

Risk Engineering Report



Prepared for:

STICHTING FONTYS

Site Name: Mgr Claessenstraat 4Sittard

Date of Survey: July 3, 2024

Report Date: July 16, 2024

Survey Type: Property All Risk - Initial

TIV (EUR): 32,477,000

Site Address: Mgr Claessensstraat 4, SITTARD, 6131 AJ, Netherlands

RFS ID: RFS-218533

SIC Code: 8221-02-Colleges and Universities, NEC, Private

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Purpose of Visit

This facility was visited to undertake a risk assessment of the fire and associated perils for insurance purposes. The purpose of the assessment was to assist in the identification and mitigation of hazards and exposures that could lead to the loss or damage to assets or business interruption.

Site Overview

Fontys Hogescholen is in 12 cities in the Netherlands with a main focus on South part of the Netherlands. Fontys has a total some 43.000 students, of which 12% international, and about 5.000 employees. The general times buildings are open is Monday till Friday between 7:30 am till 22:00 pm. The location described in this report is the 'Fontys Lerarenopleiding'. Throughout the building are theoretical classrooms, and offices for students and staff employees. Restaurant/ cafe is at ground floor level, equipped with a professional kitchen. There are some practical classrooms for music and handicraft.

Stichting Fontys is on the west side of the city center of Sittard. The largest external exposures is a connected theater on the north side. Other external exposures are limited. The building has a basement up to a third-floor level. The load bearing structure and floors are concrete up to the second floor. The third floor has a steel load bearing structure. The building has a glass and glass/ steel plating building facade. All insulation is reportedly non-combustible (mineral wool). The roof is partly steel deck and glass and partly a concrete roof. The concrete and steel deck roof have mineral wool insulation, bitumen roof covering and the second floor roof is covered with gravel.

There is sprinkler protection in place, not covering the garage. The automatic fire detection system including the sprinkler is covering the entire site. The building is divided in a limited number of horizontal and vertical compartments according Dutch legislation for safe evacuation. The fire brigade has two stations within 2 kilometer driving distance. For extinguishing water they have to use hydrants in the public road, the building is fitted with dry risers. During a large part of the day security is present in the building also responsible for the closing round. The organizational measures, procedures and so on are up to standard.

Risk improvement that could improve the risk are:

- Extend the sprinkler system to the garage.
- Install a wet chemical agent for the kitchen.

Site Loss History

No losses reported during the site visit.

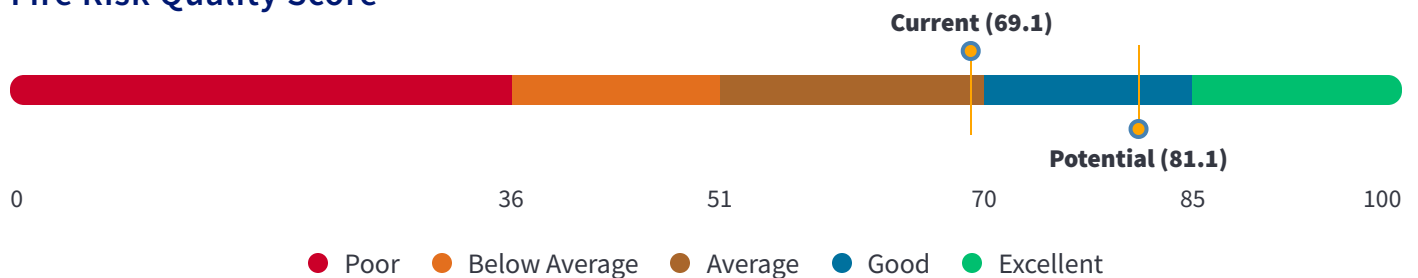
New Projects, Significant Changes and Observations

It is important to involve your insurer in new projects, such as refitting, refurbishment, extension work, new builds or relocating to a new site. Failure to do so could result in using non-approved construction materials (even though they meet local Building Codes and Fire Regulations) or inadequately protected facilities which could lead to expensive retrospective additions or rework. The Loss Prevention Engineering team at AIG can assist you with this by providing you with engineering support both before and during your project. Please contact us before you commence your project to ensure that we can arrange a consultation with one of our engineers.

Risk Summary

Open RI by Classification	2	Open RI by Age	2	Open RI by Type	2
Critical	0	New	2	Physical Protection	2
Important	0	Outstanding	0		
Advisory	2	Completed RI	0		

Fire Risk Quality Score



Ratings

	Current rating	Potential rating
Hazards	Slight	No Deficiencies
Water Supply	Adequate	Adequate
Protection	Nearly Adequate	Adequate
Management Programs	Adequate	Adequate
Supervision	Good	Good
Exposures	Slight	Slight

Risk Improvements

Risk Improvements - Open

Number	Name	Classification	LE Before (EUR)	LE After (EUR)
24-07-01	Sprinklers- Extend sprinklers into the parking	Advisory	16,430,115	2,500,000
24-07-02	Kitchen protection (best practice)	Advisory	--	--

Note: Risk Improvements associated with management programs will not have an associated Loss Estimate before or after implementation

Open Risk Improvements : Advisory

Number/Type	Name	LE Before (EUR)	LE After (EUR)
24-07-01 Physical Protection	Sprinklers- Extend sprinklers into the parking	16,430,115	2,500,000

Summary

Extend the existing sprinkler system in the basement to protect the garage. Extend the system in accordance with NFPA 13, design 8.1 mm/min @ 140 m² (will fit existing system).

