



TopsRecycling

世龙机械

Zhangjiagang Shilong Machinery Co. Ltd

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www.topsrecycling.com

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Zhangjiagang City, Jiangsu Province, P. R. China



To: E.L.P. ENERGY SELF-SUSTAINING LTDA

Attn: Mr. Ericson Piccoli

Techno Commercial Proposal for Recycling ELT to Rubber Powder

Input: Minus 1200mm truck and car tyres

Output:

Approximately 1000 Kgs of 4~20 mesh crumb rubber free from loose wire & fiber

Quotaion No.: SLQ21NOV17

Date: 2021-11-17

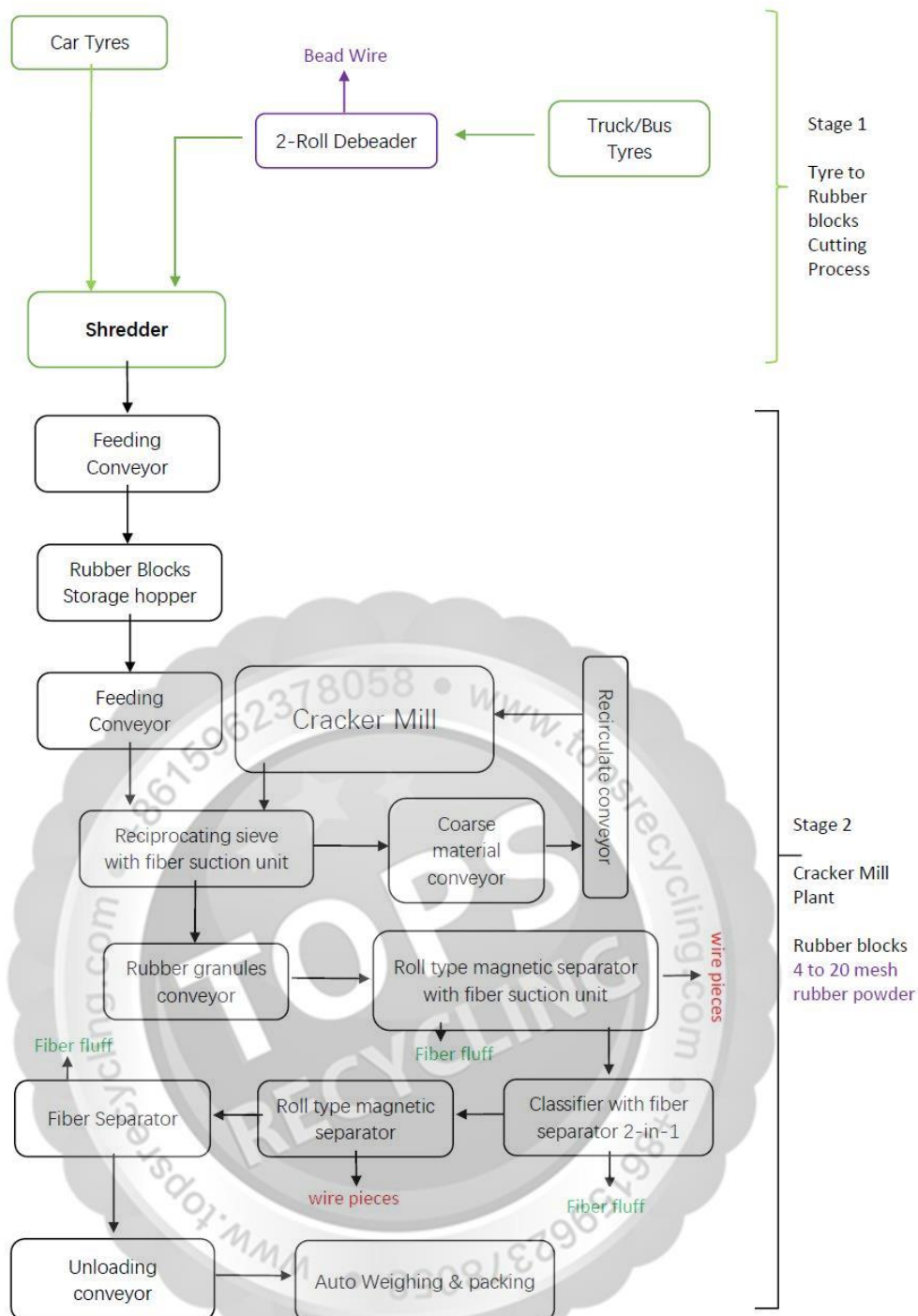




1. General Description

This system is custom designed to recycle WASTE TRUCK / BUS / CAR TYRES into 4~20 mesh rubber powder free from loose wire & fiber

