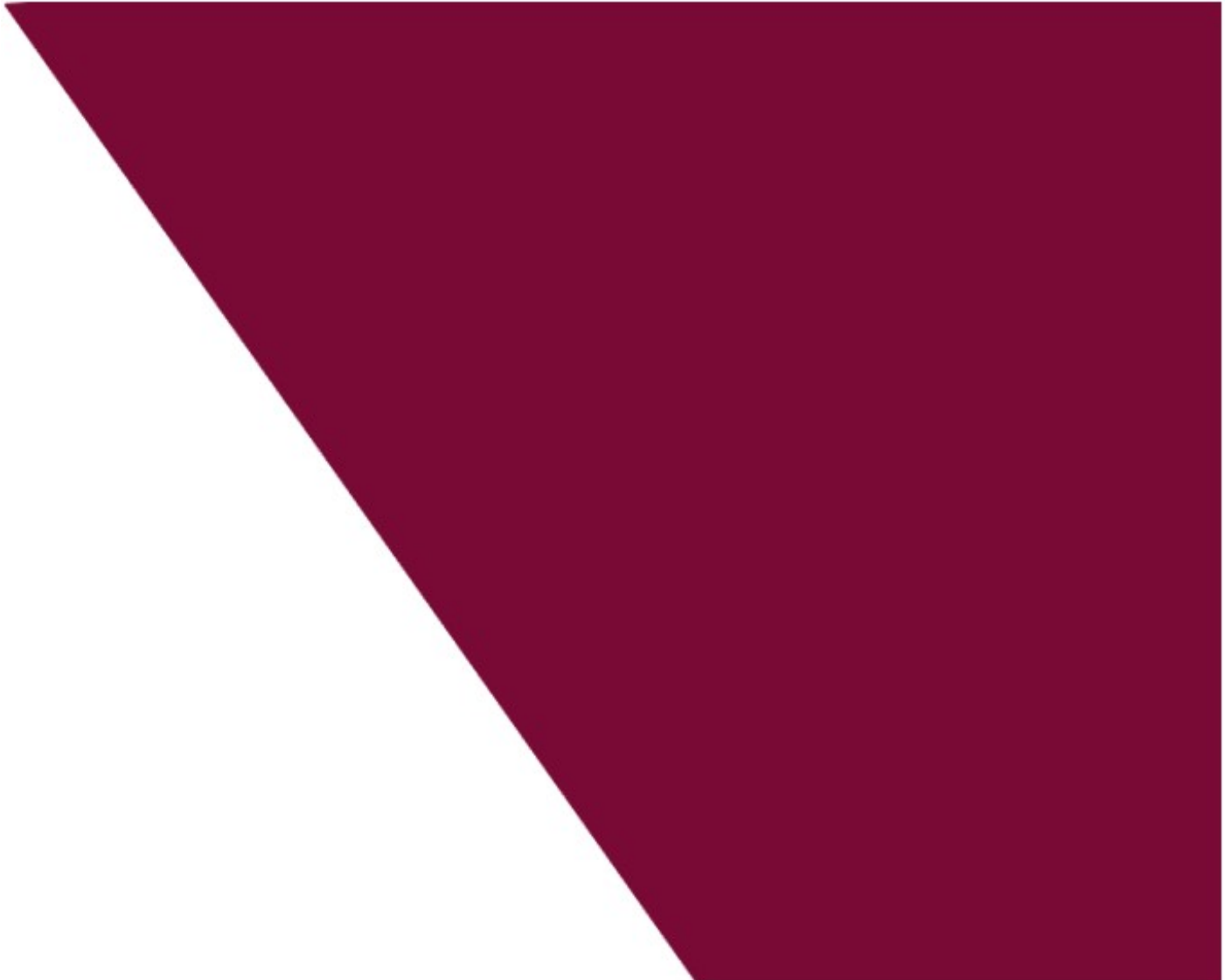


K.A.R.L.[®]-PRO REPORT

NATURAL HAZARD AND RISK ANALYSIS



K.A.R.L.® analyzes are used exclusively for loss prevention and early detection of risks. They are based on scientific data, facts and correlations. They also take account of the potential damage levels that may arise as a function of the specific physical sensitivity of certain goods under external impact.

Loss statistics of the insurance industry are not included in the analyzes. Therefore, risk figures calculated by K.A.R.L.® are not suitable as a basis for insurance premiums.