Details

The garage is lacking sprinkler protection. Extending the existing sprinkler system will increase the likelihood that the sprinkler system will control a fire starts in the area.

Number/Type	Name	LE Before (EUR)	LE After (EUR)
24-07-02 Physical Protection	Kitchen protection (best practice)		

Summary

Protect the commercial cooking equipment (i.e. deep fat frying equipment) in the kitchen area with an ANSI/UL 300 compliant wet chemical extinguishing system interlocked to shut off the fuel supply to the equipment upon system actuation in accordance with NFPA 96.

Details

A fire involving oils used in the cooking equipment represents a significant fire hazard that can release large amounts of smoke. Conventional sprinklers and older dry chemical systems are not as effective as wet chemical extinguishing systems. The suppressant in these systems is specifically designed to extinguish cooking oil fires through the process of saponification that produces a soap foam layer when mixed with the oil that cools and seals off the surface, preventing re-ignition. Examples of the systems could be found at:

- <https://flamecontrol.nl/keuken-blussystemen/>
- https://www.johnsoncontrols.com/nl_nl/brandbestrijding/grootkeuken-blussystemen
- <https://www.saval.nl/producten/kitchenflex/69/174/>
- <https://acm-air.com/keukenbrand-blussysteem/>

Occupancy & Process Overview

Fontys Hogescholen (rest of the report noted as Fontys) is in the South part of the Netherlands, with locations in:

- Eindhoven.
- Tilburg.
- Venlo.
- Sittard.
- Den Bosch.
- Utrecht

Fontys has a total some 43.000 national (+/- 88%) and international students (+/- 12%). The total number of employees is about 5.000. The general times buildings are open is Monday till Friday between 7:30 am till 22:00 pm (other times possible). During this period the reception is occupied. The location described in this report is the 'Fontys Lerarenopleiding'. Throughout the building are theoretical classrooms, and offices for students and staff employees. Restaurant/ cafe is at ground floor level, equipped with a professional kitchen. There are some practical classrooms for music and handicraft, these are without machines or large equipment.

Occupancy Details

Building	SIC Code	Description	Operating Days/yr	Operating Hrs/Day	Other Tenants
Mgr Claessenstraat 4Sittard	822102	Colleges and Universities, NEC, Private	260	14	No

Hazards

Hazard Category	Type	Current Rating	Potential Rating	RI's
Heating, Ventilation, Air Cond & Refrigeration	Common	No Deficiencies	No Deficiencies	0
Electrical	Common	No Deficiencies	No Deficiencies	0
Storage	Common	No Deficiencies	No Deficiencies	0
Flammable Liquids - Storage, Transfer, Use	Common	No Deficiencies	No Deficiencies	0
Car Parking	Storage	Severe	No Deficiencies	0
Commercial Cooking	Process	Slight	No Deficiencies	0

Non-Process HVAC Equipment

Heating of the buildings is by means of natural gas fired boilers and air handling units, which are located in the technical rooms at top floor level. Cooling compressors (chillers with a Freon replacement medium) are located on top of the roof. Technical rooms fitted with water leakage detection.

The technical rooms are supervised by automatic smoke detection and sprinkler protection. The compartmentation and housekeeping in the technical rooms visited was good.

Status of installations are managed and monitored via the building management systems. Equipment appears visually in a good state of repair. Periodic maintenance is contracted out to specialized contractors.

Images



Heating



Cooling

Electrical

Electrical installation is fed by transformer located in the building in separate 60' fire compartments. Capacity of the (oil filled) transformer is unknown. The transformer is owned and maintained by utility company.

The electrical installations appear visually in a good state of repair. Penetrations for electrical cables were found to be adequately fire stopped, including inside vertical utility shafts. The electrical installation is subjected to inspection according to the Dutch standard NEN 3140, which comprises visual inspection of all installation parts and checks by measurements. The periodicity is set to according the NEN3140. Inspections are done by third party and include thermographic scan. Recommendations are followed. Electrical equipment is also subjected to periodical NEN 3140 checks indicated by stickers on the equipment involved. Once a year a check round is done to ensure safe use of electrical extension cords and all appliances are checked according NEN3140.

Incidental Storage

There are no large central storage areas, but a few small store rooms (< 25 m²) are present throughout the Sittard site with storage of classroom materials, office supplies, electronic components and parts, food storage, etc.. Storage takes place both on floor and on shelf racks to a height of 2 meter.

Kitchen/ restaurant

There is one professional kitchen on the ground floor. It contains electrical and gas fired kitchen equipment like an oven (electrical) and deep fat fryers (gas). The professional equipment in the kitchen is well maintained and is always operated by or under supervision of professionals. High temperature switches are reportedly available. Fire blankets and adequate portable fire extinguishers have been provided. Periodic inspection and cleaning of the exhaust ducts is subcontracted to a professional company (reportedly once every year). The kitchen is not provided with a local extinguishing system (recommended only as best practice).

Parking

At basement a parking garage for staff and students. During events at the theater the garage is open to guests. The parking has a capacity of about 90 passenger cars, no charging facilities. The garage is equipped with automatic fire detection, CO and LPG detection at multiple locations in the parking. In the basement there is a smoke extraction system that - with a smoke extraction system (ventilators) to the exit/entrance of the garage. The parking garage is not equipped with sprinkler protection; a risk improvement (advisory) to install it has been made.

