



Coal additives
ADICOAL

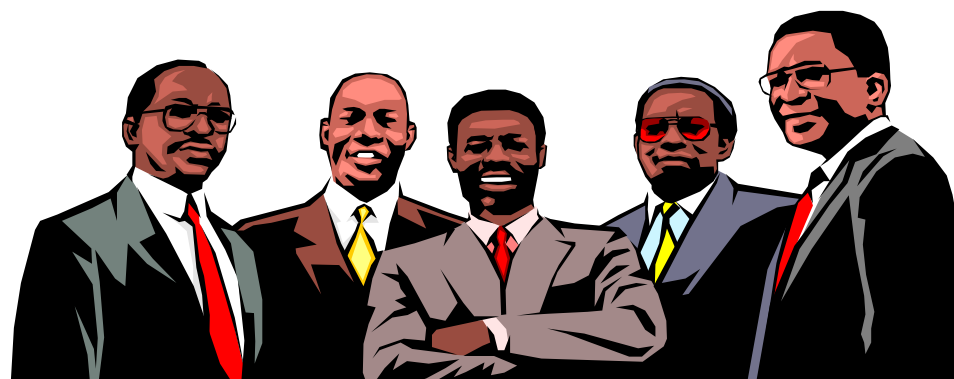
ADICON Co., Ltd.



Adicon Co., Ltd.

Main business segment

Manufacturing & Sales of Fuel additives



Main Products



PEAM (*Enzymatic Fuel additive*)

Can be added to any type of fuel and lead to perfect combustion to reduce fuel consumption and improves exhaust quality by special enzymes.



GASADICON (*Kerosene additive*)

The long seller product of Adicon, made possible to use Kerosene as secondary Diesel by simply adding to Kerosene.



Company Profile



Company Adicon Co., Ltd.

Business Segment

- **Manufacturing and sales of fuel additives**
(Diesel /Light Oil, Gasoline, Kerosene, Heavy oil)
- Sales of Diesel, Gasoline, Kerosene, Heavy oil, lubricating oil
- Management consulting

Founded July 30, 1986

Corporate Headquarters Sanho Bldg. 4F, 1-1-28 Sakuragawa, Naniwa-ku, Osaka, JAPAN

President Kinuko Gomi

Capital 10,000,000 yen

Main suppliers

Chukyo Kasei Kogyo Co., Ltd.	Meiwa Kinzoku Kogyo Co., Ltd.
Mikuni Kinzoku Corporaton	Sanwa yuko Co., Ltd.
Tsuchiya Kaorin Kogyo Co., Ltd.	Nisso Shoji Co., Ltd.
Asahi Container Co., Ltd.	

Main clients

Chukyo Kasei Kogyo Co., Ltd.	Rekisei Shoji Co., Ltd.
Futami Co. Ltd.	New Japan Machinery Corporation
Yamato Kogyo Co., Ltd.	Sojitz Energy Corporation
YKK Corporation	Tokiwa Shoji Co., Ltd.
Nikko Sangyo Co., Ltd.	Iwate Isuzu Motor Co., Ltd.
Mie Isuzu Motor Co., Ltd.	etc.

Main product adoption

Public Construction Industry

Asunaro Aoki Construction Co., Ltd.[designate]	Kajima Corporation	
Sato Kogyo Co., Ltd.	Shimizu Corporation	Taisei Corporation
Obayashi Corporation	Tobishima Corporation	Kumagai Gumi Co., Ltd.
Daishou Corporation	Maeda Corporation	Sankyu Inc.
Okumura Corporation	The Nippon Road Co., Ltd.	Tokyu Construction Co.,
Ltd.	Penta-Ocean Construction Co., Ltd.	etc.
Sumitomo Mitsui Construction Co., Ltd.		

Factory Premises Work

Nippon Steel Corporation	YKK Corporation
Sumitomo Metal Industries, Ltd.	Aichi Steel Corporation
JFE Steel Corporation	Kobe Steel Ltd.
Nakayama Steel Works Ltd.	etc.

Others

Japan Fisheries cooperative organizations
Japan Agricultural Cooperatives organizations

Background and mission of development of ADICOAL



COAL is still the main fuel of thermal generation and factory boiler in Asia.

BUT, unfortunately, at the most of those facilities are ...