TASK

Task-ID: Borobudur, Java

Analysis of location dated: 15.09.2025 11:05:42

by: KA Köln.Assekuranz Agentur GmbH

Version: 5.1.0.4

LOCATION UNDER SURVEY

Borobudur, Java

GEOGRAPHICAL SITUATION

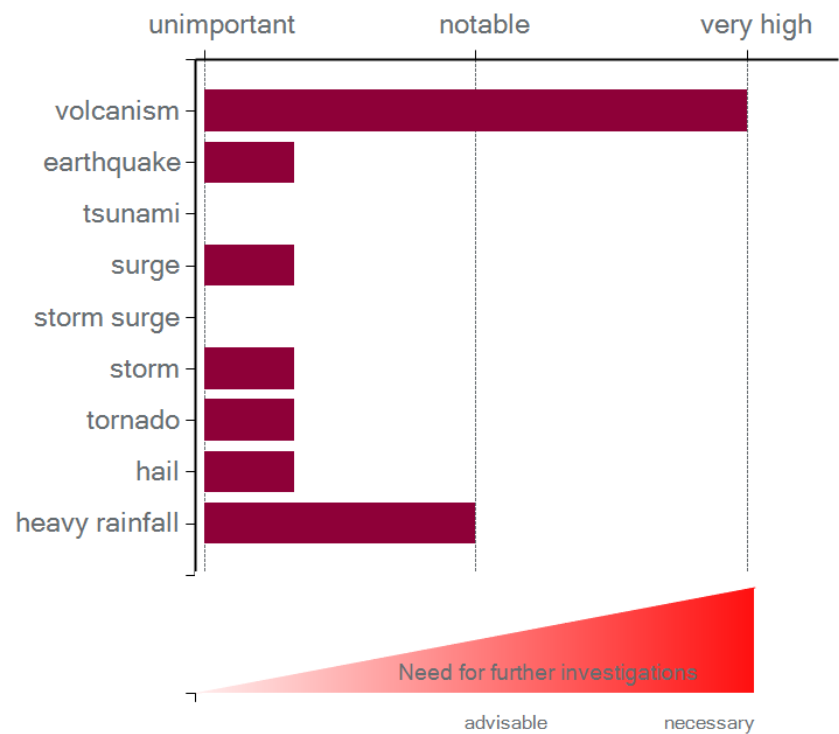
Latitude / Longitude (decimal):	-7,607973 110,2038203
Estimated Elevation (m above sea level):	247,00
Elevation from Digital Elevation Model (m above sea level):	247,00
Type of Landscape:	low mountain range
Lowest Elevation within 1 km (m above sea level):	239,00
Highest Elevation within 1 km (m above sea level):	273,38
Approximate Distance to Coast (km):	27

This data was transferred partly automatically from a global digital elevation model, which is based on radar survey. Deviations from the real elevation are possible at places where the radar signal has been reflected by roofs or trees. (Source: NASA, SRTM V4)

NB: The assumed local elevation has been interpolated from the elevation model under worst-case aspects. It may be lower than the real ground elevation.

The specified distance from the coast corresponds to the straight line to the nearest point of the elevation model, which has not been defined as mainland. Therefore, under certain circumstances also estuaries or large river mouths can be interpreted as marine areas.

SUMMARY OF THE RISK ANALYSIS



Location: Borobudur, Java

NB: The exact elevation was not given, but is most important for a correct classification of the risk of surge. It is strongly recommended to find out the exact elevation and repeat this analysis.

VULNERABILITIES AND VALUES AT RISK

Values at Risk

TOTAL (%)	100
Surge* (%)	20

* Estimated by K.A.R.L.® based upon the landscape conditions

This risk analysis concerns the following goods / facilities / buildings:

Büroimmobilie oder Geschosswohnungsbau, über 7 Etagen

RISK FIGURES

PERIL RISK as % p.a.

Volcanism:	1,3282 (very high)
Earthquake:	0,0253 (very low)
Tsunami:	0,0000 (-)
Surge / River Flood:	0,0008 (very low)
Storm Surge:	0,0000 (-)
Storm:	0,0371 (very low)
Tornado:	0,0027 (very low)
Hail:	0,0002 (very low)
SUM (without Heavy Rainfall):	1,3943 (very high)
Heavy Rainfall:	0,2337 (notable)

The risk analysis has been calculated considering the vulnerabilities (sensivity of the goods / facilities / buildings that could be threatened by the examined natural hazards) defined by the user mentioned below.

The risks detected by K.A.R.L.® are calculated by numerical modelling. First of all the potential losses are calculated for statistical return periods of between 1 and max. 10.000 years. From this a mean annual loss is deduced as a significant figure for the Risk at the location.

Example (simplified): Should a total loss of 1 Mio. EUR be expected due to flooding only once a century then the mean annual loss (= RISK) is 10.000 EUR p.a.. The identical risk would result from the occurrence of e.g. 4 single events causing damage of 0,1 Mio., 0,3 Mio., 0,4 Mio. and 0,2 Mio. EUR collectively. The average then is also 10.000 EUR p.a..

Regardless of the object's value the risk can be expressed as a yearly percentage which would be, in the above example, 1 % of the total value of the object per year (i.e. RELATIVE RISK).

