What is claimed is:

1. An authentication method for a recycled product performed by a computer system, the authentication method comprising:

a first acquisition step of acquiring, from a terminal apparatus communicable with the computer system, information indicating a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring, from the terminal apparatus, information indicating a sending amount of a resin product using the recycled resin in the manufacturing entity; and

an authentication step of giving authentication to the resin product by generating authentication information indicating that the resin product is a recycled product, when an authentication condition based on the information on the sending amount and the receiving amount is satisfied, wherein:

the receiving amount is information indicating a receiving amount of the recycled resin as a raw material for manufacturing the resin product by the manufacturing entity;

the sending amount is information indicating a weight of the recycled resin included in the resin product or information indicating a sending amount of a recycling-authenticated resin product in a mass balance approach; and

the authentication condition is a condition that the sending amount does not exceed the receiving amount.

2. The authentication method according to claim 1, comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product, wherein

the weight of the recycled resin included in the resin product is calculated by multiplying a weight of the resin product by the recycling ratio.

3. The authentication method according to claim 1 or 2, wherein

in the first acquisition step, information on a use amount of the recycled resin is acquired as the receiving amount from the manufacturing apparatus that processes the recycled resin to obtain a resin product.

4. The authentication method according to claim 3, wherein

the second acquisition step includes acquiring information on a manufacturing amount of the resin product from the manufacturing apparatus that processes the recycled resin to obtain the resin product.

5. The authentication method according to claim 4, comprising:

a product stock amount acquisition step of acquiring information indicating a stock amount after manufacturing about the resin product; and

a shipment amount acquisition step of acquiring a shipment amount of the resin product, wherein

the authentication condition further includes, as a condition for giving authentication to the resin product, a condition that a sum total of the stock amount

after manufacturing and the shipment amount does not exceed the manufacturing amount.

6. The authentication method according to claim 4, further comprising:

a raw material stock amount acquisition step of acquiring information indicating a raw material stock amount that is a stock amount of a recycled resin in the manufacturing entity of the resin product, wherein

the authentication condition further includes, as a condition for giving authentication to the resin product, a condition that a sum total of the use amount and the raw material stock amount does not exceed a delivery amount of a recycled resin that is delivered to the manufacturing entity of the resin product.

7. The authentication method according to claim 1, further comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product from the terminal apparatus, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product and acquiring the sending amount by multiplying the shipment amount by the recycling ratio; and

the authentication condition includes a condition that

relational expression (A2): the delivery amount ≥ the shipment amount × the recycling ratio

is satisfied.

8. The authentication method according to claim 1, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product and acquiring information indicating a stock amount after manufacturing about the resin product and acquiring a sum total of the shipment amount and the stock amount after manufacturing as the sending amount; and

the authentication condition includes a condition that

relational expression (A3): the delivery amount ≥ the shipment amount + the stock amount after manufacturing

is satisfied.

9. The authentication method according to claim 1, further comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product from the terminal apparatus, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product, acquiring information indicating a stock amount after manufacturing about the resin product, and acquiring the sending amount by multiplying a sum total of the

shipment amount and the stock amount after manufacturing by the recycling ratio; and

the authentication condition includes a condition that

relational expression (A3-1): the delivery amount ≥ (the shipment amount + the stock amount after manufacturing) × the recycling ratio

is satisfied.

10. The authentication method according to claim 1, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product, acquiring a discard amount of the resin product, and acquiring a sum total of the shipment amount and the discard amount as the sending amount; and

the authentication condition includes a condition that

relational expression (A4): the delivery amount ≥ the shipment amount + the discard amount

is satisfied.

11. The authentication method according to claim 1, further comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product from the terminal apparatus, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product, acquiring a discard amount of the resin product, and acquiring the sending amount by multiplying a sum total of the shipment amount and the discard amount by the recycling ratio; and

the authentication condition includes a condition that

relational expression (A4-1): the delivery amount ≥ (the shipment amount + the discard amount) × the recycling ratio

is satisfied.

12. The authentication method according to any one of claims 6 to 11, wherein

the delivery amount is an accumulated delivery amount of the recycled resin associated with same identification information for identifying the recycled resin of a prescribed unit.

13. The authentication method according to any one of claims 7 to 11, wherein

the shipment amount is an accumulated shipment amount of the resin product associated with same identification information for identifying the recycled resin of a prescribed unit.