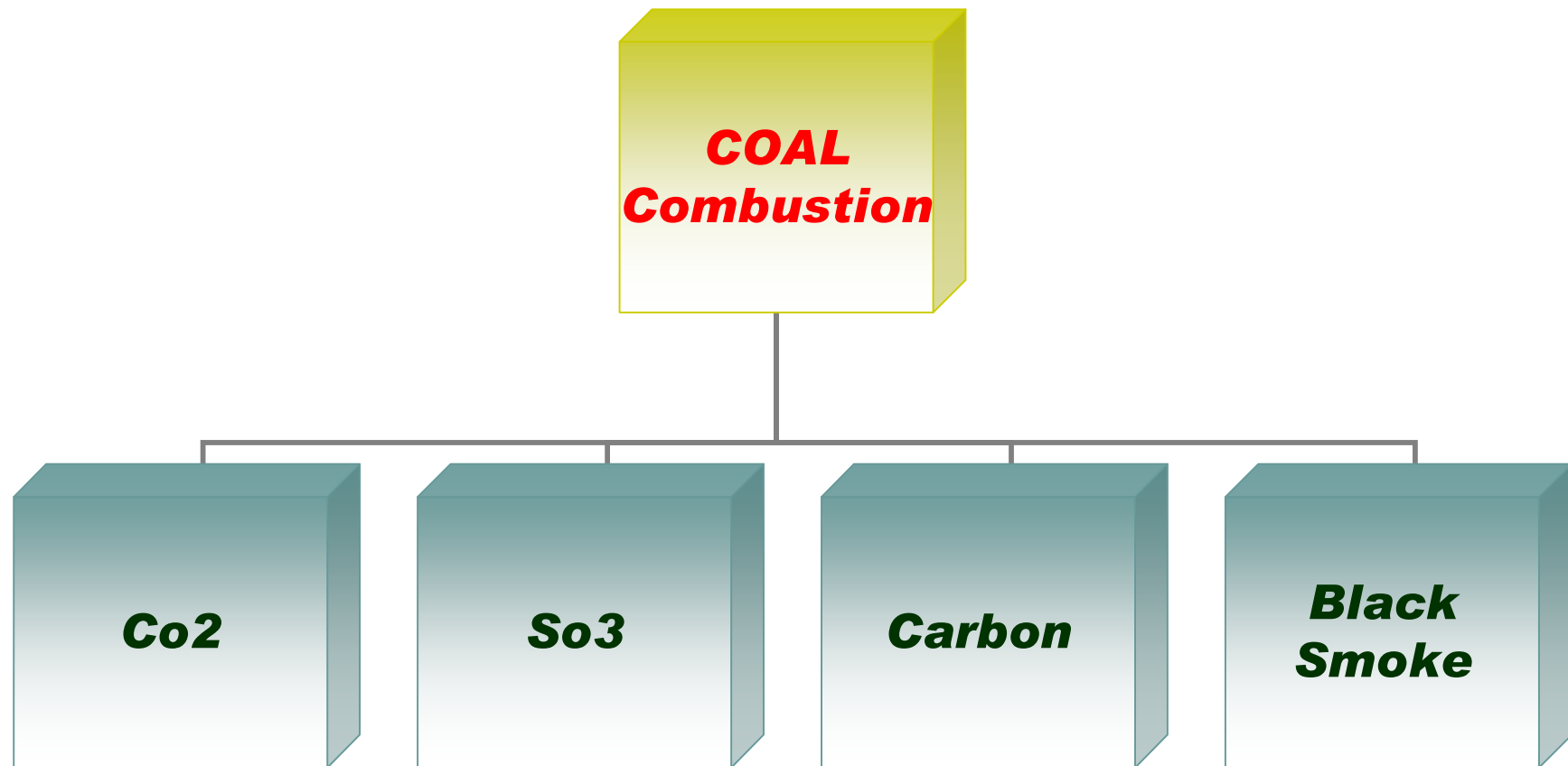
**Creating Air pollution, exhausting Harmful gas, by low combustion ratio
Because of using low quality coal with high ash content**

Already environmental problems are becoming **Borderless matter**.

As a fuel additive specialized company, the development of ADICOAL have been started the idea of **make difference on such current Air pollution situation by developing COAL additives** utilizing our technologies and experiences from Petro fuel additives.

Concept is to improve the current Air pollution situation in low cost and speedy **without installing new systems or equipments**.

Combustion of COAL



Definition of Solid fuel, COAL



- Energy amount of COAL at Perfect combustion is relevant to the indigenusness, therefore theoretically it is impossible to increase Energy amount of COAL.
- It's impossible to reduce Clinker amount at COAL Combustion.

Generally...