It is possible that singular claims may significantly exceed the calculated risks. Therefore they are separately listed below together with the corresponding statistical return periods. The CALCULATED MAXIMUM LOSS states the highest possible single loss for each model calculated. For this figure no statistical return period will be given.

RECOMMENDATIONS AND FURTHER STEPS

Some risks have been identified as notable or above. Further investigations are necessary. Due to this it's recommended to clarify the following issues:

LOCAL ELEVATION:

Try to find out the exact elevation of your site (m above sea level) and carry out the risk analysis again. The best references are official maps with a scale of 1:5000 to 1:25000, where elevations are given. Construction or site plans also contain relevant elevation data. If necessary a surveying office must be consulted. ATTENTION: Elevation data from mobile GPS devices or smartphones are not precise enough for this purpose.

VOLCANISM:

More information is available from a K.A.R.L.[®] Expert Analysis which you can commission at KA. Contact also local institutions such as local emergency services, local authorities or geoscientific institutes of nearby universities to gain further details concerning volcanism.

HEAVY RAINFALL:

Check if the local sewer network is designed for extreme heavy rainfall. To clear that question it may be necessary to hire a competent expert. Also check that the drainage systems are clean or that they can not be blocked by leaves or other contaminants. Also, check for risk potentials such as IT systems and valuable archive documents in basements or outdoors stored water-sensitive goods.

NOTES FOR INTERPRETATION

The calculated results by K.A.R.L.[®] and the statements in this report are to be considered as a guide only. They only INDICATE which perils can cause specific risks and where further action might be necessary. Their purpose is to prioritize further research and installation of protective devices. In no way can they replace a detailed and scientific analysis of the location itself by an expert.

Please note further: Is a risk identified and named, there is always an endangerment which, under certain circumstances, might cause severe damage. The classification of a risk as “VERY LOW” or “LOW” therefore only means, that such an extreme event occurs very seldom and not that it is impossible. Whether further protection is necessary even in a low risk situation depends on the value and the vulnerability of the goods at the location. Are the risks classified as “NOTABLE” to “VERY HIGH”, further investigation of the situation is always advisable in order to define the level of risk more precisely.

Such an investigation can be conducted by a detailed analysis of the location (K.A.R.L.[®]-EXPERT) by our own experts if requested.

This risk analysis was generated automatically. It was not checked for plausibility by an expert. Certain facts only visible in maps, air or satellite reconnaissance pictures, which might have influenced the risk evaluation, could not be taken into account.

Please do not hesitate to contact us if you have any questions:

Team K.A.R.L.[®] (team.karl@koeln-assekuranz.com)

CLIMATIC CONDITIONS

Mean Annual Temperature:	26,7 °C
Coldest Month:	Jul. with 20,7 °C
Warmest Month:	Okt. with 31,9 °C
Number of days per year $\geq 20^{\circ}\text{C}$: (mean temperature)	329
Mean Elevation of Frost Line above sea level:	4054 m
Annual Precipitation:	2642 mm
Quarter with Maximum Precipitation:	J-F-M with 1135 mm
Quarter with Minimum Precipitation:	J-A-S with 136 mm

The climate data given here are dynamically adapted to the respective current year on the basis of a climate model (NCAR Community Climate System Model (CCSM), Scenario A1b).

Theoretical Availability of Water:	1064 mm p.a.
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Explanation: The availability of water is calculated as the difference between the annual precipitation and the evaporation. Theoretically, this amount of water is available as surface water or replenishes the groundwater storage. At the location under survey the amount exceeds 200 mm p.a.. A water shortage is therefore not to be expected, except in extremely hot and dry years.

Index of Severe Weather:	very high (5,73)
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Explanation: Köln.Assekuranz has calculated the index of severe weather using various climatic parameters. With this index the frequency and degree of severe weather can be compared to the conditions in Western Europe. The following Indices of severe weather are characteristic for certain regions: Stockholm: 0,6 London: 0,7 Cologne: 1,0 Munich: 1,3 Milan: 1,5 Osaka: 2,3 Hong-Kong: 4,2 Cayenne (French.Guayana): 5,1 West-Columbia: 11,7 Mumbay: 12,7

Flash Frequency (Occurrences per sq. km p.a.): 27,9

Explanation: NASA satellites observe the flash frequency globally. The following flash frequencies (number p.a. and km²) are typical for certain regions: Stockholm: 0,4 London: 1,0 Cayenne (French Guayana): 1,6 Cologne: 2,0 Munich: 2,0 Osaka: 4,7 Mumbay: 6,0 Milano: 12,0 Hong-Kong: 15,0 West-Colombia: 25,0