14. The authentication method according to claim 1, wherein:

the manufacturing entity is a manufacturing apparatus of the resin product; and

the receiving amount is acquired based on a use amount of the recycled resin that is used by the manufacturing apparatus, and the sending amount is acquired based on a manufacturing amount of the resin product manufactured by the manufacturing apparatus using the recycled resin.

15. The authentication method according to claim 1, wherein:

the manufacturing entity is a manufacturing apparatus of the resin product;

the first acquisition step includes acquiring information on a use amount of a recycled resin as the receiving amount from a manufacturing apparatus that processes the recycled resin to obtain a resin product;

the second acquisition step includes acquiring information on a manufacturing amount of the resin product, acquiring a discard amount of the resin product, and acquiring a sum total of the manufacturing amount and the discard amount as the sending amount; and

the authentication condition includes a condition that

relational expression (B2): the use amount ≥ the manufacturing amount + the discard amount

is satisfied.

16. The authentication method according to claim 1, wherein:

the manufacturing entity is a manufacturing apparatus of the resin product;

the method comprises a third acquisition step of acquiring information on a recycling ratio about the resin product;

the first acquisition step includes acquiring information on a use amount of a recycled resin as the receiving amount from a manufacturing apparatus that processes the recycled resin to obtain a resin product;

the second acquisition step includes acquiring information on a manufacturing amount of the resin product, acquiring a discard amount of the resin product, and acquiring the sending amount by multiplying a sum total of the manufacturing amount and the discard amount by the recycling ratio; and

the authentication condition includes a condition that

relational expression (B2-1): the use amount ≥ (the manufacturing amount + the discard amount) × the recycling ratio

is satisfied.

17. The authentication method according to any one of claims 1 to 16, wherein

the computer system includes a blockchain network that includes a plurality of node apparatuses, and

each of the plurality of node apparatuses includes

performing, with a control unit, consensus building processing in a blockchain to share information indicating the receiving amount and information indicating the sending amount with another of the node apparatuses, and

storing, in a storage unit, the information indicating the receiving amount and the information indicating the sending amount for which a consensus has been built by the consensus building processing.

18. The authentication method according to claim 17, comprising,

in at least a part of the plurality of node apparatuses:

performing, with the control unit, the consensus building processing on authentication information indicating that the resin product authenticated as a recycled product is the recycled product, and

storing, in the storage unit, the authentication information having been subjected to the consensus building processing.

19. An authentication system including a processor, wherein

the processor is configured to perform:

a first acquisition step of acquiring, from a terminal apparatus communicable with the authentication system, information indicating a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring, from the terminal apparatus, information indicating a sending amount of a resin product using the recycled resin in the manufacturing entity; and

an authentication step of giving authentication to the resin product by generating authentication information indicating that the resin product is a recycled product, when an authentication condition based on the information on the sending amount and the receiving amount is satisfied, wherein:

the receiving amount is information indicating a receiving amount of the recycled resin as a raw material for manufacturing the resin product by the manufacturing entity;

the sending amount is information indicating a weight of the recycled resin included in the resin product or information indicating a sending amount of a recycling-authenticated resin product in a mass balance approach; and

the authentication condition is a condition that the sending amount does not exceed the receiving amount.

20. The authentication system according to claim 19, wherein

the processor is configured to perform:

a delivery amount acquisition step of acquiring information on a delivery amount of a recycled resin that is delivered to a manufacturing company of the resin product, and

a use amount acquisition step of acquiring information on a use amount of a recycled resin used in the processing from a manufacturing apparatus that processes the recycled resin to obtain a resin product;

a shipment amount acquisition step of acquiring information on a shipment amount of the resin product that is shipped from the manufacturing company of the resin product; and

as the authentication step, an authentication step of determining, on a basis of the information on the delivery amount, the use amount, and the shipment amount, that the resin product satisfies an authentication condition when the authentication condition further including a condition that the use amount does not exceed the delivery amount and the shipment amount does not exceed the delivery amount is satisfied.

21. The authentication system according to claim 19 or 20, further comprising:

a sharing step of transmitting, on a premise that the authentication condition is satisfied, target data from a first node apparatus among a plurality of node apparatuses to another of the node apparatuses to share the target data indicating that the resin product satisfies the authentication condition.

