



Legislación & Permisos Anexo V – Modelo de Permisos de Operación

Módulo 6 – Anexo V
Una Alianza Público-Privada GTZ-Holcim gestionada por
FHNW





Modelo de permiso de operación nº 1

PERMIT / MODEL
Sender: Licensing authority
Addressee: Company
I. By these presents, pursuant to articlesAct..... you shall be granted the permit to build and operate a plant for the production of cement with Co-processing Waste fuel with an output oft/d cement in.....(place)(street, correct address)
II. Plant Components → rotary kiln with fuel gas channels, stack → raw material storage → fuel storage (primary fuel, secondary fuel) → crushers, mills, coolers → conveying facilities → electrostatic filter → waste processing, supply station →



Modelo de permiso de operación nº 2

III.

Application Documents

1. Topographical map
2. Constructions documents:
 - _ key plan
 - _ drawings
 - _ building specification
3. Diagrammatic section of the plant
4. Machine site plan
5. Description of the plant and operation of the plant, the terms of normal working conditions
6. Description of the emission situation
 - _ the technology for prevention the pollution
 - _ contents of quantities of emissions
7. Description of secondary fuels: generation, processing, utilizing installation, supply, quality assurance system.
8. Environmental assessments
 - _ Air pollution emission prognosis (e.g. dust, NO_x, SO₂, heavy metals, PCDDs/PCDFs)
 - _ Noise emission prognosis
 - _ Odor emissions
9. Maintenance of industrial and occupational health and safety standards
10. Description of energy saving techniques and/or measures
11. Description for public information



Modelo de permiso de operación n° 3

IV.

Plant Data

Output:t/d cement

Primary Fuel : coal dust, heating oil,

Secondary fuel: solid fuels, liquid fuels,

V.

Collateral Regulations

1.0 Air pollution control

- 1.1 All waste gases must be collected and must be discharged in a controlled manner via stack.
- 1.2 Emission measurements must satisfy the following requirements. They must be representative and comparable with one another permit uniform evaluation permit monitoring and verification of compliance with emission limit by state –of-the art measurement practice
- 1.3 According to the EU directive 2000/76/EG, the emission in the exhaust air of waste gas purification plants shall not exceed the following mass concentrations, always referred to standardized conditions (273 K; 1013 hPa) after deduction moisture. Reference oxygen content 10%



Modelo de permiso de operación nº 4

Pollutant (daily average value in mg/m ³)	Total emission limit*
Particulate emissions (Total dust)	30
HCL	10
HF	1
NO _x	500 - 800
SO ₂	50** - (350)
TOC	10**
Dust constituents and filter-slipping metals, metalloid and compounds there of:	
Cd + Tl	0,05
Hg	0,05
Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V	0,5
PCDDs and PCDFs	0,1 ng I-TE/m ³
<p>* Emission limits are fixed on the basis "EU directive 2000/76/EC" but local authorities may establish special limits in case by case</p> <p>** Exemption may be authorized by competent authority in cases where TOC and SO₂ do not result from the incineration waste</p>	



Modelo de permiso de operación n° 5

1.4 Monitoring of emissions:

→ Substances contained in dust, HCL, PCDDs/PCDFs

For the monitoring of emissions, single measuring are to be conducted. The emission limit values are being observed if single measuring results exceed the fixed emission limit value. Measurements have to be repeated at least every year and be performed independent experts.

→ Dust, NO_x SO₂

In order to monitor emissions, continuously measuring devices with automatic evaluation are to be installed. The result of the continuous measuring must be recorded. The measuring instruments have to be tested with regard to their functioning once a year by independent experts

→ CO (limit value can set by competent authority)



Modelo de permiso de operación n° 6

2.0 Waste fuel control

2.1 Monitoring of Quality assurance for co-processing waste fuels

→ point of generation (producer):

- listing the waste according to type
- contractual agreement over permissible quality and composition of the waste
- documentation of quantities disposed of

→ processing installation (incoming):

- routine sampling and analysis*, retention samples
- documentation of the quantities received and processed
- routine sampling and analysis by independent expert

→ processing installation (outgoing):

- routine sampling and analysis*, retention samples
- documentation of the outgoing quantities

→ utilizing installation (cement kiln, incoming):

- routine sampling and analysis*, retention samples
- documentation of the incoming quantities

→ *parameters investigated:

- calorific value, moisture chlorine, sulfur, ash and ash components
- heavy metals (Cd, Tl, Hg, Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V)
- PCBs, PAH, etc.
- maximum value, median value of the level of pollutants in the waste mix



Modelo de permiso de operación nº 7

Anexo

2.2 Pollutant limits in waste fuels for co-processing¹⁸

	median value (ppm)	maximum value (ppm)
Cadmium		
Thallium		
Mercury		
Antimony		
Arsenic		
Cobalt		
Nickel		
Selenium		
Tellurium		
Lead		
Chromium		
Copper		
Vanadium		
Manganese		
Tin		
Beryllium		
Chlorine		
PAH		
Sulfur		
PCBs		



Modelo de permiso de operación nº 8

2.3 Waste fuel catalogue for co-processing in cement kiln

Waste key / group	description of the co-processing fuel

3.0 Monitoring safe Combustion

- The burning process has to be monitored continuously using modern process control technology,
- The main parameters for analysis of the waste materials (calorific value, chemical composition, etc.) must be put into the process control system on a continuous basis,
- Regulations of primary energy have to follow in reliance on secondary fuel data,
- Waste fuels may only be supplied during normal continuous operation within the rated output range.



Modelo de permiso de operación n° 9

3.1 Safety regulations

For supervising the parameters listed below, they should be linked to one another by a computer-controlled logic system e.g.:

- Gas temperature less than 900°C at kiln inlet
- Temperature of material at kiln outlet less than 1250°C
- CO- level above a value to be established by trial (Vol.%)
- Inadmissible control deviations in the set point/actual value comparison for the primary and secondary fuel feed
- Raw meal feed of less than 75% of the max. possible quantity
- Negative pressure before the exhaust gas fan below the value required at rated output
- Permissible O₂ level lower than inspection measurements require
- Permissible NO_x level above 500 mg/m³
- Failure of burner
- Dust level above permissible limit

(This should ensure rapid detection of any disruption to normal operation and use appropriate response system to prevent uncontrolled combustion of residues)



Modelo de permiso de operación nº 10

VI.

Noise

In so far as noise must be taken into consideration, the noise emission limit values shall be determined in dependence of existing, surrounding development.

VII.

Sewage Water (if applicable)

VIII.

Reasons

(Reasons for a permission for co-processing waste

- environmental assessment,
- air pollution control,
- waste management, waste hierarchy,
- public involved