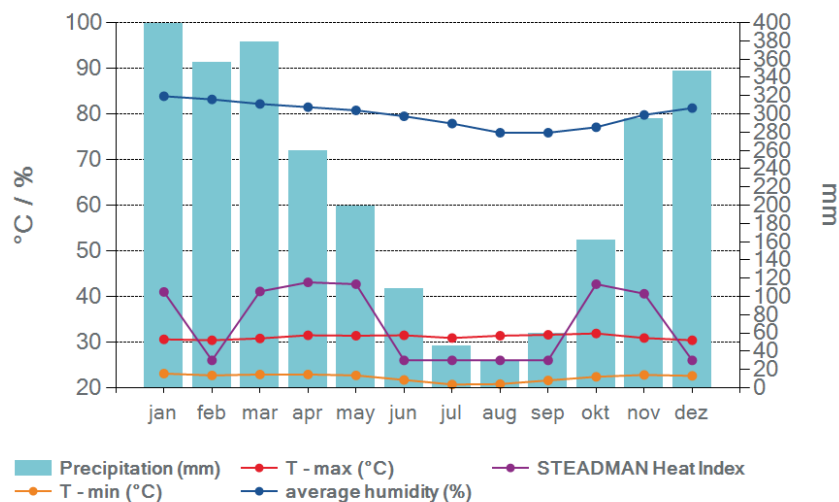
Only about 10 % of all registered flashes actually hit the ground.

Calculated maximum Snow Load (kg/m²): 0

No significant snow loads are to be expected from the given facts.

FOR THE STRUCTURAL DESIGN OF BUILDINGS ONLY SNOW LOADS ARE ALLOWED WHICH ARE PUBLISHED BY THE LOCAL AUTHORITIES. CONTACT YOUR MUNICIPAL BUILDING DEPARTMENT.

Climate Diagram



Explanation: The STEADMAN heat index reflects the perceived temperature in the higher temperature range. The long-term average values of real temperatures and humidity are included in his calculation. Its normal value, considered to be uncritical to health, which is 26 ° C, is temporarily exceeded at the investigated location with a value of 43,1 ° C. This means that the following health problems can occur in the months in question:

Heat Index from 27 to 32 °C: Attention – Exhaustion can occur after longer physical activity.

Heat Index from 32 to 41 °C: Beware – Possibility of damage to health like sunstroke, heat convulsion and heat collapse.

Heat Index from 41 to 54 °C: Danger – Sunstroke, heat convulsion and heat collapse are likely; heat stroke is possible.

Heat Index above 54 °C: Imminent danger – Sunstroke and heat stroke are very likely.

HAZARD AND RISK ANALYSIS

The following HAZARDS are recalculated by K.A.R.L.® for each individual evaluation on the basis of scientific data. Existing hazard maps (see section Data Sources) are only used for control and comparison purposes. The RISKS derived from the hazards also depend on local factors (terrain height, existing protective measures, building quality, etc.) and the vulnerabilities predefined by the user specified below (specific sensitivities of the potentially affected goods / plants / buildings to the natural hazards investigated).

1. Volcanism

The site is located in a region with a high hazard.

Within a radius of 200 km from the location under survey 12 possible active volcanoes were found.

These also include Strato- and Somma-Volcanoes, which can give sudden and explosive eruptions. Hence, the risk is significantly higher.

Last eruptions have occurred since 1999.

Vulnerability Volcanism

Volcanic eruptions are characterized by different phenomena such as volcanic bombs, streams of lava and ashfall. Hence, the vulnerability is defined as a loss percentage depending on the distance from the crater. It refers to "Büroimmobilie oder Geschosswohnungsbau, über 7 Etagen" and has been used to calculate the following risk figures.



Active risk relevant volcanoes within a radius of 200 km

Distance (km)	Name	Country	Type	Last Eruption	RP-VEI3	Risk (% p.a.)
27,3	Merapi	Java	Stratovolcano	after 1999 to recent	100	0,5777
41,2	Sundoro	Java	Stratovolcano	in the course of the 20th century	200	0,2312
28,8	Sumbing	Java	Stratovolcano	in the course of the 18th century	500	0,1130
54,8	Dieng Volc Complex	Java	Complex volcano	in the course of the 20th century	200	0,1109
30,4	Merbabu	Java	Stratovolcano	in the course of the 18th century	500	0,1101
117,1	Slamet	Java	Stratovolcano	in the course of the 20th century	200	0,1039
109,0	Lawu	Java	Stratovolcano	in the course of the 19th century	300	0,0743
34,0	Telomoyo	Java	Stratovolcano	prehistoric, undated	20000	0,0026
49,2	Ungaran	Java	Stratovolcano	prehistoric, undated	20000	0,0021
132,0	Muria	Java	Stratovolcano	prehistoric, less than 10.000 years	10000	0,0018
172,9	Wilis	Java	Stratovolcano	prehistoric, undated	20000	0,0006

RP-VEI3 = Estimated Return Period (RP) of a large eruption of the intensity 3 and higher (VEI = Volcanic Eruption Index). For strato-, somma- and submarine volcanoes the risk has been increased or decreased according to a modification of the distance. * = RP-VEI3 was determined by KA from the Eruption History.

