



# UDAF

## ARTIGRAF S.A.

Underwriter Data Analysis Form

Document which gather information available to do a deep analysis to develop an underwriting process of a risk.

One document permit in a simple way consult, contrast and synthesize risk information that may help to understand well the vantages and disadvantages of the risk submitted to be accepted as part of insurance/reinsurance portfolio.

This form will agility and reduce the time to take decision regarding risk underwriting process.



General Description

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# General Description

ARTIGRAF, S.A. Mexican holding company of Printing, Corrugated Cardboard packages manufacture and offices printing supplies is one of the country's cardboard boxes ensemble corporation with more than 13 Mt Ton annual capacity. The company is primarily engaged in the paper mill treatment, paper production (1959), distribution and marketing as well as the operation and maintenance of three plants.

The Corporation ARIGRAF S.A., was founded in 1977. There are three main manufacture locations: Monterrey Plant; México Plant; San Juan del Río Plant; Recycling Plant; Mill Plant.

In ARTIGRAF offer to its clients the benefit of the following values chain:

- The certainty of having always the services
- Security
- More versatility
- Ability of answering and attending quickly

Our policy in ARTIGRAF Inc. is the commitment of developing corrugate cardboard products complying the quality and service requirements requested by our clients; thus, allowing us to consolidate within the market, through a continuous improvement process, applying a quality system ruled by the ISO 9001:2000 standard.

As Mission to be a sustainable company with family values guiding the potential of the people, committed with the continuous improvement, and having as a priority to exceed the customer's expectations on quality and service; looking always strategic partnerships with clients and suppliers, as the platform for transcending within the corrugated cardboard industry.

The Vision to be acknowledged within the industry as the best choice in corrugated cardboard packaging solutions.



Our product line.



# This Business

ARTIGRAF, S.A. The main activity is cardboard corrugated boxes assembly, warehouse and Distribution.

This state company produce and distributes boxes printed within Mexico. The revenues for 2017 was US\$ .....MM.

Type: Paper and derivate production and manufacture

Area: Mexico district, Monterrey, Puebla and Veracruz

Kind Production: Boxes and packages

Capacity: 53,000 M3 (13,000 M3 ton)

Owner: Private

Shareholders:100% León Behar and Ricardo Eloy Salas Suárez

Activity since: 1996

Annual Income: US\$ ..... for 2017 (BI; US\$ .....)

This risk (All Risk Policy) which inception date is March 15th. 2019

Deductibles: Material Damage US\$ 100,000 and 1% for NatCat

Losses: No losses last 10 years

# Exposure

ARTIGRAF, S.A. is settled down in four (4) provinces in Mexico. For this placement, where Earthquake, Tsunami, Flood, Landslides, Hail and Tornados are the Natcat exposures, FLEXA and Machinery Breakdown are the main exposures. Liability, Strike & Riot and Terrorism are also minor exposures.

Earthquakes is significant in Mexico City Provinces, then this phenomenon is adding some of premium to this placement. The EQ maps shown return period between 200 and 250 years, however the "progression" for losses higher than 300 years return period must be aggregated.

Tsunamis, as event mainly linked to earthquake and water mass on movement, may affect only the coast; however, there are no locations very close to the coast, therefore this event will not add premium to this placement.

Flood, these locations are almost not exposed to this hazard and few landslides as product of water flows. Locations exposed is usually located at plains, hills and mountains where rivers are around; therefore, return period adequate is between 1000-1500 years (available map).

Tornados will not happen in México; however, in case of a small tornadoes (twister) this intensity and power to destruction are less intense than other phenomena, therefore tornados are becoming more threat at the very north of the country, therefore we chose to put a no premium for this regard.

Hails could happen in Mexico (Map), but they won't occur close to these facilities. No premium added.