Energy amount of COAL can not be increased

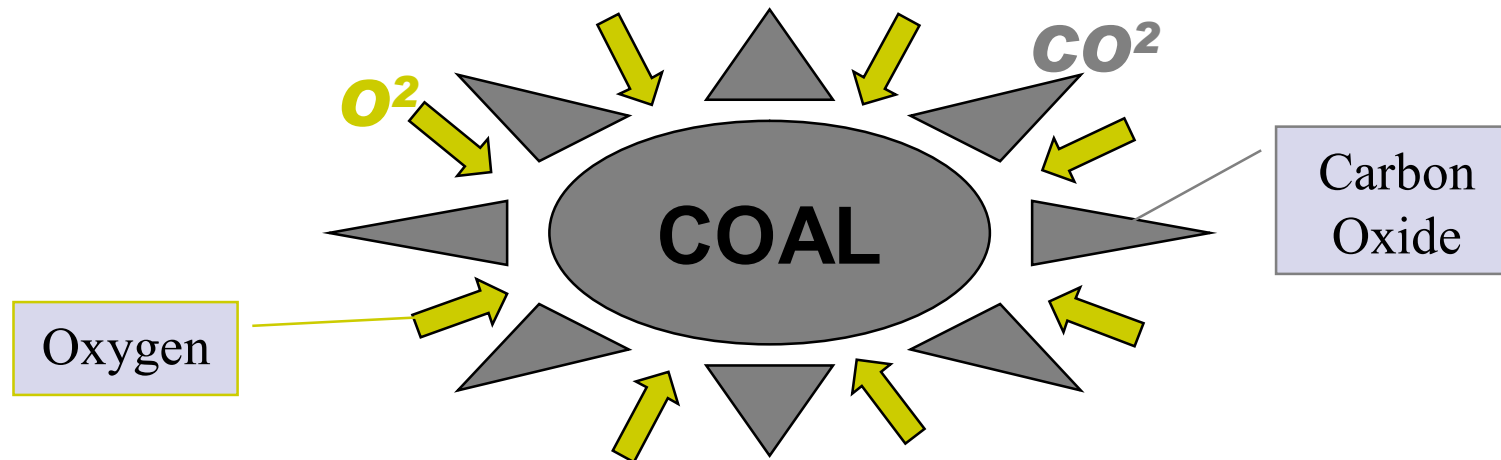
nor

Clinker amount can not be reduced

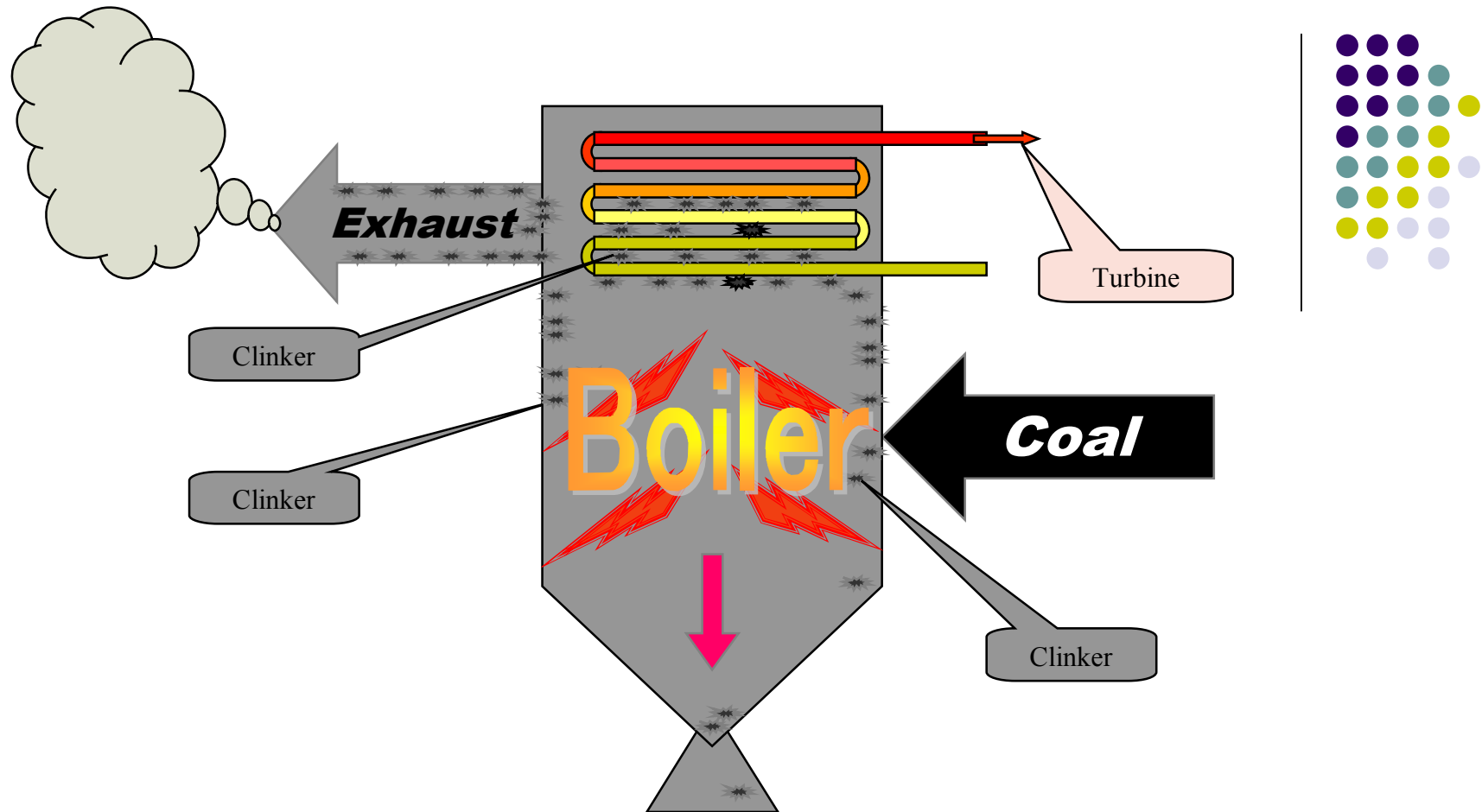
by Additives ...