Risk Figures Volcanism

Calculated Max. Loss (%):	58
Relative Risk (%/year):	1,3282

For further explanations see section RISK FIGURES.

Under these conditions the risk of volcanism is to be classified as very high.

Further explanations:

Basically all volcanoes that have erupted within the last 20.000 year are considered as potentially active. In special cases such as e.g. the Yellowstone Volcanoe (USA) longer periods of time have been considered.

2. Earthquake

The site is located in an area where a moderate earthquake hazard is to be expected.

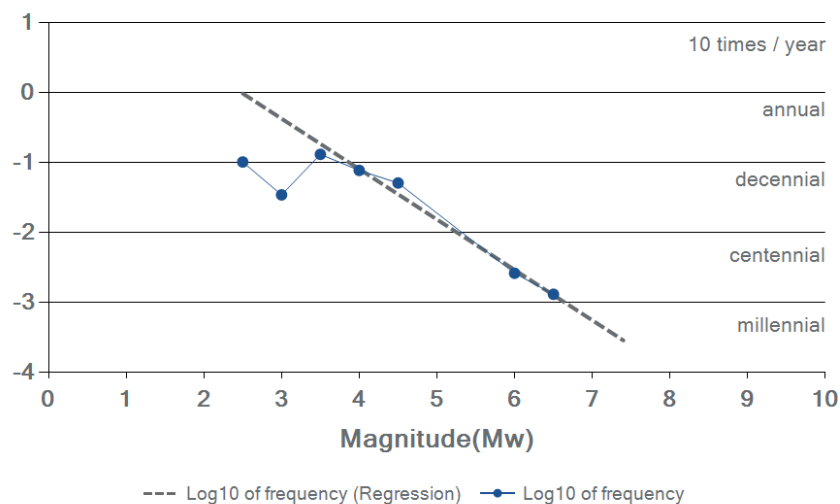
Due to unfavorable geological conditions (possibly problematic ground, short distance to historically known hypocentres etc.) a locally increased degree of hazard has to be expected additionally.

There have been a total of 24 earthquakes since the year 1867 within a radius of 60 km from the location under survey. Their hypocentres were comparably close to the surface at a depth of less than 100 km. The mean depth of the hypocentres was 15 km.

This data was evaluated statistically leading to the following results:

Frequency of Earthquakes

The sample of earthquakes has been categorized according to their magnitudes and occurrence probabilities. The latter have been normed to a reference area of 7854 km² (R = 50 km). The Gutenberg-Richter-relation (see diagram below) shows the occurrence probabilities (Y) for different magnitudes (X).



The strongest earthquake registered so far occurred on 26.5.2006 22:53 at a distance of 48 km from the location under survey. Its magnitude was $M_w = 6,3$.

The classification of the earthquake hazard is usually done with a 475 year event taken from statistical frequency analysis. In this case this would mean a magnitude of $M_w = 6,2$ and an MM-Intensity of VI-VII (strong to very strong, light to medium damage at buildings possible) at the location under survey. When determining the intensity of the earthquake normal soil conditions were presumed (e.g. subsoil from sediments with a mean to a high degree of compactness and only a moderate degree of moisture). We recommend verification of this presumption at the location.

Expected MM-Intensities at the location

Return Period 10 years:	II
Return Period 20 years:	II-III
Return Period 50 years:	III-IV
Return Period 100 years:	IV-V
Return Period 200 years:	V-VI
Return Period 475 years:	VI-VII
Return Period 1000 years:	VII-VIII
Return Period 2000 years:	VIII

Vulnerability Earthquake

The vulnerability has been defined as loss percentage depending on the MM-Intensity at the location under investigation and refers to "Büroimmobilie oder Geschosswohnungsbau, über 7 Etagen". It has been used to calculate the following risk figures.



Risk Figures Earthquake

Probable Maximum Loss, Return Period 50 years (%):	0,034
Probable Maximum Loss, Return Period 100 years (%):	0,094
Probable Maximum Loss, Return Period 200 years (%):	0,26
Probable Maximum Loss, Return Period 500 years (%):	0,73
Probable Maximum Loss, Return Period 1000 years (%):	3,2
Calculated Max. Loss (%):	41
Relative Risk (%/year):	0,0253

For further explanations see section RISK FIGURES.

According to these conditions the earthquake risk is classified as very low.

3. Tsunami

Considering the elevation of the location of 247,00 m above sea level there is no need for examination. Tsunamis can be ruled out at the location under survey.

4. Surge (River Flood, Flash Flood, Drainage Failure)

The hazard analysis based upon the digital elevation model came to the following conclusion:

The location under survey is in a plain with only a slight slope. Natural drainage is hardly influenced. Therefore, the POSSIBILITY of surge is low considering the local landscape. However, under certain circumstances heavy rainfall and/or blockage of the sewage system by mud or hailstones might lead to local flooding.