FLEXA, these locations are exposed to deflagrations, fire and machinery breakdown; however; the most concerning event is fire over stocks (warehouses) which could trigger high losses. Inside the locations there are five different types of "operation areas". Offices, vapor generators, assembling, warehouses and Services. Every area was assessed following rates and losses history of this kind of type of "operational" area. Also, should be aware that stocks in warehouse are taken in a 100% MPL. The composed rate is driven mainly by Paper & Pulps rate (without black liquors handling).

The pricing output must be "adapted" to the Mexican market, even though should be following the Latin America and worldwide losses which affected this service.

Liability is not a coverage in this placement

Strikes & Riot in Mexico is low, however, Unions and "pressure groups" are strong therefore we added a minimum premium for this regard

Terrorism could happen in Mexico, however is a Medium frequency. Therefore, Premium in this regard is a minimal amount.

# Analysis

ARTIGRAF, S.A. should be analyzed in five (5) different aspects: Natcat, FLEXA, Machinery Breakdown, Strike & Riot and Terrorism. Losses are not occurred.

## Natural Disasters



Earthquake in México: These locations located on a zone prone to EQ (Return Period of 250 years). However, the most prone area is locations at Mexico City which have values of US\$ 45,131,330 therefore the premium for this area is US\$ 45,2MM/250 years (US\$ 45,200 per year @ 25% mean damage); there is a premium regarding a return period greater than 250 years; the premium is US\$ 4,500 per year due the less improbable possibility of occurrences of any EQ out this exceedance (500/1000/1500 return period). Also, for the rest of provinces the return period is higher (500 yr. and 750 yr.) therefore the premium are US\$ 54MM/500 @ 15% mean damage for a premium of US\$ 2,500 plus US\$ 500 for the rest of the possible EQ with return period higher than 750 yr. However, the higher loss due the type of construction, type of services of quality of materials could be no more than 95% of the total possible premium charged, EQ per year is US\$ 50,000.

Tsunami in México: Charges for this regard is only for Plants in Guayaquil with return period higher than 2000 yr., therefore, premium is 199,321,460/2000 @ 50% mean damage. Tsunami per year is US\$ 00,000.

Flood & Landslide in México: Maps and model shows minimum threat for this exposure regarding this risk (maps attached); however, these plants affected by return period of >1000 years, therefore US\$ 99,000,000/500 yr. @ 15% mean damage (US\$ 29,700 per yr.), therefore, premium for Flood is US\$29,700 plus US\$3,300 for every other return period (>500 years) due these locations are settled down all over the west side the country close by rivers and creeds that could affect these risks. The charges are Flood per year is US\$ 33,000.

Windstorms, Hails, Tornados, and Hurricanes in México: These perils are not calculated for this analysis due the very low probability of occurrence, however due the lack of maps we chose not to charge for these coverage (Tornados maps and hails maps attached). WS/H/TS/WS per year US\$ 7,000.

# Fire, Lightning, Explosion and Aircraft

**CAPACITY ASSESSMENT**

**PROPERTY INFORMATION**

**INSURED VALUE**

**NON PROPORTIONAL COVERAGE INFORMATION**

**CAPACITY CALCULATION AT 100%**

**CAPACITY CALCULATION PROPORTIONAL**

**CAPACITY CALCULATION NON PROPORTIONAL CAPACITY (URSI)**

**TOTAL**

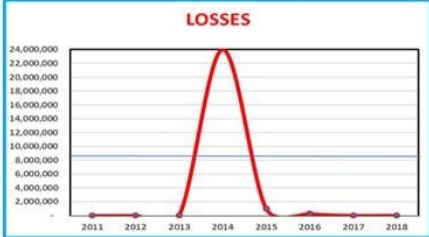
**DATE:** 1/18/2014

**FROM:** [Redacted]

FLEXA (All Risk Program) México: There are some type of services included in this company: Offices, Ensemble, Warehouses and Services. The MPL is US\$ 45.131 ,329. The account limit is US\$ 16.200,000 which is the 17% from the TIV, therefore, the factor applied to the proportional premium is 72%. Also, there is a factor regarding size, quality, sublimits, deductibles and losses that are applied as well (85%). The BI is not included for these locations.

