

# Pyro Task (La Monnaie)

Opera Europa Technical Stage Manager  
and Set Workshop Forum

9-10 May 2019

Dutch National Opera & Ballet



## La gioconda

### The set :

Traditional construction, metal, plywood painted, **all the setting is based on a water basin with 2,5 cm of water.**



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### The set :

Traditional construction, metal, plywood painted, **all the setting is based on a water basin with 2,5 cm of water.**



## **How would you do these pyros:**

### **Candles on a table:**

On the end of third act, there is a table with table cloth and a few props. The singer will pull the table cloth down, candles will fall with all the props. The director wants real candles.

### **Sparkling fall fire:**

At the end of act 2, sparkling fire falling from the roof of the set (8m high), the choir will stay underneath a little bit behind.

### **Burning boat on water:**

On act 3, two scale model (3m/0,4 m/0,6m) of boats come on stage and burn. The scale models are made out of steel and will be moving on rolling tables. they will get out of stage still burning.

# Malmö Opera Fredrik Täck

- **Candles on a table :**
- On the end of third act, there is a table with table cloth and a few props. The singer will pull the table cloth down, candles will fall with all the props. The director wants real candles.

1 . Fire preserve everything on the table and have one or two technicians close by with wet fire blankets.

2. Use channels candles and fill the channels with water

3. A wick in a pipe in a pipe. The wick burning with lamp oil lower the inner pipe where the wick is attached and the fire chokes

# Malmö Opera Fredrik Täck

- **Sparkling fall fire:**
- At the end of act 2, sparkling fire falling from the roof of the set (8m high), the choir will stay underneath a little bit behind.
  1. we might use waterfall pyro and place the chorus not right under, but just in front of or behind the fall.
    - In some cases you can use a gauze as protection.
    - If you have a lot of money you can buy Sparkular fall or sparktacular. This one can be controlled via DMX and you programme it or run by free hand.

# Malmö Opera Fredrik Täck

- **Burning boat on water:**
- On act 3, two scale model (3m/0,4 m/0,6m) of boats come on stage and burn. The scale models are made out of steel and will be moving on rolling tables. They will get out of stage still burning.
- Fire paist in the right amount. Calculate the amount depending for how long it shall burn.
- If you extinguish the fire having a lot of fire paiste left. Then this needs to cool for a while. Otherwise when you try to light the paist again, it can start to burn in the air. Because it is so hot.

# Viener Staatsoper Michael Wilfinger

- **How would you do these pyros :**

.) The house fire brigade is ready for all fire effects with fire blankets and fire extinguishers.

.) All effects are sufficiently rehearsed with the performers and they are instructed on the dangers (safety distances, behaviour during effect).



# Viener Staatsoper Michael Wilfinger

- **Candles on a table :**
- On the end of third act, there is a table with table cloth and a few props. The singer will pull the table cloth down, candles will fall with all the props. The director wants real candles.

.) props and tablecloth and table are made non-flammable

.) The candle falls into the water and goes out

# Viener Staatsoper Michael Wilfing

- **Sparkling fall fire :**
  - At the end of act 2, sparkling fire falling from the roof of the set (8m high), the choir will stay underneath a little bit behind.
- .) Use non-combustible materials in the assembly area
- .) The actors should keep a distance of 1,5 m to the pyro effect
- .) The pyro effect may only be started if the safety distance is respected

# Viener Staatsoper Michael Wilfinger

- **Burning boat on water :**
  - On act 3, two scale model (3m/0,4 m/0,6m) of boats come on stage and burn. The scale models are made out of steel and will be moving on rolling tables. They will get out of stage still burning.
- .) Depending on the requested height and type of fire, enough safety distance to the decoration that the ships pass by
- .) Safety distance to the actors
- .) by attaching non-combustible material on the back of the decoration, the distances could be reduced slightly

## Topic #3, pyro task (Rolf)

### **Parameter:**

At the end of the third act, there is a table with a table cloth and a few props. The singer will pull the table cloth down, candles will fall with all the props. The director wants real candles.

### **Question:**

How would you do these pyro's, candles on a table?