For the calculation of the flood hazard due to high water or extremely high precipitation and the resulting risks we evaluated the digital elevation model together with climatic figures from a wider regional area and scientific analogies in the present case. This means that the following conclusions are not exact but of a qualitative nature only. In reality the figures can differ.

A closer examination of the risk situation at the location under survey is recommended, as possible on the basis of concrete hydrographical data from nearby gauging stations.

Hydrographic Figures (Estimation by K.A.R.L.®)

HW-10 (m above sea level)	245,53
HW-20 (m above sea level)	245,90
HW-50 (m above sea level)	246,34
HW-100 (m above sea level)	246,62
HW-200 (m above sea level)	246,86
Local elevation (m above sea level)	247,00
HW-500 (m above sea level)	247,13
HW-1000 (m above sea level)	247,28
HW-MAX (m above sea level)	247,50

Should the given or presumed elevation of 247,00 m above sea level be representative for the location, the location is relatively high compared to the wider surrounding (1 to 2 km).

When calculating the risk we assumed that in the area in question there are no technical installations to protect for flooding. Since this is only an estimation by K.A.R.L.® we urgently recommend verification at the location.

Vulnerability Surge

The vulnerability has been defined as loss percentage under the impact of fresh water depending on the possible flood height on top of the surface at the location under investigation and refers to "Büroimmobilie oder Geschosswohnungsbau, über 7 Etagen". It has been used to calculate the following risk figures.



Additionally it was presumed due to the local topographic conditions that hardly more than 20,0 % of the entire object's value can be hit by surge.

Risk Figures Surge

Probable Maximum Loss, Return Period 50 years (%):	0
Probable Maximum Loss, Return Period 500 years (%):	0,057
Probable Maximum Loss, Return Period 1000 years (%):	0,37
Calculated Max. Loss (%):	0,80
Relative Risk (%/year):	0,0008

For further explanations see section RISK FIGURES.

According to these conditions the risk of surge is classified as very low.

NB: The exact elevation was not given, but is most important for a correct classification of the risk of surge. It is strongly recommended to find out the exact elevation and repeat this analysis.

5. Heavy Rainfall

Heavy rainfall is usually a relatively limited phenomenon and can also occur in flood-safe zones. Conversely, floods or flash floods can be caused by heavy rainfall events which occur far away from the investigated location, but do not hit it directly. The hazard locations of a heavy rainfall event and the associated flash flood are therefore not identical. Hence, K.A.R.L.[®] assesses flood and heavy rain risks separately, as these are independent risks.

Heavy rainfall can cause damage, which - unlike flooding - can occur under the influence of unfavorable conditions in the smallest possible space. In the first place, there is water intrush into cellars and underground garages as well as their entrances, inner courtyards closed on all sides, underpasses and small local depressions. All structures mentioned are often constructed and have only a small surface area. K.A.R.L.[®] is therefore unable to recognize them on the basis of the digital elevation models used. In addition, there is possible damage caused by the ingress of rainwater into buildings, vehicles and means of transport (wagons, containers, boxes, packaging foils, etc.) as well as impairments caused by washed out infrastructure systems.

Furthermore, the risk of being affected or damaged by heavy rain depends highly on the absorption capacity of the local sewage systems. Due to economic considerations, these are normally only designed for rainfall that occurs at statistical intervals of 3 to 10 years (design rainfall). A higher degree of protection is rare to find and is therefore not used in this context. If the design rainfall is exceeded, it results in overflow, the leakage of sewer water on the surface and the associated consequential damage.

A model developed by KA based on globally available climate data and calibrated on the basis of measured precipitation data from more than 1,700 weather stations worldwide is used to calculate the heavy rain hazard and the resulting risk. For each point on earth (except Antarctica), this model provides the approximate values of the maximum daily precipitation to be expected for return periods between 1 and 10,000 years.

Maximum Daily Precipitation (calculated by K.A.R.L.® model)

5-year (mm per day)	284
10-year (mm per day)	345
20-year (mm per day)	411
50-year (mm per day)	507
100-year (mm per day)	587
200-year (mm per day)	673
500-year (mm per day)	796
1000-year (mm per day)	896
MAX (mm per day)	1271

There are no globally valid and comparable definitions of the terms design rain and heavy rain. What is perceived as heavy rain depends mainly on the regional climate. In addition, the local environmental conditions that make a heavy rainfall a damaging event can hardly be specified. Against this background, it is not possible to determine specific vulnerabilities on the one hand and, on the other hand, there is no global comprehensive information on the dimensioning of wastewater systems available. The following generalized assumptions are used in the present analysis:

1. The design rainfall is based on the local 5-yearly daily precipitation, to be stated as precipitation height in mm (from K.A.R.L.® rounded up or down to the nearest full 50 mm/day). The maximum design rainfall is assumed to be 250 mm/day. Furthermore, it is assumed that the design rainfall calculated by K.A.R.L.® is only included in the dimensioning of sewage systems with a probability of 25%. On the other hand, it is assumed with a probability of 75% that the design rainfall will hardly be higher than 100 mm/day.
2. Precipitation events below or at the level of the assumed design rainfall do not cause any damage.
3. Precipitation events exceeding the assumed design basis rainfall are regarded as heavy rainfall.
4. The factor by which a heavy rainfall of a given return period exceeds the assumed design rainfall is decisive for the potential degree of damage.
5. The highest possible damage is assumed by K.A.R.L.® if a heavy rainfall event produces 5 times the amount of precipitation of the assumed design rainfall. It is equated with the maximum damage which, according to the vulnerability used, applies to floods. Between the first exceedance of the design rainfall and the potential maximum value, an exponential increase in the loss potential is assumed.

On this basis, it is assumed in the present case that the local drainage systems at the investigated site are (or should be) designed for a design rainfall of 250 mm per day and that no damage from heavy rainfall is to be expected up to this precipitation level. Under the regional

meteorological conditions, precipitation can only be classified as heavy rain if it exceeds this value.

This results in the following risk figures.

Risk Figures Heavy Rainfall

Probable Maximum Loss, Return Period 50 years (%):	3,9
Probable Maximum Loss, Return Period 100 years (%):	9,9
Probable Maximum Loss, Return Period 200 years (%):	10
Probable Maximum Loss, Return Period 500 years (%):	10
Probable Maximum Loss, Return Period 1000 years (%):	10
Calculated Max. Loss (%):	10
Relative Risk (%/year):	0,2337

According to these conditions the risk of heavy rainfall is classified as notable.

6. Storm Surge

Due to the local elevation of more than 10 m above sea level there is no need for examination. Storm surge can be excluded as far as humanly possible.

7. Storm

The site under investigation is located in a region where a mean storm hazard can be assumed.

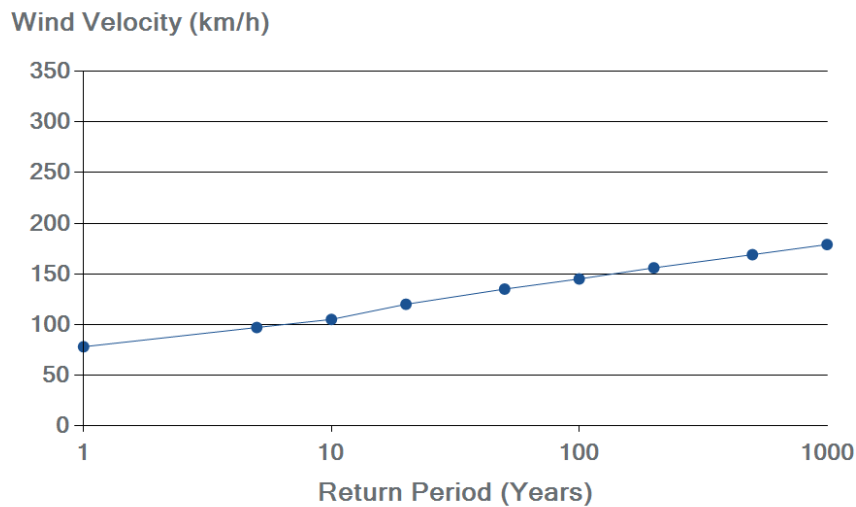
The calculation of the storm hazard with K.A.R.L.[®] is based on KA's own analyzes of approximately 5000 weather stations worldwide. These stations provide relevant long term measurements of local wind speeds. In this context, no distinction is made between tropical cyclones and extratropical storms. Furthermore, we used the digital elevation model to examine whether the landscape morphology around the location might influence the maximum wind speed to be expected there.

Wind forces of ≥ 8 Bft (≥ 72 km/h) might occur several times a year, according to the statistical analysis of the data. A 100 year storm event would mean a local maximum wind speed of 145 km/h.

Frequency of Storms

The following diagram shows the wind speed of the maximum expected strong gusts depending on their individual return periods. Wind speeds are classified as follows : storms 89-102 km/h,

severe storms 103-117 km/h, gales and tropical storms 118-177 km/h; severe tropical storms > 178 km/h



Vulnerability Storm

The vulnerability has been defined as loss percentage depending on the possible wind speed at the location under investigation and refers to "Büroimmobilie oder Geschosswohnungsbau, über 7 Etagen". It has been used to calculate the following risk figures.