Images



Parking

Construction

Category	Current Rating	Potential Rating	RI's
Construction	ISO 5 / Class A - Modified Fire Resistive	ISO 5 / Class A - Modified Fire Resistive	0

Building	Year Built	Year Upgrade	# Stories	Height (m.)	Total Area (sq. m.)
Mgr Claessenstraat 4Sittard	2002		5	18	10,144

Area (1,000 sq. m.)

Building	ISO1/D	ISO2/C	ISO3/C	ISO3/B	ISO4/C	ISO4/B	ISO5/A	ISO6/AA
Mgr Claessenstraat 4Sittard	--	--	--	0.6 (5.91%)	--	--	9.5 (94.09%)	--
Total	0.0 (0.00%)	0.0 (0.00%)	0.0 (0.00%)	0.6 (5.91%)	0.0 (0.00%)	0.0 (0.00%)	9.5 (94.09%)	0.0 (0.00%)

Definitions: ISO1=wood frame walls roof, ISO2=masonry walls wood roof, ISO3=light non-combustible walls roof, ISO3 (CMD)=ISO3 with combustible metal deck, ISO4=non-combustible metal deck and masonry walls, ISO4 (CMD)=ISO4 with combustible metal deck, ISO5=modified fire resistive walls roof, ISO6=fire resistive walls roof.

Comments

Construction:

The building looks like a key with a round and a somewhat square part. The building has a basement up to a third-floor level. The load bearing structure and floors are concrete (including the entire basement) up to the second floor. The third floor has a steel load bearing structure. The building has a glass (round part) and glass/ steel plating (square part) building facade. All insulation is reportedly non-combustible (mineral wool). The roof is partly steel deck and glass (third-floor) and partly a concrete roof (second-floor). The concrete and steel deck roof have mineral wool insulation, bitumen roof covering and the second floor roof is covered with gravel.

Compartment:

No MFL fire separations only several 30 and 60-minute fire rated walls in place for safe evacuation (typical Dutch building code set up).

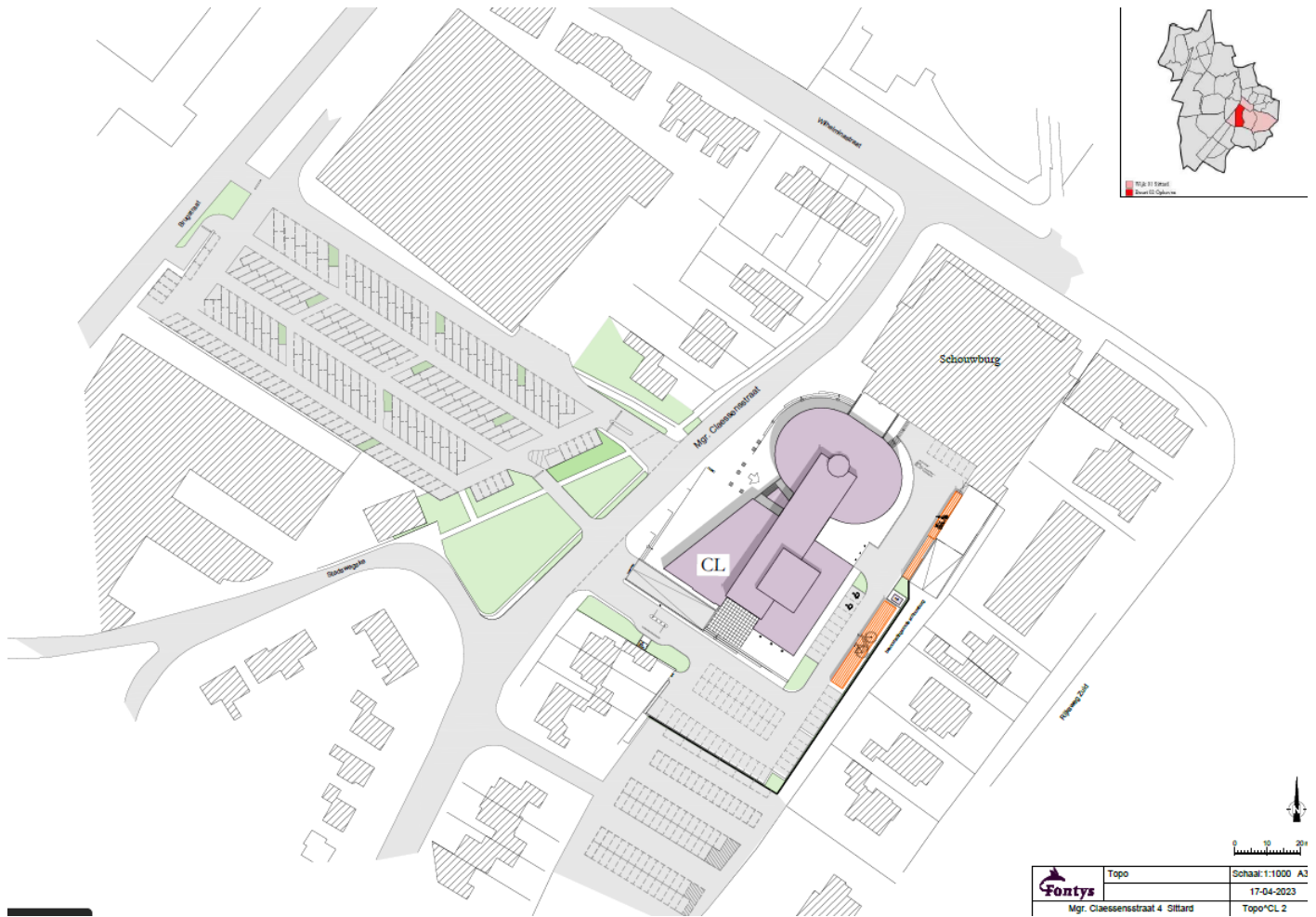


fig: site layout source Fontys.