### **Answer:**

A risk assessment will be made. We would propose to use real candles, and a fire proofed table cloth. The props and costumes around would be either treated to be flame retardent or would be made from non flammable materials. The water around the position of the table makes this a very safe environment.

## Topic #3, pyro task

### **Parameter:**

At the end of act 2, fire sparks are falling from the roof of the set (8m high), the chorus will stay underneath, a little bit behind.

### **Question:**

How would you do these pyro's, falling sparks?

### **Answer:**

A risk assessment will be made. We have existing fire effects that we buy that can drop sparks. We would propose to re-use components of these existing effects. As far as the safety on stage is concerned: No-one is allowed to be standing under the place where the effect will be performed. In the protocol we would either have one or two people required to start and continue the spark effect, depending on the amount of sparks and their spread.

## Topic #3, pyro task

### **Parameter:**

In act 3, two scale models (3m\*0,4 m\*0,6m) of boats come on stage and burn. The scale models are made out of steel and will be moving on rolling tables. They will get off of stage while still burning.

### **Question:**

How would you do these pyro's, a burning boat on the water?

### **Answer:**

A risk assessment will be made. We would propose to use gas. In our theatre we have a gas-unit that is made to fit the standards of the local fire department, and we have a few specially trained technicians who are allowed to design, make and operate fire-effects. We don't have any other national laws or regulations to guide us through these questions. In our theatre we are responsible for safe working conditions, we don't (have to) ask for permission to authorities in the detail of our solutions.

# Yonatan

- **Candles on a table :**
  - On the end of third act, there is a table with table cloth and a few props. The singer will pull the table cloth down, candles will fall with all the props. The director wants real candles.
- I would have to fireproof all the props on the table. Probably wouldn't hurt to build a mechanism that puts the candle out when it's not on its base.

## Sparkling fall fire :

At the end of act 2, sparkling fire falling from the roof of the set (8m high), the choir will stay underneath a little bit behind.

- 2 meter distance between the choir and the fire, the borders and black masking all fireproofed anyway. The fireworks themselves are a problem, might want to use hotglue drippings+light.



## **Burning boat on water :**

On act 3, two scale model (3m/0,4 m/0,6m) of boats come on stage and burn.

The scale models are made out of steel and will be moving on rolling tables. They will get out of stage still burning.

- I would put a gas tank hidden in the tables and tubes with holes throughout the ship models. Can be remote controlled.



**Royal Opera House**

**Pyro Task**

## Candles on a table :

On the end of third act, there is a table with table cloth and a few props.  
The singer will pull the table cloth down, candles will fall with all the props.  
The director wants real candles.



The technical director would discuss with the local council and fire brigade whether we could use live fire and assuming consents are given we could use live candles. It would be technical departments preferred choice not to use live candles but have battery powered candles that could be remotely switched off.

If permission to use live candles is given we would ensure that the table cloth and props were fireproofed and all actions were tested by the technical team before rehearsals with the singer initially in full work light. All three tasks would have risk assessments written within the general show RA.

## Sparkling fall fire :

At the end of act 2, sparkling fire falling from the roof of the set (8m high), the choir will stay underneath a little bit behind.



In the testing stage we would rig up a bar on drift wires that could drop inside the structure if needed. We would use waterfall by Le Maitre for the effect using a trained technician operating in line of sight. All scenery/hangings within the vicinity would be fireproofed .The chorus would need to be at a safe distance. This would all be tested initially before chorus came on stage in work light on a technical rehearsal. The bar would be pre tested long before getting to stage in our construction area with the relevant fire safety officer in attendance and the local sensors disabled for testing.

# How would you do these pyros :

## Burning boat on water :

On act 3, two scale model (3m/0,4 m/0,6m) of boats come on stage and burn.

The scale models are made out of steel and will be moving on rolling tables.

they will get out of stage still burning.

In the initial RA we would test the model first in a controlled environment with suitable fire control measures. Initially test with small amount of flame paste and increase until the desired effect artistically. On stage tech we would test in full work light without cast and then with any cast before trying in show lighting conditions. The paste would preferably be located in a tray that could be extinguished mechanically or if not use a fire blanket to cover the model once offstage. The technicians would need to wear protective gloves.

