



Industrial Waste Disposal System

harden

JUST SHRED IT

harden



Contact Harden for professional shredding and recycling solutions.

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About Us

Harden Machinery Ltd. is a leading manufacturer of industrial shredder and waste disposal equipment in China. With a growing market and hundreds of successful cases we had built, Harden had became the most trustworthy brand in China, also it's being more popular worldwide. Thanks to rich experience and our strong R&D team, Harden always keeps advance in technologies.

Harden supplies competitive shredding machines worldwide, including single shaft shredder, double shaft shredder, quad shaft shredder, primary shredder and mobile shredder. We also offer a wide range of one-step solutions such as MRF system for MSW, SMP system for hazardous waste, shredding disposal system for organic waste, paper mill waste and bulky waste, etc.

Core Advantages of Harden

Professional Technologies

Focus on shredding technologies from beginning to now

High Reliability

All parts in world brands / Advanced and mature designs

Trustworthy Brand

900+ successful projects / Wide recognition in market

Aims the best ROI for customers

Batch production saves cost / High Durability Proven

General industrial solid waste includes a large number of waste paper products, waste plastics, rags and various textiles, waste rubber, broken leather products, waste wood and other high calorific value waste,etc. On the one hand, the material composition is complex and diverse, and most of them have the properties of high strength and toughness, so the pretreatment is difficult, especially the shredding process. Therefore, a large part of solid waste with high calorific value is disposed of in landfills, resulting in a waste of resources. On the other hand, these high calorific value solid waste, once it is pretreated to the appropriate particle size, is a high-quality "alternative fuel (SRF/RDF)".



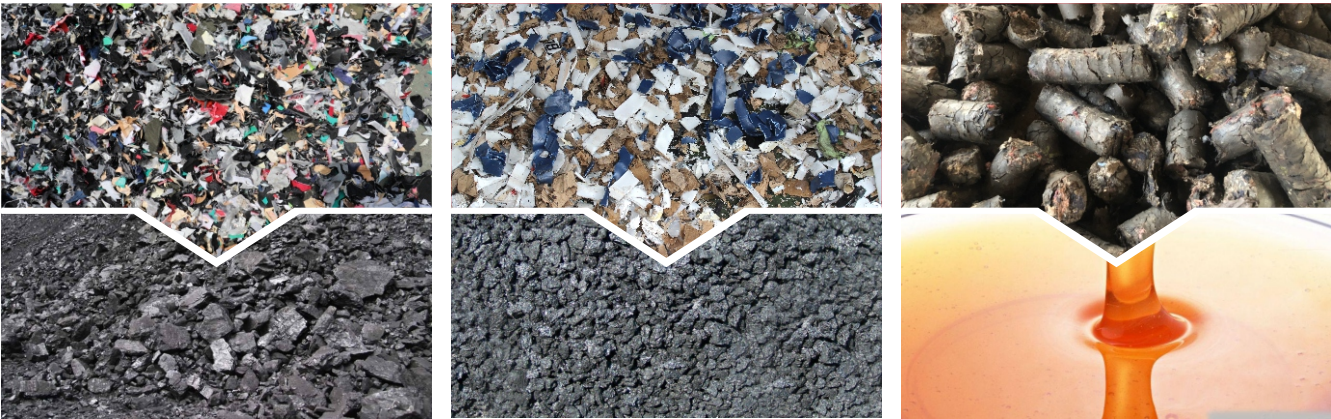
At present, with the shortage of resources, the deterioration of environment and the improvement of people’s awareness of environmental protection, the world has put forward a clear task of carbon dioxide emission reduction. On the one hand, replacing fossil fuels with SRF/RDF can reduce carbon dioxide emission and benefit from carbon dioxide emission credit trading activities, as the carbon dioxide emission of SRF/RDF is much lower than that of fossil fuels. On the other hand, a variety of kilns can co-dispose SRF/RDF by simply adding feeding devices, and at the same time, they can obtain policy support and benefit from environmental protection.

