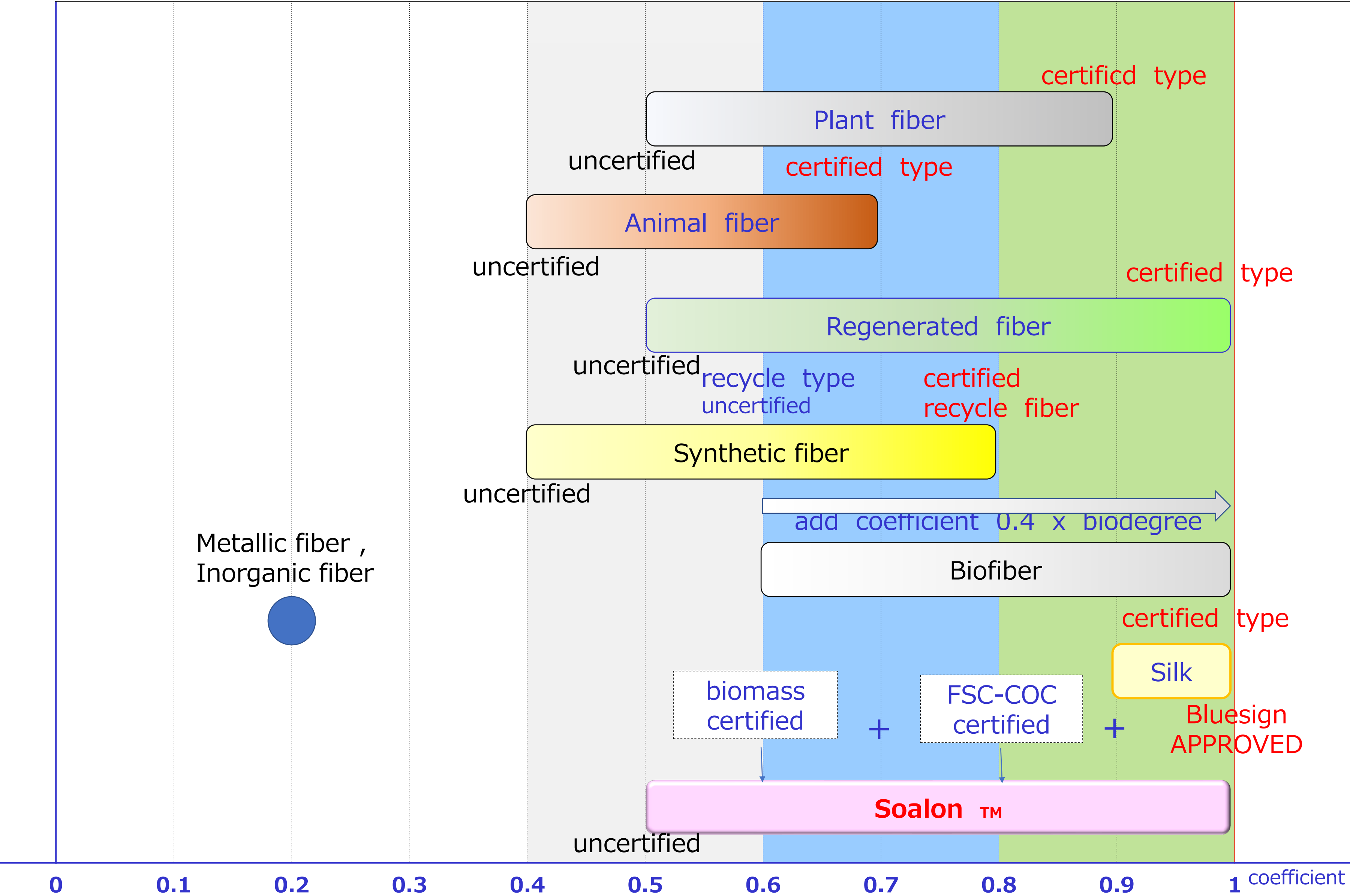


fig-2:【Evaluation weight】

