FUEL FROM HEATING DEVICES AND HIS COMBUSTION FUEL CLASSIFICATION

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Abstract: Metallurgical in the ovens of heat meeting heat from energy being transmitted heat expense with This method depends on one type - fuels from burning appearance to be chemical of heat harvest This method is metallurgy from the ovens heat energy harvest to do main factor is considered

Wide in the field electricity energy to the heat convert for necessary was electricity heat from the technique temperature harvest to do for is being used . Metallurgical ovens to heat for big caloric fuel oil and natural gas from fuel many is used .

Keywords: If carbon flammable gas as if used , then burning to the kitchen oxygen less in quantity delivery is given . Also note that to take oxygen amount is normal incomplete even when given burning harvest to be possible . This reason flammable device construction imperfection and of gas air with enough at the level non-interference.

Introduction: Wide in the field electricity energy to the heat convert for necessary was electricity heat from the technique temperature harvest to do for is being used . Metallurgical ovens to heat for big caloric fuel oil and natural gas from fuel many is used .

Fuel is organic substance is , then burning on account of designated in quantity heat separates.

Reaction as a result product complete burning , maximum in quantity *Q* - heat separated comes out . (1.8) - in reaction complete burning harvest it won't be

possible , reaction product flammable *CO* gas . Heat (1.7) - reaction relatively less

If carbon fuel as acceptance if done , she is without him/her (1.7) - reaction with burn necessary .

Carbon complete burning for burning to the zone many in quantity excess oxygen delivery is given , the result *CO2* fuel harvest to be take is coming .

If carbon flammable gas as if used , then burning to the kitchen oxygen less in quantity delivery is given . Also note that to take oxygen amount is normal incomplete even when given burning harvest to be possible . This reason flammable device construction imperfection and of gas air with enough at the level non-interference .

Incomplete burning product in the content *CO* gas 0.5 - 0.8 % non-flammability with is evaluated . Burning process cooling following reaction on account of done increases :

$$2CO = CO2 + C$$

this on the ground carbon blackbird , soot as separated comes out .

Carbon amount anthracite and dry hungry in pieces much many , wet on the tree and less .

H - hydrogen , hard in fuel 2 - 6.0 % until , liquid in fuel and 10 – 12

% what organization does . Hydrogen two reaction on account of burning possible :

$$H_2 + 1/2\ O2 = H_2O\ (pair) + Q1$$

$$N_2 + 1/2\ O_2 = N_2O\ (SUV) + Q_2$$

Natural in case hydrogen burning fire product to the quality juicy feather

gives , therefore for this in reaction heat effect , drop water harvest to be relatively less

Fuel analysis to do fuel in the content hydrogen general amount determination opportunity But in the fuel hydrogen everyone yield in any case to do necessary , in this hydrogen does not oxidize . Free hydrogen using the following formula determination possible :

$$H_{a\ little} = No. - H_b$$

this on the ground *No.* - fuel in the content hydrogen general value , chemical analysis in the way is found ;

H_b - fuel to hydrogen dependency value , this Dulongu method with found :

$$H_b = Oh^{my} / 8$$

That is , in fuel oxygen hydrogen with complete connected .

S - sulfur , in fuel organic sulfated or sulfite to be possible . Sulphated sulfur burning in the process participation It does n't matter . regardless , sulfur fuel organization provider substance Sulfur is in fuel to be and metal to the composition absorption of metal quality reduces .

Separately sulfur natural to be possible . *Donetsk* fuel in pieces 3 up to % and even more so , *in Karaganda* and *Kuznesk* up to 1% in pieces Sulfur in the future how much many if , coke in the composition his/her amount that much high , naturally , this to metal will pass .

N - nitrogen , fuel for is considered an unnecessary burden . Hard and liquid in fuels his/her amount Up to 2% to reach possible , liquid in the state in fuel from it much high will be .

Oh - oxygen , fuel mineralization to the level looking at every kind in

quantity to be possible , mineralization level how much high if so , its amount that much less It will be . To oxygen related situation harvest to be with , fuel for unnecessary up turns .

W - moisture in fuel external and chemical to the binders Moisture in fuel not to be necessary , therefore for humidity is considered an unnecessary burden . Humidity there is in fuel of heat many part evaporation for spending will be .

A - gray , solid fuel up to 25% in content harvest to be possible . Basically oxide in the form of : SiO_2 , CaO , Al_2O_2 , MgO , Fe_2O_3 and other in cases organization to find possible . In the restaurant from them cleaning for special from devices used . Fuel oil in the composition humidity up to 0.3 - 0.4 % to be possible .

So so , hard or gas in the state fuel organization those who two to the group to be possible :

1) *flammable* (CO , H_2 , CH_4 , C_2H_4 , C_2H_6 , C_3H_8 , C_4H_{10} , $H2S$) ;

2) *unlucky* ($CO2$, H_2O, SO_2 , $N2$, $O2$) .

CO - carbon oxide , human to the body impact strong in the air permission done content 0.02 *mg/l* . Flammable gas contains up to 30% will be .

H_2 - hydrogen , very light gas , explosion for dangerous , for example , coke 60% of the gas organization does .

CH_4 - methane , from the air light gas to be , natural on the gas 98 % until , coke up to 30% in gas , domain up to 0.2 - 0.5% in gas to be possible .

C_2H_4 - ethylene , coke of gas 3 % what organization does .

C_2H_6 (ethane), C_3H_8 (propane), C_4H_{10} (butane) - heavy hydrocarbon some in gases designated in quantity , natural in gases infinite the amount organization will reach .

H_2S - sulfurous hydrogen , in the air permission done amount to 0.001% equal , in fuel his/her to be harmful .

Gas in the state fuel in the content non-combustible unnecessary load is

considered , especially CO_2 .

Fuel quality analysis using is evaluated . Analysis to do two method available : technical and complete analysis .

Hard and liquid fuels technician analysis using checked and contained moisture , ash and pilot substances amount Coke remains characteristic and fuel in the fire heat is determined .

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