Perfect Combustion of COAL

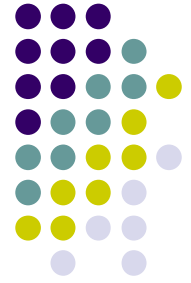


- Large amount of **Oxygen supply** is necessary for perfect combustion of COAL.
- Large amount of Carbon-Oxide is occurred around burning coal, and **Harmful gas like Carbon-Monoxide** will be occurred by **Imperfect Combustion** unless evacuating Carbon-Oxide quickly.



- Occurred Clinker adheres on Tube wall, and it will narrow the vent space of Oxygen and Carbon-Oxide.
- Energy amount will be decreased by creating imperfect combustion, disturbing Oxygen supply and evacuation of Carbon-Oxide.
- Also, by Clinker adhesion on Heat exchanger, it markedly-decreases the heat exchanger efficiency.

How to maintain Furnace condition



Energy amount and Efficiency is depended on Furnace condition



Keep Cleanness of Furnace by frequent cleaning, which is the best way to get the most efficient and stable Energy amount.



Cost matter

BUT, it requires a long period of operation shutdown
for cleaning of Furnace.

- ① Profit loss by shutdown ② Additional cost for Cleaning

Due to above reasons, to conduct frequent cleaning is very difficult.



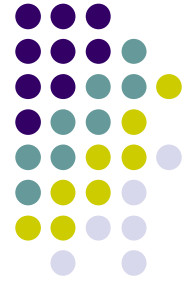
Developed COAL (solid fuel) Additive



To prevent growing Clinker adhesion on Furnace wall and Tube wall

「ADICOAL」

To maintain **stable clean condition** of **Furnace** for long period



Effectiveness of ADICOAL

- Prevent “Slacking” ascribed by Combustion of High Ash content fuel like Coal and Oil Coke, etc.