Images



Building



Roof

Water Supply & Fire Pumps

Water Supplies

Category	Current Rating	Potential Rating	RI's
Water Supply	Adequate	Adequate	0

Name	Type	Pump Associated	Adequacy
Public - Hydrants	Gridded Municipal	None	Adequate
Name	Type	Pump Associated	Adequacy
Sprinkler water supply	Gridded Municipal	1 or more Electric Pumps with no Generator	Adequate

Comments

Hydrants in the public road in front of the building. The sprinkler water supply consist of one electric pump connected to the public water supply. The pump room is in the basement (parking) of the building.

Fire Pumps

Name		Suction source		Driver		Shaft		Start Method	
KSB KFP65.160		Gridded Municipal		Electrical Motor		End Suction		Auto	
Driver approval	Approval listing	Controller approval	Pressure Churn (bar)	Pressure Rated (bar)	Flow Rated (Lpm)	Flow Max (Lpm)	Pressure @ max flow (bar)	Rated speed (rpm)	Pressure tank
LPCB	LPCB	LPCB		4.20	1,100.00	1,804.00		2,930.00	No

Tested Date	Tested By
Dec 17, 2023	VW&B

Test point	Flow Measured (Lpm)	Flow Nominal (%)	Flow Corrected (Lpm)	Pressure Suction (bar)	Pressure Discharge (bar)	Pressure Net (bar)	Pressure Corrected (bar)	Speed (rpm)	Rating
Churn	0.00	0.00	0.00	3.70	8.00	04.30	4.13	2,988.00	Not Applicable

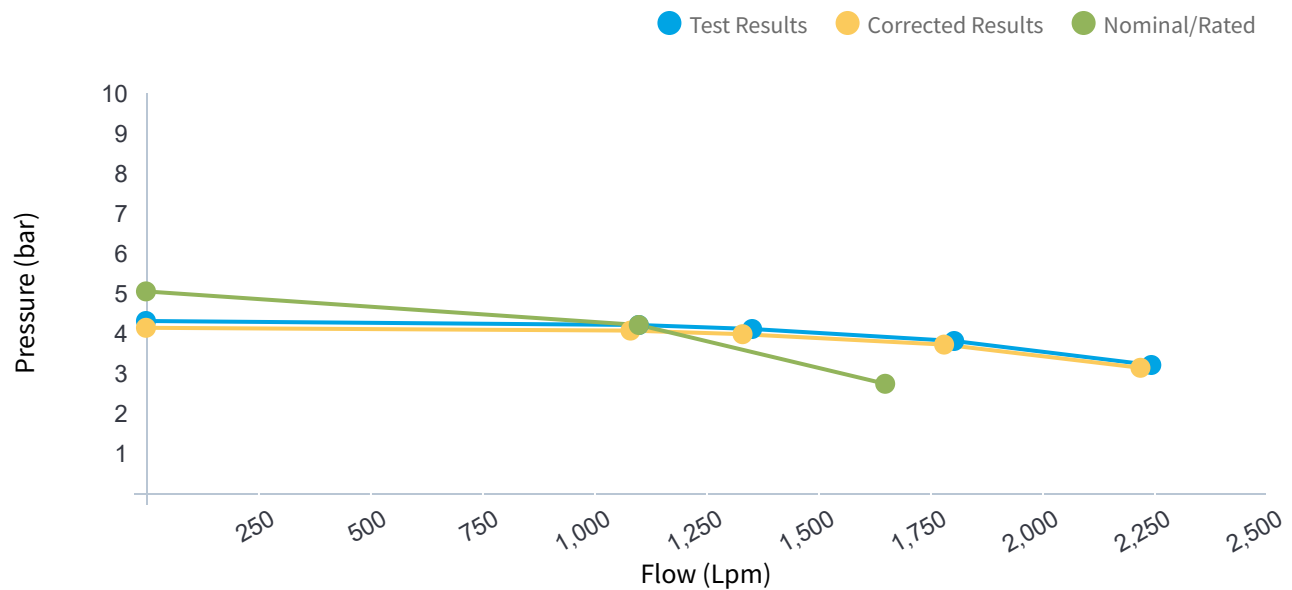
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Test point	Flow Measured (Lpm)	Flow Nominal (%)	Flow Corrected (Lpm)	Pressure Suction (bar)	Pressure Discharge (bar)	Pressure Net (bar)	Pressure Corrected (bar)	Speed (rpm)	Rating
	1,100.00	100.00	1,081.54	3.40	7.60	04.20	4.06	2,980.00	Excellent
	1,353.00	123.00	1,331.64	3.30	7.40	04.10	3.97	2,977.00	Excellent
	1,804.00	164.00	1,781.50	3.20	7.00	03.80	3.71	2,967.00	Excellent
	2,244.00	204.00	2,219.76	2.80	6.00	03.20	3.13	2,962.00	Excellent