# Pyrotechnics task

## Darren Joyce

- External contractors
- Howard Eaton Lighting
- Le Maitre Pyrotechnicas and special effects
- Wild Creations

# Torben

- I have a suggestion for our little task
- A tablecloth made of CS wood and the props of non-combustible material.
- Sparkling fire falling: use cold fire pyro
- The boat is mounted with a small gas bottle with remote control to open for the burners that turn on eclectic

# PYRO Tuomas

## **Candles on a table:**

- real candles with a flame retardant fabric, table a non-flammable material (steel, aluminium...)

## **Sparkling fall of fire:**

- e.g. [www.lemaitreltd.com](http://www.lemaitreltd.com)

## **Burning boat on water:**

- stonewool, kevlar cover/rope or similar saturated with liquid and gel fire
- liquid and gel proportion selected for duration/impressiveness



# A pyro case: La gioconda

Handling pyro tasks at RDT (Hanne and Hans Jørgen)



# La Gioconda – a pyro case



## The set :

- Traditional construction, metal, plywood painted, all the setting is based on a water bassin with 2,5 cm of water.

## Sparkling fall fire

### How would you do these pyros :

At the end of act 2, sparkling fire falling from the roof of the set (8m high), the choir will stay underneath a little bit behind.

### RDT handling of sparkling fall fire.

This effect will also be possible by observing the rules on the fireworks.

A fine effect with the right distance to the choir.

However, be aware of strong smoke development when firing this type of pyro effect.

## Burning boat on water



## How would you do these pyros :

On act 3, two scale  
model  
(3m/0,4 m/0,6m) of  
boats come on stage  
and burn.

The scale models are  
made out of steel and  
will be moving on  
rolling tables.

they will get out of  
stage still burning.

## RDT handling of a burning boat:

When this effect is  
desired, it is important  
that the boat is made of  
non-flammable  
materials.

The fire source should  
be gas that can be easily  
switched off when the  
fire has to stop.

The usual safety  
procedures must be  
observed:  
gas detector, automatic  
shut-off (dead man's  
switch)



# THE USE OF FIRE ON STAGE



LA MONNAIE / DE MUNT



# Act 1 : The torches



**LA MONNAIE / DE MUNT**



# Torches

- Danger

- people getting burnt
- set fire to the set

- Safety measures

- fire blanket
- fire extinguisher
- 2 firemen
- mechanical control



# Torches



LA MONNAIE / DE MUNT





# Act 2 : Fall of sparks



**LA MONNAIE / DE MUNT**



# Fall of sparks

- Danger

- people getting burnt

- Safety measures

- water basin

- fire blanket

- fire extinguisher

- 2 firemen

- DMX- controlled

- height/distance

LA MONNAIE / DE MUNT



**fall**



**LA MONNAIE / DE MUNT**



**AITQUE**



**LA MONNAIE / DE MUNT**





# Act 3 : Campfire



LA MONNAIE / DE MUNT



# Campfire

- Danger

- gas leak/explosion
- set fire to the set
- people getting burnt

- Safety measures

- fire blanket
- fire extinguisher
- 2 firemen
- mechanical controlled
- set protection:  
promatec & metal  
case



# Campfire



LA MONNAIE / DE MUNT



# Act 4: The burning boat

metal scale model of cruise ship on rolling table

brought on stage by extra's

ceramic wadding + isopropanol (30ml each boat)



LA MONNAIE / DE MUNT





# Burning boat

- Danger

- set fire to set
- people getting burnt

- Safety measures

- water basin
- fire blanket
- fire extinguisher
- firemen



# Burning boat



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# Act 5 : Candles



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# Candles

- Danger
  - set fire to props/blanket
  - people getting burnt
- Safety measures
  - water basin
  - fire blanket
  - fire extinguisher
  - 2 firemen

LA MONNAIE / DE MUNT



# The candles



LA MONNAIE / DE MUNT

# **La Gioconda**

## **Paulina**

### **How would you do these pyros :**

#### **Candles on a table :**

On the end of third act, there is a table with table cloth and a few props.  
The singer will pull the table cloth down, candles will fall with all the props.  
The director wants real candles.