22. The authentication system according to claim 20, further comprising:

a blockchain network that includes a plurality of node apparatuses, wherein

a processor of a first node apparatus among the plurality of node apparatuses is configured to perform

the delivery amount acquisition step,

the use amount acquisition step,

the shipment amount acquisition step,

the authentication step, and

a sharing step of transmitting, on a premise that the resin product is determined to satisfy the authentication condition, target data to another node apparatus to share the target data indicating that the resin product satisfies the authentication condition with the other node apparatus.

23. The authentication system according to claim 20, wherein

the manufacturing apparatus includes a weighing unit provided to be able to weigh the use amount of the recycled resin, and

in the use amount acquisition step, the use amount is acquired on a basis of a weighing result by the weighing unit.

24. The authentication system according to claim 20 or 23, comprising:

a first reading device that reads a delivery form of the recycled resin, wherein

in the delivery amount acquisition step, information on the delivery amount based on a reading result of the delivery form by the first reading device is acquired.

25. The authentication system according to any one of claims 20, 23 and 24, comprising:

a second reading device that reads a shipment form of a shipment amount of the resin product, wherein

in the shipment amount acquisition step, information on the shipment amount based on a reading result of the shipment form by the second reading device is acquired.

26. An authentication application system including a processor, wherein the processor is configured to perform:

a first acquisition step of acquiring information indicating a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring information indicating a sending amount of a resin product using the recycled resin in the manufacturing entity;

an authentication application step of transmitting authentication target data including the sending amount and the receiving amount; and

a receiving step of receiving an authentication result indicating whether an authentication condition based on the information on the sending amount and the receiving amount is satisfied, wherein:

the receiving amount is information indicating a receiving amount of the recycled resin as a raw material for manufacturing the resin product by the manufacturing entity;

the sending amount is information indicating a weight of the recycled resin included in the resin product or information indicating a sending amount of a recycling-authenticated resin product in a mass balance approach; and

the authentication condition is a condition that the sending amount does not exceed the receiving amount.

27. The authentication application system according to claim 26, wherein

the authentication application system further includes a manufacturing apparatus that processes a recycled resin to obtain a resin product, and

the processor is configured to perform:

in the first acquisition step, acquiring, from the manufacturing apparatus, information indicating a use amount of the recycled resin as the receiving amount, and

in the second acquisition step, acquiring, from the manufacturing apparatus, information indicating a manufacturing amount of the resin product as the sending amount.

28. The authentication application system according to claim 27, wherein

the manufacturing apparatus includes a weighing unit provided to be able to weigh the use amount of the recycled resin, and

in the use amount acquisition step, the use amount is acquired on a basis of a weighing result by the weighing unit.

29. The authentication application system according to claim 26, wherein

the processor is configured to perform:

a delivery amount acquisition step of acquiring information on a delivery amount of a recycled resin that is delivered to a manufacturing company of the resin product; and

a shipment amount acquisition step of acquiring information on a shipment amount of the resin product that is shipped from the manufacturing company of the resin product.

30. The authentication application system according to claim 29, comprising:

a first reading device that reads a delivery form of the recycled resin, and

in the delivery amount acquisition step, information on the delivery amount based on a reading result of the delivery form by the first reading device is acquired.

31. The authentication application system according to claim 29 or 30, comprising:

a second reading device that reads a shipment form of a shipment amount of the resin product, wherein

in the shipment amount acquisition step, information on the shipment amount based on a reading result of the shipment form by the second reading device is acquired.

32. A storage medium comprising a program for causing a computer system to perform:

a first acquisition step of acquiring, from a terminal apparatus communicable with the computer system, information indicating a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring, from the terminal apparatus, information indicating a sending amount of a resin product using the recycled resin in the manufacturing entity; and

an authentication step of giving authentication to the resin product by generating authentication information indicating that the resin product is a recycled product, when an authentication condition based on the information on the sending amount and the receiving amount is satisfied, wherein:

the receiving amount is information indicating a receiving amount of the recycled resin as a raw material for manufacturing the resin product by the manufacturing entity;

the sending amount is information indicating a weight of the recycled resin included in the resin product or information indicating a sending amount of a recycling-authenticated resin product in a mass balance approach; and

the authentication condition is a condition that the sending amount does not exceed the receiving amount.