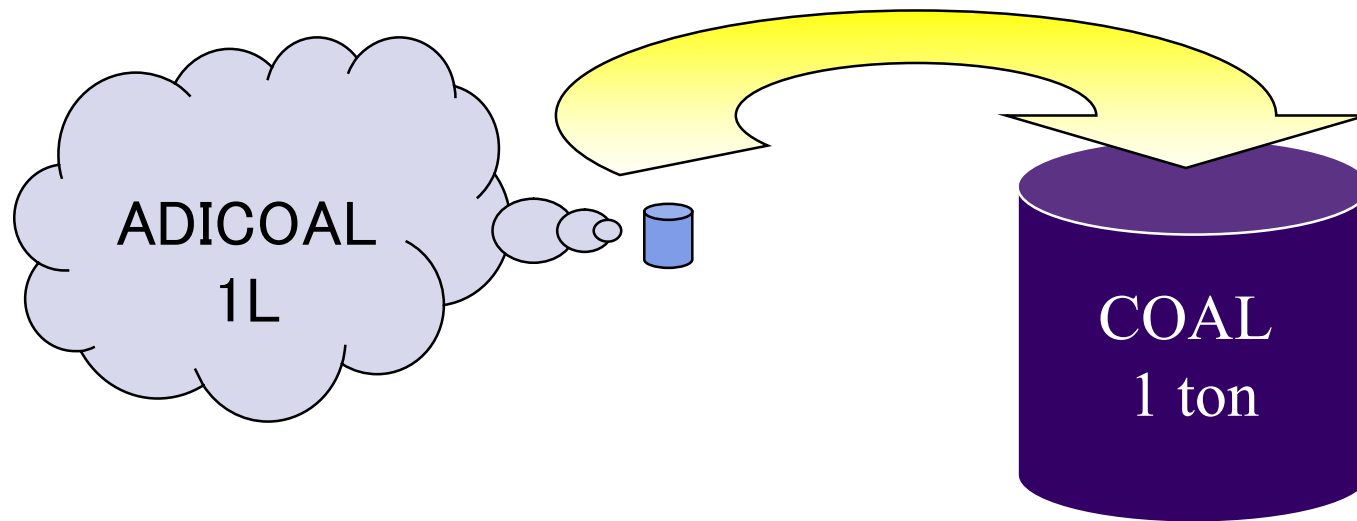
※Ash adhesion in Furnace = Slacking





How to use ADICOAL

- Dosage is 1 litter of Adicoal for 1 ton of Coal (1/1000)
- Wreaking strength of Ash content by just adding 1/1000
- Dosage is only a guide, and it may be reduced to 1/2000 – 1/5000 considering on Furnace type, Coal quality and the condition of Clinker adhesion.
- Recommend “**Intensively adding in short period**” for the best effect.