Risk Figures Storm

Probable Maximum Loss, Return Period 50 years (%):	0,29
Probable Maximum Loss, Return Period 100 years (%):	0,71
Probable Maximum Loss, Return Period 200 years (%):	1,4
Probable Maximum Loss, Return Period 500 years (%):	2,8
Probable Maximum Loss, Return Period 1000 years (%):	3,9
Relative Risk (%/year):	0,0371

For further explanations see section RISK FIGURES.

According to these conditions the risk of storm is classified as very low.

8. Tornado

The site under investigation is located in a region where the tornado hazard is insignificant according to current knowledge.

The calculation of the hazard of tornados by K.A.R.L.[®] is based upon regional climatic parameters and geographical factors. Furthermore, within the model it was considered that large plains or slightly hilly landscapes would favour the occurrence of tornados. On the other hand, a strongly varied landscape prevents the formation of tornados or only permits tornados of a short duration. The model was calibrated using meteorological and climatic data from the USA. (Source: NOAA).

Therefore, in the region of the location under survey the statistical probability of 0,0268 severe tornados p.a. is to be reckoned with on a reference area of 10.000 square km as a worst case.

Furthermore, it was presumed that significant damage only occurs when the location is directly hit by a tornado. In this case total loss is to be expected. A tornado normally only has a width of 500 m and hence, even in an area with a high hazard of tornados a direct hit occurs seldom. Therefore, in comparison to other natural risks the calculated tornado risks are generally relatively low.

The definition of vulnerability regarding tornados is based on a maximum loss potential of 100 %.

Risk Figures Tornado

Calculated Max. Loss (%):	100
Relative Risk (%/year):	0,0027

For further explanations see section RISK FIGURES.

According to these conditions the risk of tornados is classified as very low.

9. Hail

The site under investigation is located in a region where a low hazard of hail can be assumed.

The calculation of the hazard of hail by K.A.R.L is based upon a model developed by KA. Regional climatic parameters were analysed whether they favour or hinder the formation of hail or how their effects might be mutually cancelled out. Furthermore, since hail is mostly coupled with thunderstorm, the frequency of flashes has been included in the model. The model was calibrated using meteorological and climatic data from the USA. (Source: NOAA).

Therefore, hailstones with an average diameter of < 1 cm have to be reckoned nearly every year, < 1 cm with about every 10 years and hailstones with an average diameter of 2,3 ±0,8 cm have to be reckoned with about every 100 years.

No hail protection measures have been given. This information has been taken into consideration in the following risk analysis.

Vulnerability Hail

The vulnerability has been defined as loss percentage depending on the mean diameter of the hailstones and refers to "Büroimmobilie oder Geschosswohnungsbau, über 7 Etagen". It has been used to calculate the following risk figures.



Risk Figures Hail

Probable Maximum Loss, Return Period 50 years (%):	0
Calculated Max. Loss (%):	0,70
Relative Risk (%/year):	0,0002

For further explanations see section RISK FIGURES.

According to these conditions the risk of hail is classified as very low.

METHODOLOGY

The risk and hazard classifications determined by K.A.R.L.[®] are based on globally available geological, geographic and meteorological data sets that are stored, continuously maintained, extended and specified at KA. The methods of calculation are constantly being improved and adapted to the state of knowledge. Hence, the results refer solely to the state of knowledge at the time of this report.

The calculation methods are not based upon past claim events, they are only verified by them. This guarantees that the modelling of risks follows scientific principles and is not influenced by a random and sometimes incomplete collection of claim data.

Any missing or incomplete data is supplemented in the best plausible way by special estimation procedures developed by KA. These procedures follow generally the WORST CASE PRINCIPLE. Therefore, risk evaluations with a large amount of estimated parameters may lead to higher risk results.

IMPORTANT NOTICE:

This risk analysis was generated automatically. It was not checked for plausibility by an expert. Certain facts only visible in maps, air or satellite reconnaissance pictures which might have influenced the risk evaluation, could not be taken into account.

SOURCES OF DATA

A.Jarvis, H.I.Reuter, A.Nelson, E.Guevara, 2008, Hole-filled seamless SRTM data V4, International Centre for Tropical Agriculture (CIAT)

Giardini, D., Grünthal, G., Shedlock, K. M. and Zhang, P.: The GSHAP Global Seismic Hazard Map. In: Lee, W., Kanamori, H., Jennings, P. and Kisslinger, C. (eds.): International Handbook of Earthquake & Engineering Seismology, International Geophysics Series 81 B, Academic Press, Amsterdam, 1233-1239, 2003

KA Köln.Assekuranz Agentur GmbH, our own data source and investigations

Munich RE, "topics" (various editions)

NASA - Global Hydrology Resource Center (GHRC)

NCAR GIS Program. 2012. Climate Change Scenarios, version 2.0. Community Climate System Model, June 2004 version 3.0. <http://www.cesm.ucar.edu/models/ccsm3.0/> was used to derive data products. NCAR/UCAR. URL: <http://www.gisclimatechange.org>. Data Access Date june 2017

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