KSB KFP65.160



Protection

Category	Current Rating	Potential Rating	RI's
Sprinklers	Nearly Adequate	Good	1
Special Extinguishing Systems	Inadequate	Good	1
Fire Extinguishing Equipment	Good	Good	0
Public Fire Department	Adequate	Adequate	0

Sprinklers

Building	AS (%)	ASA (%)	ASN (%)	Fire Detection (%)
Mgr Claessenstraat 4Sittard	73.00	73.00	27.00	30.00
Total	73.00	73.00	27.00	30.00

Definitions: AS (%) =sprinklers provided, ASA (%) =adequate sprinklers provided, ASN (%) =sprinklers improvements needed, Detection=Smoke or other Fire Detection excluding sprinkler waterflow

Area protected	System	Existing Design	Required Design	Adjusted BOR (bar)	Existing Flow (Lpm)	Hose (Lpm)	Adequacy
Building, excl. parking	Wet	5 mm/min @ 216 m ²	5 mm/min @ 216 m ²				Adequate

Definitions: Adequate = 100% of required sprinkler design hose. Nearly Adequate = 90% of required sprinkler design and no hose. Inadequate = less than 90% of required sprinkler design and no hose. Duration requirements must be met or rating is inadequate. For ESFR nearly adequate is defined as full sprinkler design with NO HOSE.

Comments

The building excluding the basement (about 3.000 m²) is fitted with a sprinkler system. The system is designed and maintained according the NEN-EN12845+1073 and TB80. The protection of the building (excl. parking) is adequate, the parking is not sprinkler protected and therefore inadequate, best practice is to extend the sprinkler. The sprinkler water supply is a electric drive pump with a connection to the public water supply. The sprinkler system is maintained and checked by a specialized contractor. They also conduct test bi-weekly. The following test, inspection, and maintenance protocol is in place:

- Weekly pump churn tests for 30 minutes.

- Monthly tests of alarms and valves.
- Quarterly tests of flow switches.
- Annual flow test to check performance fire pump.

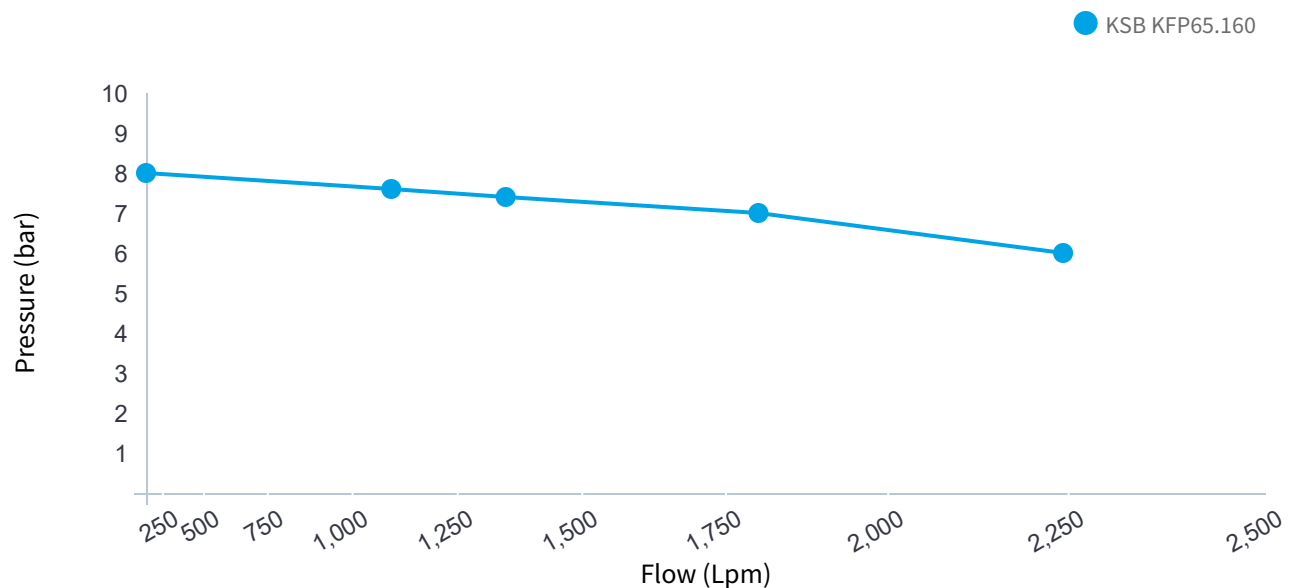
Alarms are transmitted to the regional fire department.

Note: The overall sprinkler protection rates NEARLY ADEQUATE according to AIG based on the LEs of the sprinkler protection deficiencies.

Risk Improvements

Name	LE Before (EUR)	LE After (EUR)
Sprinklers- Extend sprinklers into the parking 24-07-01	16,430,115	2,500,000

Combined Water Supply and Sprinkler Demand Graph



Images



Sprinkler pump



Riser with protection area

Special Extinguishing Systems

Risk Improvements

Name	LE Before (EUR)	LE After (EUR)
Kitchen protection (best practice) 24-07-02	0	0

Fire Extinguishing Equipment

Water Supply & Inspection

Frequency

- Meets NFPA requirements

FEA/Hose Reel Details

- Equipment is properly maintained
- Inspections are properly documented with records maintained and readily available
- Plant personnel properly trained

Recommendations

None

Public Fire Department

Fire Department Type

- Combination

Fire Department Features

- Fully trained and funded (adequate for the risk if special hazards exist)
- Fully equipped with required modern pumping appliances, ladders, aerial equipment, BA equipment
- Equipment regularly tested and maintained
- Full time emergency communications center to dispatch FD
- Closest FD participates w/ other local full-time FD's w/in a "mutual aide" concept
- Response time is less than 20 minutes

Fire Department Distances (kilometers)

Station #1	Station #2
1.70	1.90

Comments

The municipality Sittard has two fire station. The first fire brigade station is on the east at 1.7 kilometer driving distance. The second fire station is on the industrial estate west of Fontys at about 1.9 kilometer.

