



**ENEXIS**  
NETBEHEER

**STEDIN**  
GROEP



#### Version

9-1-2020 (Concept Version)

## Goal of the template

Dear supplier,

You hereby receive the raw material passport from **network operator's name**. The format for this passport has been developed in collaboration with Dutch network operators Liander, Enexis Netbeheer, Stedin and TenneT. It has been decided to streamline the format of the raw material passports between suppliers. Requesting one comparable format from our suppliers reduces the administrative burden and increases the chance to learn from each other. Please note that the formats from the network operators are comparable but can differ slightly on specific structure and content.

From 2020 onwards, we will ask suppliers to complete a raw materials passport for all our primary assets, such as installations cables and pipes. The passport provides insight into the raw materials and materials the product consists of, how many recycled materials it contains and to what extent the product or material can be recycled or reused at the end of its life. For the time being the results will mainly be used to increase insight into the degree of circularity. All network operators have made specific agreements with their suppliers about the content of the passport and the privacy regarding data use. All parties involved acknowledge that insight into circular performance is a condition for being able to manage impacts. Alliander, Stedin and Enex Netbeheer are looking into the possibility of eventually including circularity as a distinctive element in tenders. TenneT will use the information to determine their impact and to use the year 2020 as the base year for their KPI. Among other things, TenneT has set itself the goal of reducing the use of non-recycled copper by at least 25% in 2025.

On the following tabs you will find an explanation of how we have defined circularity, how we have translated this into this raw materials passport, and the input sheets where the data for the asset in question can be entered.

We sincerely thank you for the collaboration; let's move towards a sustainable and circular infrastructure sector together

### Overall information (above table)

General information	
Supplier	Official registered name of the supplier
Product name	Product name, as also used in the systems of Enexis Netbeheer
Start date	Date at which the passport becomes active, and from which moment on Enexis Netbeheer will use the results in its analyses and reports.
Summary	
Total weight	Total weight of the product, calculates automatically from the table below
Circularity	Circularity score of the product, calculates automatically from the table below
Validation	
Name	Name of the person signing the passport
Function	Function of the person signing the passport (Should be C-level or national equivalent)
Signature	Signature of the person signing the passport

### Resource information (table, information to be filled in)

Resource information	
Material	Material selected from the list of available materials. It does include "Other" and "Unknown" but suppliers are encouraged to keep the use of those categories to a minimum. If a supplier feels another category or subset of materials should be added Enexis Netbeheer [Insert name and contact] can be contacted
Unit	Unit for which the weight is filled in (for example M, KM, Unit)
Measurement	Measurement for which the weight is filled in (for example 1, 100, 1000)
Weight (g)	Weight of the material in grams
Recycled (%)	Percentage of the material that is recycled/non-virgin
Re/Down in	Categories the percentage of recycled material as either recycled (R) or downcycled (D). If the material is composed of 0% recycled material it can be left blank or labeled with not-available (N.A.). See further down the table for a description of the definitions for recycling and downcycling.
Recyclable (%)	Percentage of the material that is recyclable. Recyclability should be judged by current technological and economical standards. No assumptions are allowed for further innovations or market developments that would make a material stream more recyclable. If either of those two instances occur, the passport can be updated and a new iteration will be used by Enexis Netbeheer.
Re/Down out	Categories the percentage of recyclable material as either recyclable (R) or downcycled (D). If the material is composed of 0% recyclable material it can be left blank or labeled with not-available (N.A.). See further down the table for a description of the definitions for recycling and downcycling.
Supplier/Producer (Tier 1)	Official registered name of the supplier/producer of the material
(Base) product	Basic product from which the material is extracted
Supplier/Producer (Tier 2)	Official registered name of the supplier/producer of the Tier 1 supplier/producer
Source	Original raw material of the material
Base material	Originally made with raw material
Categories of Re/Down	
R	Material either recycled or recyclable on the same or higher level. This is a theoretical measurement from the perspective of recyclability and no actual agreements have to be made to actually effectuate the recyclability.
D	Material either recycled or recyclable at a lower level than the original one. Downcycled or downcyclable materials within the product will receive 50% of the score of a recycled or recyclable material stream. I.e. if a product consisting out of 1 material is 100% made from downcycled material, and it is 0% recyclable the total score for the product will be 25%. Downcycling does not include thermic recycling for energy generation purposes.
N.A.	Either no recycling or thermic recycling takes place.