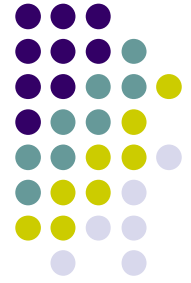




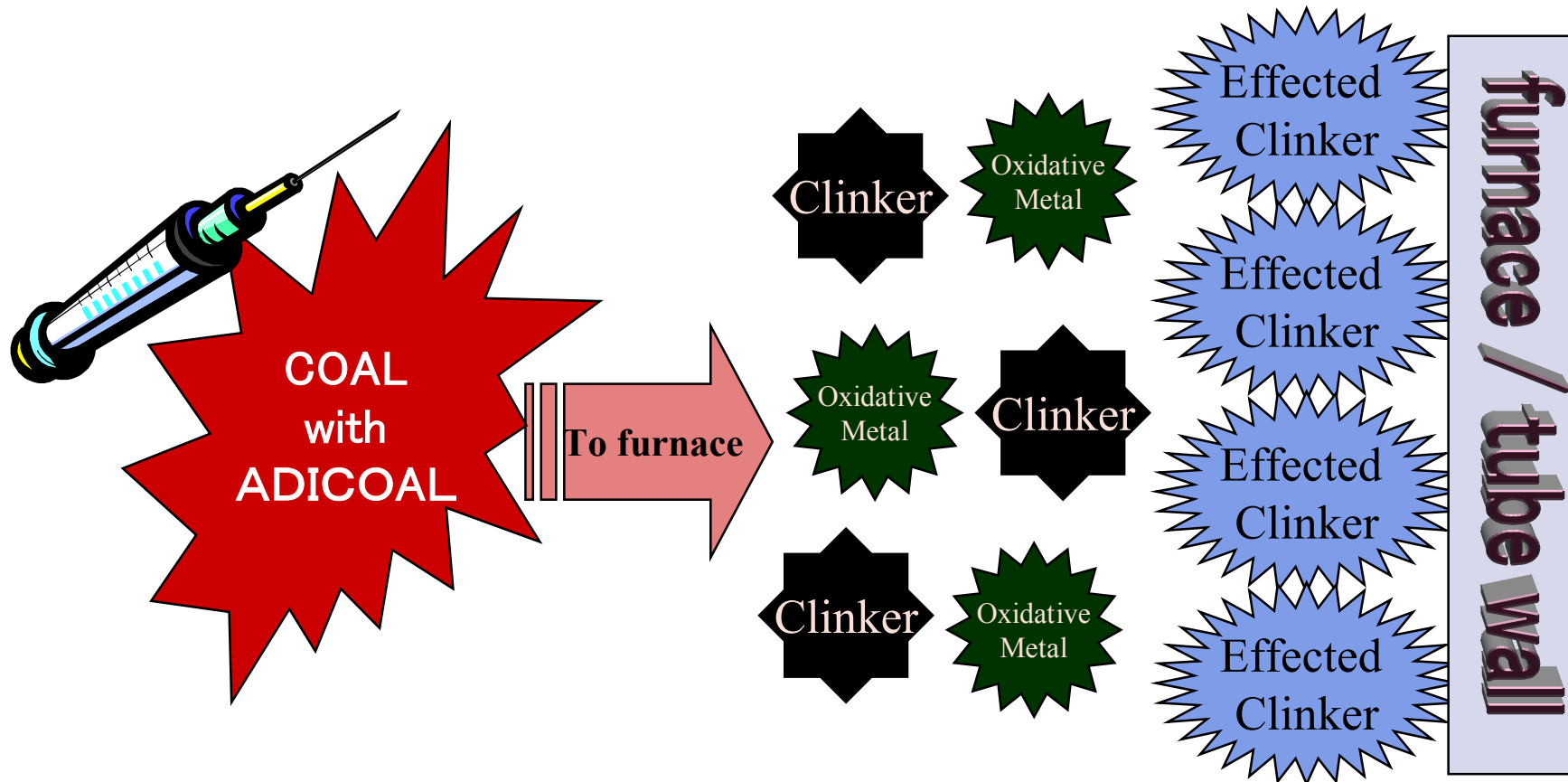
Instruction of ADICOAL

- 「ADICOAL」 does not have to be added every time on coal.
- Spray suitable amount of 「ADICOAL」 on **Coal before feed into Furnace** in every 6–12 hours of interval.
- 「ADICOAL」 is in water solvent to be sprayed.
- Because Grain size of 「ADICOAL」 is very

Feeding ADICOAL Sprayed Coal into Furnace

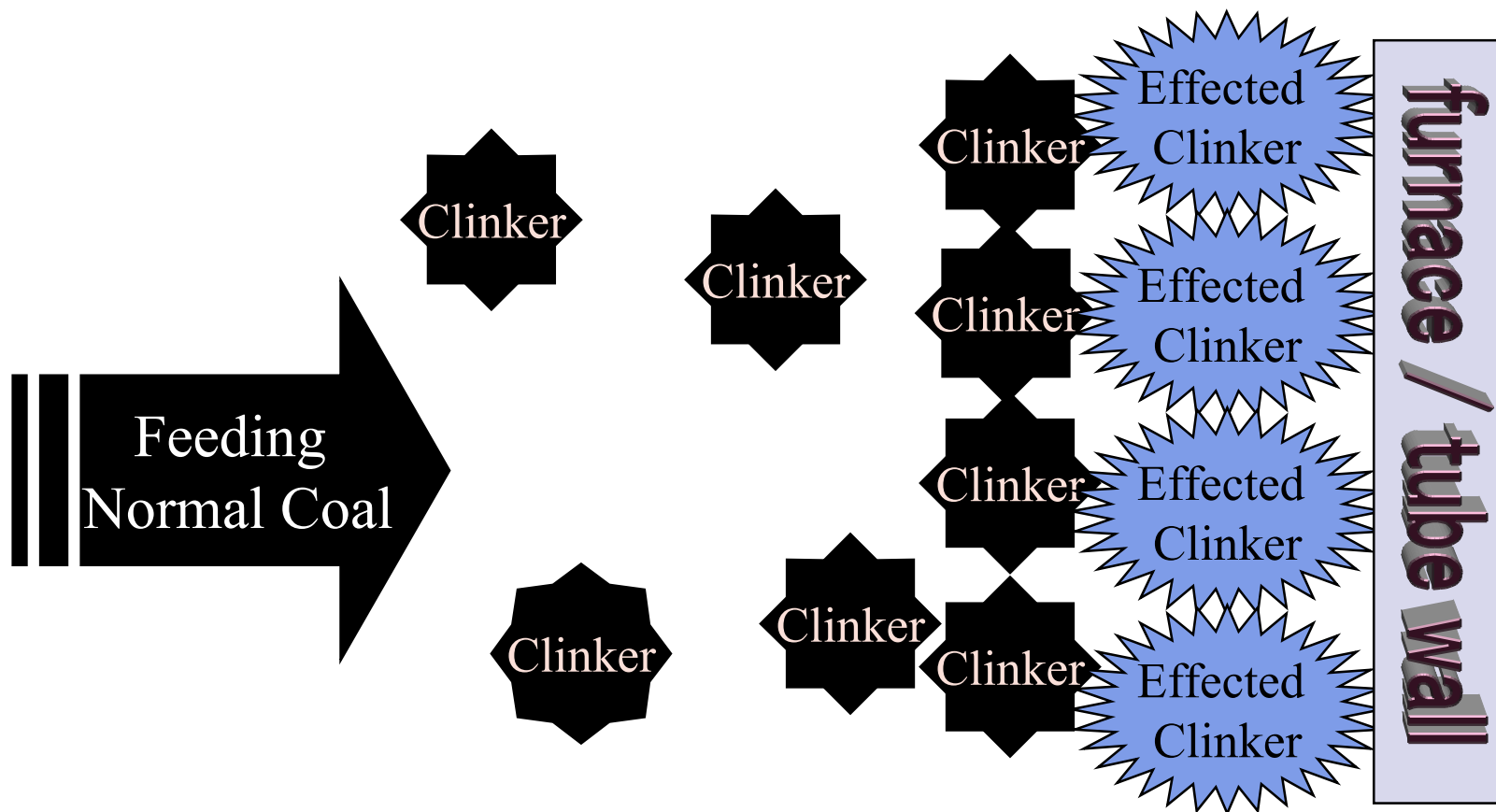


Compounded Metal in 「ADICOAL」 becomes Oxidative Metal by Combustion. The Oxidative Metal derives Specially effected (Spongy weak strength) Clinker with Coal Ash content and adheres on Furnace wall and Tube wall.