Supervision

Category	Current Rating	Potential Rating	RI's
Automatic Fire Detection	Excellent	Excellent	0
Security	Good	Good	0

Automatic Fire Detection

Signaling Systems Central Station/ARC	Recognized Yes	Monitored Line Yes	Fire Protection Alarm - Water flow - Smoke Detection - Pump Running - Pull Boxes
Valve Locked NA	Fire Detection Coverage (Including Sprinklers) 100%	Smoke Detection Monitored Yes	Other Alarms No

Maintenance, Testing and Inspection per NFPA 25

Satisfactory

Comments

The automatic fire detection system in combination with the sprinkler system is covering the entire site. The AFD is realized in accordance with NEN2535, control and maintenance by contractor. The alarms are transmitted to a private alarm station. The alarm station contact the technical department or a security firm to verify the alarm. In case of several alarms/ zone or the sprinkler system the regional alarm station is directly alarmed.

Security

Security & Watch Service (24/7) Other	Round Frequency Other	Security Rounds Recorded	Coverage 100%
Security Alarms - CCTV - Door Contacts - Internal Movement Detection	Intrusion Alarm Monitoring Recognized central station	Site Fencing and Barriers None	Burglar and Theft Exposure Yes

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Vandalism / Malicious

Mischief Exposure

Yes

Sabotage and Terrorism

Exposure

No

Comments

In building R5 in Eindhoven the security lodge is situated overlooking all camera positions of Fontys, including the Sittard location. The lodge is occupied during opening times. End of opening hours a closing round is conducted. The site is not fenced, exterior lighting consists of public and private lighting. The buildings are fully equipped with a burglar alarm system in accordance with the Dutch VRKI, free access during opening times.

Management Programs

Category	Current Rating	Potential Rating	RI's
Emergency Organization & Planning	Good	Good	0
Self-Inspection Program	Good	Good	0
Fire System Impairment Procedures	Good	Good	0
Contractor Management	Good	Good	0
Hot Work Permit	Good	Good	0
Smoking	Excellent	Excellent	0
Housekeeping	Good	Good	0
Planned Preventative Maintenance	Good	Good	0
Management Interest	Good	Good	0
Site Level Business Continuity Planning	Adequate	Adequate	0

Management Programs

Site Level Business Continuity Planning

Comments

BI is not insured, therefore considered 'Adequate'.

Exposures

Category	Current Rating	Potential Rating	RI's
Exposure	Slight	Slight	0

Internal Exposure

The kitchen/ restaurant is run by a third party, equipment is maintained by Fontys.

The parking garage will be in use for visitors during performances at the theater.

External Exposure

Stichting Fontys is on the west side of the city center of Sittard, external exposures are:

- North: Theater, direct connected.
- East: Theater, offices and dwellings at > 15 meter.
- South: Dwellings at 20 meter.
- West: Parking lot across the road.

Yard Storage

Outside storage of waste containers (steel and plastic) at sufficient distance. Also cars, motors and bicycles are parked at the east facade.

Water Intrusion Exposure

No

Aircraft Exposure

No

Structural Collapse Exposure

No

BI Exposures

General BI

Not insured.

NATCAT Exposure Summary

	Flood	Wind	Earthquake	Hail	Collapse	Other
Zone/Exposure	No Flood Exposure	34 m/s	Zone 3	Zone 3	No	No

Flood

Site Property Flood Zone

No Flood Exposure

Building	Flood Zone	Flood Source	FFE (m)	100 Yr Flood Elv. (m)	500 Yr Flood Elv. (m)
Mgr Claessenstraat 4Sittard	No Flood Exposure	River	--	--	--

Comments

The Fontys Sittard site is located outside a flooding zone.

Wind

Wind Speed (m/s)

34

Redundant Power/Utilities

Client has no power nor utility redundancy

Building	Distance to Coast
Mgr Claessenstraat 4Sittard	10 and greater miles

Earthquake

EQ Zone

Zone 3

EQ Emergency Response Plan

Client has no BCP in place

Redundant Power/Utilities

Client has no power nor utility redundancy

Seismic Bracing of Equipment

Asset Strengthening

Seismic Gas Shutoff Valves (SGSV)

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No seismic bracing or restraint is provided

Client has documented asset strengthening - building 6 - 17 years of age

No SGSV's provided for flammable gas and liquid equipment

Severe Convective Storm

Hailstorm Exposure

Zone 3

Fire Loss Estimates

All loss estimates developed as a result of our property surveys are for the sole use of AIG underwriters. Engineering loss estimates are based on the professional judgement of our engineer / consultants. There is detailed guidance and methodologies that are reference and used in the calculate of our Loss Estimates. Using our Loss Estimates without an understanding of the underlying guidance and methodologies is not recommended. AIG assumes no responsibility for use or reliance upon the loss estimates presented below.