The net premium FLEXA per year US\$ 100,000 (limited to US\$ 16,200,000).

Strike & Riot for México: This exposition could be important in México, however, there is a main issue in remote regions where drug traffic mafia are having strong voice. In México City, there is not a big problem and regarding Terrorism, also there is not a great threat, Strike, Riot & Terrorism US\$ 10,000



Finally, the losses associated to this account are not occurred last 10 years. The additional premium due Losses US\$ 00,00.



The total premium MD/BI US\$50,000 + US\$33,000 + US\$7,000 + US\$100,000 +US\$ 10,000 MD US\$ 200,000 (net).

After conditions of size and opportunity (Market a wise approach):

For the QS limited to US\$ 16,2 MM: US\$ 245,000 (2,447 per mil gross)

For the Primary of US\$ 10MM: US\$ 185,000 (1,85 per mil gross)

Deductions: 27,5%

# Conclusions

ARTIGRAF, S.A. Cardboard corrugated assembly company which is part of the paper industry sector in the Central America Region.

This company is an opportunity for any insurance company interested in Latin America market. México is a market stately growing with a strong insurance market that open many possibilities for international market. Even though this market handled many medium size risks, these could be a great opportunity to be in the market without excessive exposition.

NATCAT: From this point of view, EQ is the biggest threat. Flood will affect this location due the topographic, but not much. After gathering and synthesize all the information coming from different sources, the total Premium for Nat Cat Perils QS US\$ 16,000,000 is US\$ 90,000 net.

FLEXA: Paper Industry (Mill, assembly and warehousing) is the driver service of this risk which the MPL calculated is US\$ 45,000,000 Based on TIV of US\$ 99,000,000 the total FLEXA (All Risk) premium for a limit of US\$ 16,000,000 is US\$ 100,000 net

Losses Occurred since 2008 are not occurred losses.

Quota Share: For the first US\$ 16,200,000 for the account: US\$ 180,000 net @ (rate 1.8181 %).

FINAL COMMENT: The risk is of middle size, insurable, well-handled and highly important for the Mexican people, therefore it is less probable to be hit by strikes or riots. Also, the company is so important for this Country that any fire or ignition is attacked immediately.



# Proposal

The unique possibilities to fit re-insurable capacities for this account is just for quota share structure. Due the size of this risk, it is not feasible Primary as a structure of coverage. Makes lot of sense regarding this account, this type of services (Paper & Pulp) and these companies in LatAm to be insured it by Total Values. Also, a Quota Share of US\$ 16 MM is required by banks and other national laws. A Non-Proportional structure in excess of US\$ 10MM or higher limits does not useful for short periods (from client point of view). Layers in excess of US\$ 5MM are not available and do not make sense form the transfer risk point of view (client perspective as well).

Due to the simple of this placement, the size of Artigraf and due non-losses occurred beside the limit concentrated in one location (45% total values), plus these facilities which are very well built and handled, our proposal is to put capacity to a maximum of US\$ 9MM (50% based on the First Loss of US\$ 16,000,000). The Best option is to a QS of US\$ 16,2 MM for PD Net Price US\$ 180,000 (US\$ 245,000 less 27,5% deductions)

Deductibles are below the normal range; however, they could be better if they were US\$ 125,000 as minimal.

Capacity should be carefully deployed therefore average 50% for QS US\$ 16 MM.

We are convinced to deploy capacities in this risk due the opportunity to be included in a risk with exposure controlled by one unique high risk: Earthquake. Machinery Breakdown is under control as well.

Deductibles should be increased in order to be aligned regarding Paper & Pulp industry.

Inspections/Surveys must be carried on in this location by certified inspectors (NFPA) and structures should be evaluated in deep in order to re-enforce buildings and structures to bare higher EQ impact. Surveys performed so far are not useful for do a fair analysis, also, details about managerial, operational and financial areas must be more detailed for renewal, otherwise will be very hard to help this risk out to improve premium and placement.