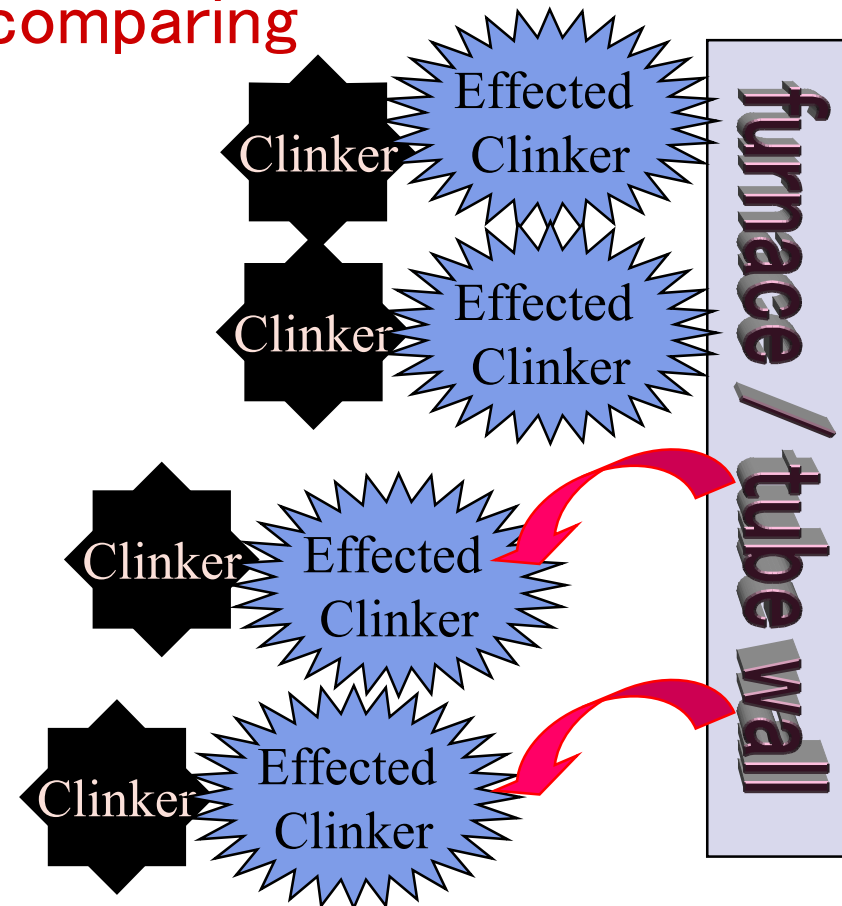




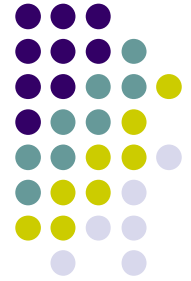
Feeding Normal coal into Furnace after crating
Specially effected clinker layer, Normal clinker,
composed only with Ash content, will be adhered on it.



Clinker will naturally fall off to the bottom furnace by concentrated stress from the weight of growing the normal Clinker because the specially effected Clinker, derived by 「ADICOAL」sprayed Coal, is spongy weak strength comparing to the normal Clinker.

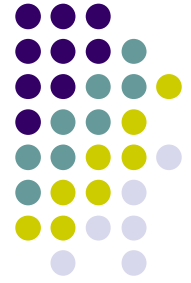


Main purpose of [ADICOAL]