	PD (M EUR)	PD%	BI (M EUR)	BI%	IBI (M EUR)	TOTAL (M EUR)
MAS	32.48	100.0		0.0		32.48
MFL	16.43	50.6		0.0		16.43
NLE	16.43	50.6		0.0		16.43

Reported Values

Property Damage

Building (EUR)	Contents (EUR)	M&E (EUR)	Stock/Inventory (EUR)	Other PD (EUR)
25,634,000	6,843,000	0	0	0

Business Interruption

Indemnity Period	BI/Gross Revenues (EUR)	Rental Income (EUR)	Payroll (EUR)
12 Months	0	0	0

Totals	EUR
Total Property Damage Value	32,477,000
Total BI Value	0
Total Insured Value	32,477,000

Maximum Amount Subject (MAS)

Total LE (EUR): 32,477,000

PD Loss Estimate

Building	Bldg (EUR)	M&E (EUR)	Content (EUR)	Stock (EUR)	Other (EUR)	Total (EUR)
Mgr Claessenstraat 4Sittard	25,634,000 (100.00%)	0 (100.00%)	6,843,000 (100.00%)	0 (100.00%)	0 (100.00%)	32,477,000 (100.00%)
Total	25,634,000 (100.00%)	-- (--%)	6,843,000 (100.00%)	-- (--%)	-- (--%)	

Total Property Damage Loss Estimate (EUR): **32,477,000 (100.00%)**

TE Loss Estimate

Building	BI (EUR)	Payroll (EUR)	Rent (EUR)	Downtime (Months)	Total(EUR)
Mgr Claessenstraat 4Sittard	-- (100.00%)	-- (--%)	-- (--%)	22	--%
Total	-- (--%)	-- (--%)	-- (--%)	--	

Total TE Loss Estimate (EUR): -- (**0.00%**)

Loss Estimate Comments

MAS-PD

Single site under MAS conditions total loss.

MAS-BI

BI not insured, reconstruction will take up to 22 months.

Maximum Foreseeable Loss (MFL)

Total LE (EUR): 16,430,115

PD Loss Estimate

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Building	Bldg (EUR)	M&E (EUR)	Content (EUR)	Stock (EUR)	Other (EUR)	Total (EUR)
Mgr Claessenstraat 4Sittard	12,968,241 (50.59%)	0 (50.59%)	3,461,874 (50.59%)	0 (50.59%)	0 (50.59%)	16,430,115 (50.59%)
Total	12,968,241 (50.59%)	-- (--%)	3,461,874 (50.59%)	-- (--%)	-- (--%)	

Total Property Damage Loss Estimate (EUR): **16,430,115 (50.59%)**

TE Loss Estimate

Building	BI (EUR)	Payroll (EUR)	Rent (EUR)	Downtime (Months)	Total(EUR)
Mgr Claessenstraat 4Sittard	-- (100.00%)	-- (--%)	-- (--%)	14	--%
Total	-- (--%)	-- (--%)	-- (--%)	--	

Total TE Loss Estimate (EUR): -- (**0.00%**)

Loss Estimate Comments

MFL-PD:

The loss percentage under MFL conditions according AIG guideline table 5 for a hazard grade 3 occupancy (school) is:

- ISO3B: 60% (building & content).
- ISO5: 50% (building & content).

The Loss expectancy for the Fontys Sittard site is:

ISO3B: $600 \text{ m}^2 * 60 \% = 360 \text{ m}^2$

ISO5: $9.544 \text{ m}^2 * 50 \% = 4.772 \text{ m}^2$

Total: 5.132 m^2 out of $10.144 \text{ m}^2 = 50,59\%$.

MFL-BI:

BI is not insured, reconstruction will take up to 14 months according AIG MFL guidelines.

Normal Loss Expectancy (NLE)

Total LE (EUR): 16,430,115

PD Loss Estimate

Building	Bldg (EUR)	M&E (EUR)	Content (EUR)	Stock (EUR)	Other (EUR)	Total (EUR)
Mgr Claessenstraat 4Sittard	12,968,241 (50.59%)	0 (50.59%)	3,461,874 (50.59%)	0 (50.59%)	0 (50.59%)	16,430,115 (50.59%)
Total	12,968,241 (50.59%)	-- (--%)	3,461,874 (50.59%)	-- (--%)	-- (--%)	

Total Property Damage Loss Estimate (EUR): **16,430,115 (50.59%)**

TE Loss Estimate

Building	BI (EUR)	Payroll (EUR)	Rent (EUR)	Downtime (Months)	Total(EUR)
Mgr Claessenstraat 4Sittard	-- (100.00%)	-- (--%)	-- (--%)	12	--%
Total	-- (--%)	-- (--%)	-- (--%)	--	

Total TE Loss Estimate (EUR): -- **(0.00%)**

Loss Estimate Comments

NLE-PD:

In case of a fire on one of the above ground floor levels the loss will be limited due the sprinkler systems. As the sprinkler is up to standard the direct fire loss will be 50% of the design area (108 m²) with additional loss due to water, smoke and soot. The NLE for sprinkler-controlled fire will be <5% of the insured value.