The general industrial waste pretreatment disposal provided by Harden enable solid waste to be processed into high quality SRF/RDF with high compliance rates as an alternative fuel.

A common RDF specifications as shown below:

RDF Parameters	Particle size(mm)	Calorific Value(kcal/kg)	Density(Kg/m³)	Moisture Content	Applications
Type one	50-90	> 3000	< 250	< 20%	Pyrolysis, fluidized bed, cement kiln, etc.
Type two	20-50	> 4000	< 150	< 15%	Thermal power plant,

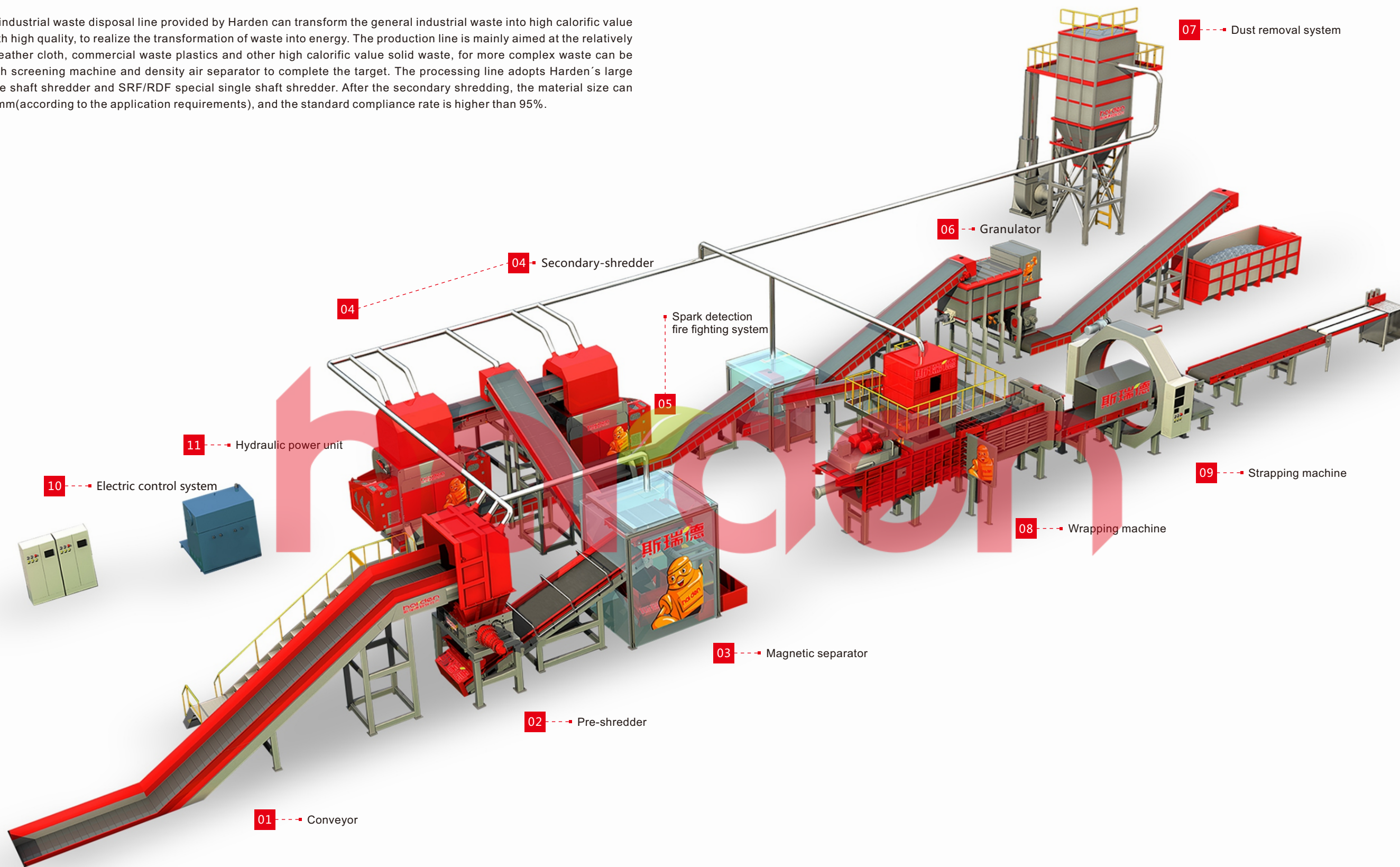
The alternative relationship between fossil fuel and SRF/RDF:



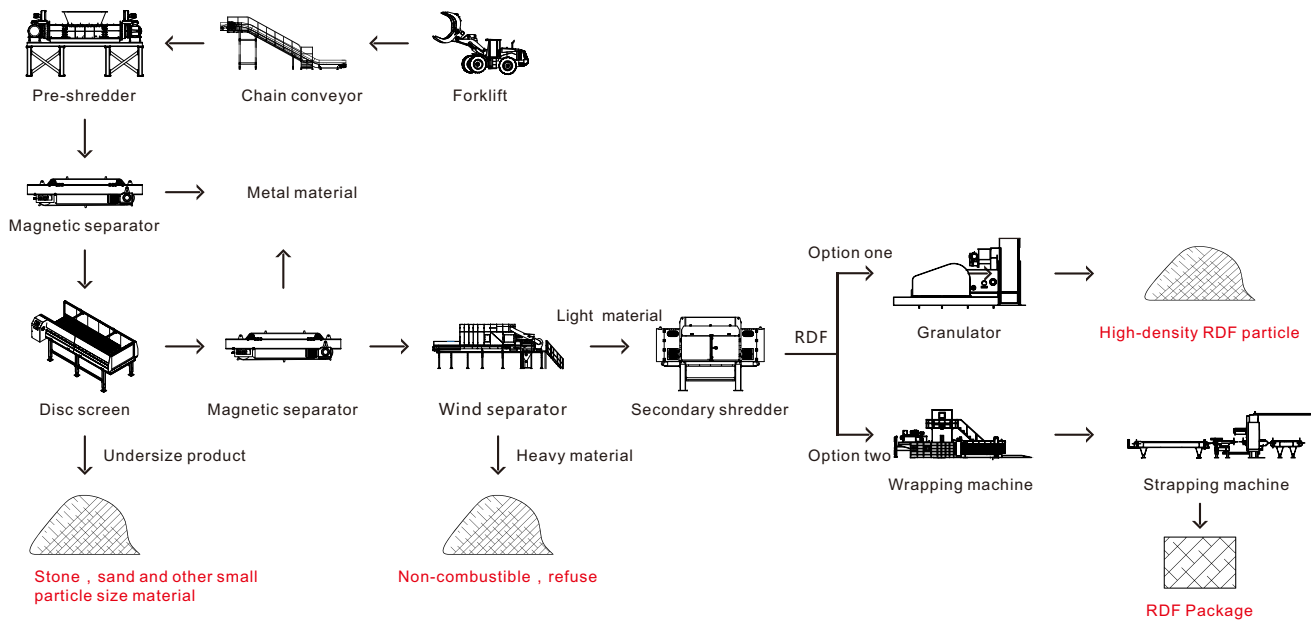
1.4 tons alternative fuel = 1 ton coal 1.7 tons alternative fuel = 1 ton petroleum coke 2 tons alternative fuel = 1 ton fuel oil

Industrial Waste Disposal Line

The general industrial waste disposal line provided by Harden can transform the general industrial waste into high calorific value SRF/RDF with high quality, to realize the transformation of waste into energy. The production line is mainly aimed at the relatively pure waste leather cloth, commercial waste plastics and other high calorific value solid waste, for more complex waste can be equipped with screening machine and density air separator to complete the target. The processing line adopts Harden's large torque double shaft shredder and SRF/RDF special single shaft shredder. After the secondary shredding, the material size can reach 30-80mm(according to the application requirements), and the standard compliance rate is higher than 95%.



