

## 可以用作水泥窑燃料的废料

### **Waste Materials That Can Be Utilised As A Fuel Source For Cement Kilns**

有多种不同类型的废物料、于美国和欧洲已被当作水泥窑的燃料来源、其中包括这些：

Numerous different types of waste materials have been utilised as a fuel source for cement kilns in the United States and Europe. Some of these include:

由垃圾中提炼出来的燃料(RDF) (如： 废纸和废塑料)

Refuse Derived Fuels (RDF) (Example: scrap paper and plastics)

密集垃圾中提炼出来的燃料(DRDF) (经处理成颗粒的废纸和塑料)

Densified Refuse Derived Fuels (DRDF) (pelletised paper and plastics)

Scrap Tires 废旧轮胎

Rice Hulls 米糠壳

Coke Fines 焦煤微粒

Carbon Black 炭黑

Scrap Plastic 废弃塑料

Wastes Oils 废油

Spent Potliners (from the aluminium industry) 熔炉内衬的炭废料(来自铝金属冶炼工业)

Spent Catalyst 用过的催化剂

Contaminated Soils 污染了的土壤

Spent Gypsum 用过的石膏

Refinery Solids 炼油厂的固体废物

Liquid Organic Wastes 液体有机废物

### **液体和固体的特殊废物 Liquid And Solid Special Wastes**

最容易处置的就是液体废物、因为它可以用罐车送来、加以分析、调配然后注入水泥窑内。处置固体与半固体的废物那是另外一回事。按照水泥窑的类型、固体废物可用气压注入、经双闸气阀、或者在长窑的侧边经一道闸门装置、引入水泥窑的燃料输入口内。这些方法在美国和欧洲使用都很成功。

The easiest of these to handle are the liquid wastes since they can be received in a lorry, analysed, blended and injected into a kiln. Handling waste solids and semi-solids are a different matter. Depending upon the type of kiln, the waste solids can be pneumatically injected, introduced with the kiln feed through a double-gate airlock or through the side of a long kiln by the use of a charging gate arrangement. All of which are being done successfully in the US and Europe.

## 废物制造者 Waste Generators

典型制造大量溶剂的废物制造者、有下列那些工业：The typical generators of large volumes of solvents consist of the following industries:

Pharmaceutical 制药业  
 Chemical 化工  
 Electronics 电子  
 Paint / Coating Manufacturers 油漆 / 涂料厂家  
 Petrochemical 石油化工  
 Printing Ink Manufacturers 打印机墨水制造厂家  
 Printing Companies 印刷公司  
 Automobile Manufacturers 汽车制造厂家  
 Solvent Recyclers 溶剂再造业  
 Waste Disposal Brokers 废物处理中介商

以上那些工业所废弃的许多物料中、可提炼出废物燃料的有：

Waste derived fuels made of many sources from the above industries may be known as:

Ink Washes 洗墨水的溶剂  
 Paint Thinners 油漆稀释剂  
 Lacquer Thinners 瓷漆稀释剂  
 Mineral Spirits 矿物酒精  
 Stoddard Solvents [Stoddard] 溶剂[可用作油漆稀释剂；用于制造有些影印机的炭粉、打印机的墨水和胶粘剂；干洗用清洁剂；以及其它一般的清洁和去油污剂。别名：白酒精]。  
 Naphtha 石脑油  
 Degreasers 去油污剂  
 Still bottoms 罐底沉淀物

Off Spec streams 不合格的废料  
 Mis-pumpings 泵错了的液体废料  
 Line-Flushings 管道冲洗出来的污垢

组成这些液体燃料的典型化学属类为：

Typical chemical families that make up these liquid fuels are:

Aromatic Hydrocarbons 芳(族)烃; Aliphatic Hydrocarbons 脂族烃  
 Alcohols 酒精 ; Acetates 乙酸 ; Ketones 酮 ; Esters 酯 ; Glycols 乙  
 二醇  
 Chlorinated Hydrocarbons 氯化烃 ; Oxygenated Hydrocarbons 氧化烃

特殊液体、半固体和固体的废物制造者：

**Special Liquid, Semi-Solid and Solid Waste Generators:**

Typical generators of these types of wastes are: 这类废物的典型制造者

Automobile Garages: 汽车修理工场	Waste Oils 废油 Greases 润滑脂 Anti-freeze/Coolants 防冻/冷却剂 Transmission Fluids 变速器液 Tyres 轮胎
Refineries: 炼油厂	Tank Bottoms 罐底沉积物 DAF solids [DAF] 固体 API solids [API] 固体 Off Spec Product 不合格的产品 Contaminated Soils 污染的土壤 Lagoon/Pond cleanups 槽/池污垢
Aluminium Industry: 铝金属冶炼业	Spent potliners 熔炉内衬的炭废料
Waste Disposal Industry: 废物处理业	Drum Solids 桶装固体 Tank Bottoms 罐底沉积物 Contaminated Soils 污染的土壤 Still Bottoms (distillation bottoms) 蒸发后的沉淀物
Others: 其它	Various Lube Oils 各类润滑油 Dried sewage sludges 污水沟干沉淀物

按照现行的、或者是提议的法规、有些固体废物或许尚可用土壤堆填处置。要使得那些废料可以在废物燃料方案里加以利用、有必要特别设计一个固体处置的系统、也许有需要为那些废物特别设计和兴建多个这样的系统。应用纪元科技独特的固体燃料处置系统就可如愿。

Depending upon current or proposed regulations, some of these solids may still be disposed of in landfills. To be able to be utilized in a WDF program, a specially designed solid handling system may need to be designed or constructed for several of these waste streams. This can be accomplished with ERAtech's proprietary solid fuel handling systems.