*If possible we will replace the candles by fake ones.*

#### **Sparkling fall fire :**

At the end of act 2, sparkling fire falling from the roof of the set (8m high), the choir will stay underneath a little bit behind.

*There are machines that produce the desired effect but that don't produce enormous heat. As such these machines are not regarded as being a pyrotechnical effect and don't require the authorisation of the fire brigade according to the law.  
There are 12 machines built in at the back side of the roof.  
See technical specifications below.*

## User Manual

### Sparkular Fall

- ★ Please read this manual carefully before operating the product.
- ★ This manual contains the warranty card, please keep it well.

#### Security Considerations

- Unauthorized repair are prohibited, it may cause serious incident.
- Keep SPARKULAR Fall dry and do NOT use in rain or snow.
- Make sure lid of feeding hopper are well covered when use Sparkular Fall. Accidentally Burning of Composite Ti can only use sands to extinguish. Composite Ti should keep away from moisture and stored in a dry sealed environment.
- Keep audience and flammable material at a minimum distance of 3m from SPARKULAR Fall. Make sure sparks shoot out from Sparkular Fall can NOT touch any objects.
- Clear material for Sparkular Fall is necessary both before the show and after the show, to clear the Composite Ti remains in the pipe. Check whether there are Composite Ti aggregate in the nozzle after each show, if any, please clean it up, or it will affect the shooting effect or even damage Sparkular Fall.
- The Sparkular Fall power supply cable (sparkular fall power supply EX-cable) maximum allowed cascade for Sparkular Fall is 8pcs (BT04)/ 3pcs (BT05), exceeded connecting may result in damage or even cause fire.
- For better heat dissipation, block the air intake and air outlet is prohibited.
- Cover of nozzle of Sparkular Fall is prohibited.

Sparkular Fall Model No.BT04/BT05		
	Parameter	
	Dimension	192 × 208 × 192mm
	Weight	6kg
	Input	200-240VAC, 50/60Hz (BT04) 100-120VAC, 50/60Hz (BT05)
	Working Power	400w
	Working Temperature	-10℃~ 50 ℃
	Casing	Anti-Flaming ABS
	Fountain Height	2m ~ 7m, Depend on different type of Composite Ti
	Interface	Double DMX input interfaces, Double AC power interfaces
	Workbin Volume	280g
	Hanger Diam	40-60mm

#### Feature :

- Switchable special effects mode(Low/High)
- Integrating wireless technology,Not exposed,anti-collision.
- One button start.
- Sophisticated design, light weighted and portable.

**Operating Panel:**

LCD information display area, showing operate menu and working status of machine.

**Light emitting diode display area:**

**READY**: After turning on machine, it will automatically preheat around 5 minutes, when the "READY" green light turns from flashing into long on, indicates that the machine is ready to work

**DMX**: Flashing shows that DMX signal is connected, otherwise is without signal

**FAULT**: When any malfunction, the light turns on

**HEAT**: When the machine is heating, signal light turns on

**Bottom Indication Light:**

**Off**: Sparking or Not in preheating

**Quick Flashing**: Preheating

**Long on**: Preheated

**Slow Flashing**: Error warning

**Control button area:**

**MENU**: Short press to switch interface, press for 3 seconds can switch to the advanced setup interface.

**-**: Parameters down

**+**: Parameters up.

**ENTER**: Confirm and save parameters.



**Radio frequency identification area :**

- > Composite TI with RFID card, swiping cards used to identify parameters and types of granules.
- > Please note that granules RFID card can increase the single machine specific working time. The card is disposable, one card can only use one time.

**Interface****Main interface :**

```
DMX Address      1
21000           07.24
```

First line: Display DMX address is "1".

Second line: Display the present inner core temperature and the temperature progress bar; displays remaining time is 7 minutes and 24 seconds.

**Error informations display table :**

Error Informations	Explanation
E0 System IC	System error.
E2 Temp. Sensor	Temperature sensor was damaged.
E3 P Temp. Over	Chassis temperature is too high to shut down.
E4 Time Remain	Insufficient granules or remaining time, please swiping time card.
E5 K Temp. Over	Inner core temperature is too high to shut down
E6 Heat Fail	Heating failed.