Process Flow Diagram



Wrapping machine

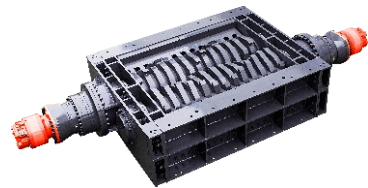
The SRF/RDF material density is relatively low after shredding. In order to facilitate transportation and storage, the automatic wrapping machine can be used for compression packaging. The automatic wrapping machine does not need manual participation in the production process, with the characteristics of high efficiency and high capacity.



Dust removal system

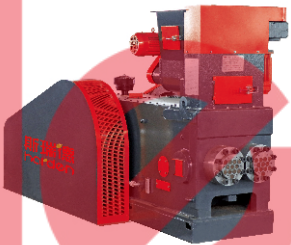
Because the dust pollution may be generated in the process of shredding and conveying, the bag dust separator can be selected to collect the dust generated in the system through the pipeline, effectively improves the working environment , protects the staff and equipment.

Pre-shredder



Pre-shredder is an intelligent double shaft shredder which is driven by hydraulic power unit, with the characteristics of low rotating speed and high torque, etc., can easily adapt to shredding conditions of mixed, complex, high strength and high tenacity material. Pre-shredder plays a crushing and loosening role to ensure the smooth operation of magnetic separator and secondary shredder. Besides, the speed and torque can be intelligently adjusted according to the material load, with a variety of protection measures.

Granulator



The wrapping machine can be replaced with granulator to prepare SRF/RDF into high density fuel particles. The granulator is mainly used for forming loose solid waste derived fuel into granulates under certain conditions to improve the combustion of the fuel. Granular derived fuel (SRF/RDF) is a new type of renewable and environment-friendly fuel, which can be used for various kilns and used as substitute for coal in many fields.

Magnetic separator



The magnetic separator adopts permanent magnet which can efficiently remove the metal so that the metal can be recycled and will not be transported to the backend process.

Spark detection fire fighting system



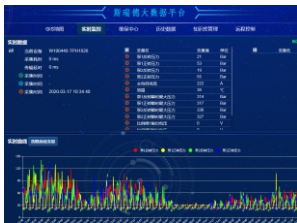
For dry and high calorific value material, because there will be high-speed impact and friction in the shredding process, the probability of fire is easy to occur, and the material will generally be transported to the silo, once the fire consequences are unthinkable. Therefore, disposal line is equipped with high-precision spark detection and fire fighting system. Once high temperature and fire are detected, the system will automatically spray water to extinguish them.

Secondary shredder



The secondary shredder is intelligent high speed shearing type single shaft shredder which has compact structure, strong and reliable power and equipped with advanced hydraulic driven maintenance door and screen mesh, can crush the material to the ideal size at one time, and ensure the high standard rate. Several technologies have been applied such as minimal gap shearing, automatic protection against foreign object, intelligent pressing and rapid tool change, can effectively reduce the production cost of single ton SRF/RDF. It is convenient to reduce maintenance personal at the same time.

Remote analysis



Harden has established a monitoring and diagnosis system with a central database as the core, which can accurately provide real-time working pictures of the equipment. Component automation expert system provides basis for fault diagnosis, efficient energy saving and efficient decision making; The message push system of equipment information reminder and warning which faces to service-oriented ensures the scheduled maintenance of the equipment, and gives early warning to the illegal operation.

Client Cases



Jia Xing, Zhe Jiang Province, China



Bao Ding, He bei Province, China



Wen Zhou, Zhe Jiang Province, China



San Ming, Fu Jian Province, China