2. Installation diagram





3. Working Process Description

| No. | Machine Names | Function / Description |
|------|---|--|
| 1 | Stage 1: Tyre Cutting Process ----- Cutting waste tyres to rubber blocks | |
| 1.1 | Debeader | To remove the bead wire from tyre beads as shown in Appendix A |
| 1.2 | Shredder | To cut the tyres into rubber blocks as shown in appendix B |
| 1.3 | Unloading conveyor | To transfer the rubber blocks to disc classifier |
| 1.4 | Disc classifier | To sieve the coarse blocks out and send back to shredder for re-cutting |
| 1.5 | Recirculating conveyor | To transfer the coarse blocks back to shredder |
| 1.6 | Unloading conveyor | To transfer the final rubber blocks out |
| 2 | Stage 2: Cracker mill plant as shown in appendix C ----- Cracking rubber blocks to crumb rubber at the size of 4~20 mesh | |
| 2.1 | Storage hopper for rubber blocks | To store the rubber blocks |
| 2.2 | Feeding conveyor | To feed the rubber blocks into reciprocating sieve |
| 2.3 | Reciprocating sieve with fiber suction unit | To sieve minus 6mm granules from the coarse material |
| 2.4 | Coarse material conveyor | To transfer the coarse material to the recirculating conveyor |
| 2.5 | Recirculating conveyor | To transfer the coarse material to the cracker mill for re-shredding |
| 2.6 | Cracker mill | To crack rubber blocks into rubber granules |
| 2.7 | Crumb rubber conveyor | To transfer minus 6mm rubber granules to classifier |
| 2.8 | Roll type magnetic separator with fiber suction unit | To take the free wire pieces out from the rubber granules & remove fibers in fluff form |
| 2.9 | Classifier with fiber separator | To sieve minus 4 mesh rubber out |
| 2.10 | Roll type magnetic separator | To take out the fine steel and fiber fluff from minus 3.5mm granules |
| 2.11 | Screw conveyor | To transfer both categories to fiber separator respectively |
| 2.12 | Fiber separator | To separate fiber fluff from both categories respectively |
| 2.13 | Unloading conveyor | To transfer both categories to auto weighing cum packing respectively |
| 2.14 | Auto weighing & packing machine | To weigh and pack both categories automatically in packing bag of defined weight respectively as shown in appendix D |



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| | | |
|-----|---|---|
| 3 | Dust collection system | |
| 3.1 | Blower | To create negative pressure to suction dust air |
| 3.2 | Dust collector | To filtrating the dust air and collect the dust |
| 3.3 | Dust suction hood & pipe | To suction the dust air |
| 4 | Electric Control system (PLC control with touch screen) ----- to control the whole plant by one press button | |
| | <p>By using this PLC, the whole plant can be started or stopped by one press button.</p> <p>To start the production line, only press the "START" button to switch on all machines of the whole line as per above description as per pre-set sequence and time lag. This sequence and time lag is programmable in case so required. Similarly, by press "STOP" button, all machines will stop as per programmed sequence and time lag.</p> <p>If any machine has some error in the whole line, alarm will be activated and all the machines in the line will stop.</p> <p>There is a provision of manual operation for machine maintenance or commissioning or operation if required.</p> <p>Configuration details: Siemens PLC + Siemens TOUCH SCREEN (10 inch) + CHNT (top Chinese brand) low voltage electric switch gear such as contact, MCB etc.</p> <p>Features: A. Soft starter for the main motor B. Wires in control panel in four colors (Red, Yellow, & Blue for 3 phases, and black for neutral) C. The main isolation switch installed external to the cabinet D. Overload protection for all motors E. Cooling fans installed in the cabinet F. Complete wiring diagram in English will be printed on paper and put inside the cabinet pocket. G. Protection Grade: IP55</p> <p>Supply of all Electrical drawing in soft and hard copy format. All documentations are translated and written in English language.</p> | |