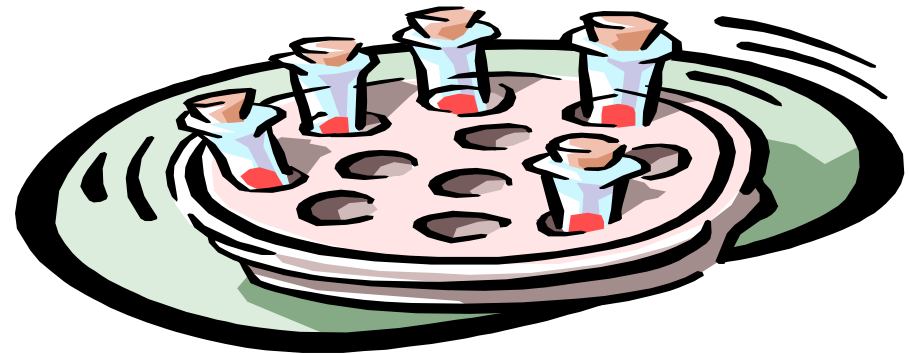


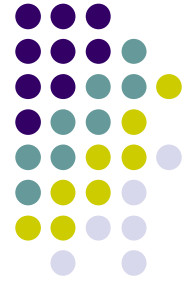
ADICOAL sprayed Coal derives Specially effected spongy weak strength Clinker layer to induce the most of Clinker to be naturally fell off as the bottom Clinker, which prevent to grow normal Clinker on Furnace wall and Tube wall. It maintains good condition of Furnace for long period.

Main components of [Fuel additive Petro EXL] is blended into [ADICOAL]



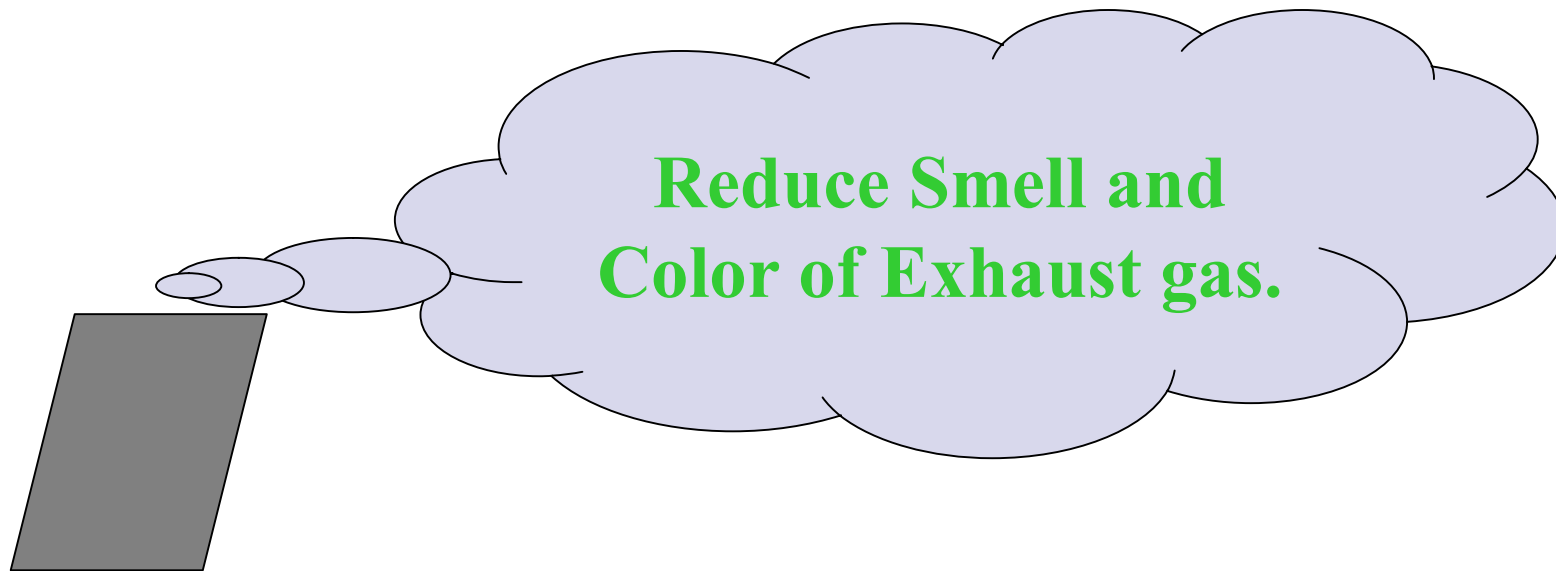
- Components of our Enzymatic fuel additive “Petro EXL” is blended.
- 4-Acetylcyclohexane, derived from Enzymatic technology (newly found material), reduces unburned carbon from imperfect combustion.

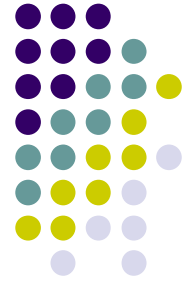




Synergetic effect of ADICOAL

- 「ADICOAL」 contains Enzymatic component to reduce smell and color of Exhaust gas.





As the result • • •

1. The combustion environment of coal will be improved, which **improves combustion** efficiency and **reduces harmless gas** like Carbon-Monoxide.
2. Also, ADICOAL contains component to **reduce smell and color of exhaust gas.**