A fire in the parking garage will not be controlled, as a sprinkler is not present. Recent studies have shown that the fire load of automobiles has increased in recent decades. Heat release, fire spread, and developments have also become faster and higher. This is particularly due to the greater percentage of plastics being used. Also new technologies are considered a risk. As the garage has only one ramp also in use for the smoke extraction this will effect the possibilities. A fire department will not immediately enter the garage, see for example the recent fire and impact of the fire in Den Bosch. Therefore the NLE is MFL.

NLE-BI:

BI is not insured. As a result of the fire, the entire load bearing structure and therefore complex must be reconstructed. The reconstruction period is in accordance with AIG guideline 12 months.

Images and Site Sketches



Spaces



Spaces



Spaces

Risk Improvement Classification

Critical

Critical recommendations represent conditions or work practices that create an imminent or severe loss-producing situation. This means that there must be a readily available ignition source or the potential for a severe loss event.

Important

Important recommendations represent conditions or work practices that could result in a loss-producing situation, but for which immediate action is not necessary. These are recommendations to correct uncontrolled exposures or to achieve and maintain a reasonable level of property protection. These recommendations require commitment on the part of the insured to change or modify conditions or work practices in order to reduce the potential for serious loss, resulting from either frequency or severity events.

Advisory

Advisory recommendations represent conditions or work practices that do not directly pose a risk for severe loss or injury, but could contribute to a loss situation. These are recommendations that are considered best practices to enhance the level of property protection. Compliance with these recommendations improves the risk and reduces the likelihood of a loss occurring from the recognized hazard or situation.

Risk Improvement Types

Physical Protection:

A Physical Protection Risk Improvement is associated with provision of physical plant and equipment; typically there could be a capital expenditure associated with these improvements.

Management Programs

A Management Programs Risk Improvement typically relates to procedures and management programs and will not normally involve, or will have limited, capital expenditure.

NATCAT:

NATCAT Risk Improvement is either a physical improvement or the addition/enhancement of management procedures to reduce the risk associated with natural catastrophe events.

B&M Management Programs

A B&M Management Programs Risk Improvement relates to procedures and management programs, such as inspection, testing and maintenance, which will not normally involve, or have limited capital expenditure. Such a risk improvement is directed at reducing the probability of the identified risk exposure.

Loss Estimate Definitions

Maximum Amount Subject (MAS)

The **Maximum Amount Subject (MAS)** is defined as the area of the largest insured value (PD and BI) that is subject to a single fire or explosion. The amount Subject area will only be limited by clear space separation that is sufficient to restrict the spread of fire, as defined in the Space Separation Table which is found in the AIG Commercial Property Field Engineering Manual, MFL section. MAS considers complete failure of all active protection including automatic sprinkler systems, all water supplies, automatic extinguishing systems, alarm supervision, public and private water supplies, no firefighting effort and offers no credit for MFL or fire walls, fire proofing or other passive barriers. In circumstances where the location consists of only one building, the Amount Subject will normally be equal to the full TSI for that building. Calculate of MAS will include PD, BI, BI interdependencies, contingent BI and any other time element values such as Extra Expense, Extended Period of indemnity, Rents, etc.

Maximum Foreseeable Loss (MFL)

MFL is defined as the largest amount of loss that can be anticipated (including PD, BI, BI interdependencies, contingent BI and any other time element values such as extra expense, extended period of indemnity, rents, etc. due to a fire and/or explosion event with all fire protection systems and equipment out of service and with no fire-fighting effort, either public or private. The loss would be that which occurs if the fire were allowed to “burn freely” until it burns itself out. The MFL area is the maximum plant area that could be affected by a single fire or explosion, occurring in the more vulnerable area of the facility (i.e. that with the largest total PD and BI potential). The only acceptable ways to reduce the MFL estimate are:

- Adequate clear space separation between buildings
- Lack of continuity of combustibles
- Effective horizontal cut-offs with MFL walls
- Effective vertical cut-offs
- Expectable salvage values
- Reliable make-up capacity

Airports, High Rise Buildings, Hospitals and Universities are treated as unique and may have a MFL calculation that differs from the above providing certain favorable factors exist.

Normal Loss Estimate (NLE)

The Normal Loss Estimate (NLE) is defined as the largest loss anticipated for a location under existing conditions. The NLE for a protected (sprinklered) facility assumes that the existing automatic and manual protection functions as designed and for intended and in its existing condition, whether it is adequate for the occupancy or not. This can include both public and private protection, including fixed automatic protection (such as sprinkler systems with reliable water supplies), other fixed automatic protection (such as special extinguishing systems or fire alarms with off-site signaling), and proximity of the public fire department and availability of public and private water supplies for firefighting purposes. In addition, construction characteristics are considered that include firewalls, draft curtains, roof

parapets, fire doors, etc., as these factors relate to the hazard and combustibility of the occupancy. Fire department response is anticipated.

Factors that could influence the NLE include:

- Construction classification and characteristics including fire walls, fire doors, etc.
- Occupancy and contents susceptibility to damage (smoke or water damage)
- Continuity of combustibles and combustible loading (light, moderate, heavy)
- Sprinkler protection/water supply adequacy
- Special hazard conditions, protection and controls
- Public Fire Department
- Fire alarms and Central Station monitoring

Deficiencies, minor in nature that are not expected to contribute significantly to a loss but do represent or could contribute to unsafe conditions or unsafe acts. These are recommendations that are considered best practices to enhance the level of property protection. Although compliance with these recommendations improves the risk and reduces the likelihood of a loss occurring from the recognized hazard or situation, they are considered desirable and not mandatory in nature.