### Resource information (table, automatically calculated fields)

Scores	
Circularity (%)	The circularity score of the material based on the percentages of recycled and recyclable attributed to the material.
Recycled (g)	The amount of recycled material in grams
Recyclable (g)	The amount of recyclable material in grams
Gradings	
P Rec	The probability Enexis Netbeheer will want to investigate the percentage of recycled material being used for the specific material. No indicates a likely percentage, a ? Indicates a possible margin and a Yes indicates an unlikely high percentage.
P Recbl	The probability Enexis Netbeheer will want to investigate the percentage of recyclability material being used for the specific material. No indicates a likely percentage, a ? Indicates a possible margin and a Yes indicates an unlikely high percentage.
Categories of grading	
+	No issues, recycled and recyclability scores are within known margins
?	The score is higher than the market average and implies best practices. Not impossible but ambitious.
-	Either an impossibility (e.g. a recyclable or recycled score higher than 0% for "other" or "unknown") or a percentage that is higher than the technology currently being known by Enexis Netbeheer.

**General information**

Supplier:	Siemens
Product name:	40 MVA Transformer
Start date:	21-1-2018
Type number:	

**Summary**

Total weight	0,00
Circularity	#DEEL/0!

**Validation**

Name	
Function	
Signature	

Part	Material	Unit	Measurement	Weight (g)	Recycled (%)	Re/Down in	Recyclable (%)	Re/Down out	Supplier/Producer ((Base) Product	Supplier/Producer (Source	(Base) material	Circularity (%)	Recycled (g)	Recyclable (g)	P Rec	P Recbl
Part X1	Copper (electronic purity)												0	-		
													0	-		
													0	-		
Part X2													0	-		
													0	-		
													0	-		
Part X3													0	-		
													0	-		
													0	-		
Part X4													0	-		
													0	-		

1	2	3	4	5	6	7	8	9	10
Name	Type	Likely recycled	Max Recycled	Max R/D recycled	Likely recyclability	Max recyclability	Max R/D recyclability	Limits recyclability	Remarks
Aluminium (electronic purity)	Metal	0%	99%	N.A.	90%	99%	R		
Aluminium (alloys)	Metal	90%	99%	R	90%	99%	R		
Brass	Metal	90%	99%	R	90%	99%	R		
Copper (electronic purity)	Metal	40%	99%	R	90%	99%	R		
Copper (mechanical purity)	Metal	90%	99%	R	90%	99%	R		
Copper (tinned)	Metal	40%	99%	R	90%	99%	R		
Iron	Metal	95%	99%	R	95%	95%	R		
Nickel	Metal	95%	99%	R	95%	99%	R		
Steel	Metal	90%	99%	R	90%	99%	D		
Tin	Metal	99%	99%	R	99%	99%	R		
Silver	Metal	99%	99%	R	99%	99%	R		
Zinc plated Steel	Metal	99%	99%	R	99%	99%	R		
Carbon steel	Metal	44%	99%	R	99%	99%	D		
Zinc	Metal	0%	99%	D	0%	99%	D		
Fiberglass	Other	0%	0%	N.A.	0%	0%	N.A.		
Oil	Other	0%	0%	N.A.	99%	99%	D		
Other	Other	0%	0%	N.A.	0%	0%	N.A.		
Circuit board	Other	50%	50%	D	50%	50%	D		
Glue	Other	0%	0%	N.A.	0%	0%	N.A.	YES	
Waterblocking tapes	Other	0%	0%	R	0%	0%	N.A.		
PBT	Plastic	99%	97%	R	99%	99%	R		
PE	Plastic	0%	97%	R	10%	80%	D		
PC GF10%	Plastic	99%	99%	R	99%	99%	R		
PC	Plastic	99%	99%	D	99%	99%	D		
PP	Plastic	80%	97%	R	10%	80%	D		
PVC	Plastic	0%	97%	R	10%	80%	D		
XLPE Insulation (natural)	Plastic	0%	97%	R	0%	97%	D		
XLPE Semiconductive (black with carbon)	Plastic	0%	97%	R	0%	97%	D		
Rubber (not crosslinked)	Plastic	14%	97%	D	10%	80%	D		
Wood A Quality	Wood	90%	99%	D	90%	99%	D		
Wood B Quality	Wood	0%	0%	N.A.	0%	0%	N.A.		
Unknown	Unknown	0%	0%	N.A.	0%	0%	N.A.		