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4. Total installed Motor Power

| No. | Machine Names | Unit Motor Power (Kw) | QTY (sets) | Total Motor Power (kW) |
|-------------------------|---|-----------------------|------------|------------------------|
| 1 | Stage 1: Tyre Cutting Process ----- Cutting waste tyres to rubber blocks | | | |
| 1.1 | Debeader | 22 | 2 | 44 |
| 1.2 | Shredder | 110 | 1 | 110 |
| 1.3 | Unloading conveyor | 7.5 | 1 | 7.5 |
| 1.4 | Disc classifier | 7.5 | 1 | 7.5 |
| 1.5 | Recirculating conveyor | 5.5 | 1 | 5.5 |
| 1.6 | Unloading conveyor | 5.5 | 1 | 5.5 |
| Total Rated Motor Power | | | 1 | 174.5 |
| 2 | Stage 2: Cracker Mill Plant ----- Cracking rubber blocks to 4~20 mesh crumb rubber | | | |
| 2.1 | Storage hopper for rubber blocks | | 1 | 0 |
| 2.2 | Feeding conveyor | 3 | 1 | 3 |
| 2.3 | Reciprocating sieve with fiber suction unit | 18.5 | 1 | 18.5 |
| 2.4 | Coarse material conveyor | 3 | 1 | 3 |
| 2.5 | Recirculating conveyor | 7.5 | 1 | 7.5 |
| 2.6 | Cracker mill mail motor | 280 | 1 | 280 |
| | Grease pump | 0.55 | | 0.55 |
| 2.7 | Crumb rubber conveyor | 1.5 | 1 | 1.5 |
| 2.8 | Roll type magnetic separator with fiber suction unit | 1.5 | 1 | 1.5 |
| 2.9 | Classifier with fiber separator | 9.5 | 1 | 9.5 |
| 2.10 | Roll type magnetic separator | 1.5 | 1 | 1.5 |
| 2.11 | Screw conveyor | 2.5 | 1 | 2.5 |
| 2.12 | Fiber separator | 7.5 | 1 | 7.5 |
| 2.13 | Unloading conveyor | 2.5 | 1 | 2.5 |
| 2.14 | Auto weighing & packing machine | 0 | 1 | 0 |
| 3 | Dust collection system | 37 | 1 | 37 |
| Total Rated Motor Power | | | | 376.05 |

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| | | | |
|---|--|--|--------|
| Total rated motor power for the whole project | | | 550.55 |
|---|--|--|--------|

Note:

1. To optimize the machine's performance, we reserve the right for any modification of above parameter without further notice on the pre-condition that we guarantee the machine's production capacity & good performance.
2. The pictures and non-critical dimension such as conveyor dimensions etc. in this proposal is for reference only.

Commercial Terms

I. Price

| No. | Machine Names | Unit Price (in USD) | QTY (sets) | Total Price (in USD) |
|--------------------|---|------------------------|---------------|-------------------------|
| 1 | Debeader (sl no. 1.1) | 12600 | 2 | 25200 |
| 2 | Tyre shredder system (sl No. 1.1 to 1.6) | 286500 | 1 | 286500 |
| 3 | Cracker Mill Plant (sl no. 2.1~2.13) with Electrical control System (PLC control) | 265800 | 1 | 265800 |
| 4 | Auto weighing cum packing machine (sl no. 2.14) | 32500 | 1 | 32500 |
| 5 | Dust collection system (sl no. 3.1 to 3.3) | 48000 | 1 | 48000 |
| 6 | Logistic cost to Itajaí port, Brazil | 58000 | 1 | 58000 |
| Grand Total Amount | | | | 716000 |

Note:

1. The above price is in USD and on the basis of CNF Itajai, Brazil;
2. Total installed motor power is around **550.55 kW**, but the actual power consumption will be around 60% of the rated power
3. Total operators for the whole project: **4~5 persons** only

II. Terms of Payment

50% of the total contract value to be paid by T/T as down payment, remaining 50% by irrevocable LC at sight against surrender of BL documents to your bankers.



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III. Packing

All machines are wrapped by plastic film.

IV. Shipment: By sea

Total containers required for shipping: 20OT×2+ 40OT×3

V. Time of delivery (lead time)

Within 90 working days after the receipt of the advance payment

VI. Validity of the quotation: 15 days since the offer date

VII. Guarantee

15 months since the Customs Clearance date at the buyer's country port. The seller provides all the spare parts to the buyer at a cost price for the full life of the machines.

We provide the technology & lifetime guidance free of service fee

VIII. Installation and commissioning

Onsite installation validation and commissioning support service will be provided by us by deputing a team of 2 or 3 engineers and one interpreter. The travel including VISA fee & round-trip air ticket (between China factory city and the buyer's factory city), boarding & lodging arrangements and local transportation in buyer's factory city, tel sim etc. on the buyer account. In addition, the buyer needs to pay per diem to all team members @ 150 USD per person per day.



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Appendix A: Debeader



Debeaded wires →





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Appendix B: Shredder System



Appendix C: Cracker Mill Plant





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Appendix D: Auto weighing cum packing machine