**Setting interface :**

Press "MENU" to enter the Setting interface, press the "MENU" button to enter different options until you return to the main interface.

Options	Range	Explanation
Set DMX Address	1-512	Set the DMX address, machine become a wireless host and can send out DMX signal when its address is "1++".
Wireless Control	ON/OFF	Wireless function switch, you can match code when shows "ON"
Manual Fountain	ON/OFF	Manual fountain switch , for testing purpose only.

**Advanced menu :**

Press "MENU" 3 seconds to enter the advanced setup interface, press MENU key to enter different options, press MENU till 3 seconds to return to the main interface.

Options	Range	Explanation
Set Temperature	500-610	Setup inner Core temperature.
Auto Heat	ON/OFF	Auto preheat function switch after turning on machine.
Density	70-100	Adjust the sparks density.
Mode Selection	Factory Mode/User Mode	Factory Mode is factory debugging mode, User Mode is using mode.
Default Parameter		Press "ENTER" to restore all parameters to the factory settings.

## Use:

### Power cable connection :

› For convenient use, there are power supply cable and power supply ex-cable. Power Supply ex-cable can achieve multiple devices connected, maximum cascade is 6pcs(BT04)/3pcs(BT05). All power plugs are industrial plug with lock, it need to toggle snap and rotate when using.

### Host controller mode :

Using the host controller to monitor the working status of Sparkular Fall, to achieve multiple dynamic effects and stable controlling. Sparkular Fall has high/low level, the height settings 1-5 in host controller is low level, 6-10 is high level. Please see the details in host controller manual.



### Cable DMX mode :

When using the DMX controller, the system takes 2 channels

The First channel	Functions
0-15	Fountain OFF
16-135	Low Level Fountain ON
136-255	High Level Fountain ON
The second channel	Functions
60-80	Clear Material
20-40	Emergency Stop
0-10	Pre-heat OFF (Disable in Auto-heat)
240-255	Pre-heat ON (Disable in Auto-heat)

### Wireless remote control mode :

› If the remote control cannot work, please check whether wireless function was turn on. Press MENU to switch to wireless control setting, menu is set to "ON", press "ENTER". In this interface, you can also match code with remote controller.

Wireless Control  
ON

- › Sparkular Fall can controlled by both DMX and remote controller, when there are DMX signal input, wireless remote controller will not work.
- › When using remote controller you need to pull out the antenna.
- › After pressing "set" button, press "3" on "button immediately to change to low level, press "3" off" to change to high level.



1 ON	Address "1" ON	1 OFF	Address "1" OFF
2 ON	Address "3" ON	2 OFF	Address "3" OFF
3 ON	Address "5" ON ( Low Level )	3 OFF	Address "5" OFF ( High Level )
Set	◆When use different remote controller ◆Change Levels	CLEAR	◆Automatically clean material for 3 seconds ◆Start Pre-heat
5 S	All Starts 5 seconds	15 S	All Starts 15 seconds
30 S	All Starts 30 seconds	OFF	All stop

### Attention:

➤ The first group machines correspond to DMX address "1", the second group DMX address is "3", the third DMX address is "5", remote controller controls 3 groups of machines. You can also set all Sparkular Fall address as "1".

➤ When the lamp is not lit or becomes weak on the remote controller, please replace the battery. It is better to take battery out when transporting to prevent consumption of battery power by unmeant press of button.

Battery model: 12V 23A

➤ When the machine is occasionally not working, may be caused by interference, please press the start button again.

➤ Wireless control is easily influenced by interference, it suggests to stay as close to machine as possible when use remote controller, and machines cannot use metal shielding.

### Wireless host Sparkular Fall mode (requires communication cables):

In occasion of strong interference, using the wireless host can avoid interference, ensure stable control. Enter into Set DMX Address option menu, press "-" when the DMX address is "1" to set the first unit of Sparkular Fall's DMX address into "1++", this machine address is "1", but it can also output DMX signal and turns into wireless host Sparkular Fall. Use communication cables to connect all the Sparkular Fall, the host Sparkular Fall will receive the signal from remote controller and transfer to all other Sparkular Fall via communication cables to realize stable signal transmission.

**Attention:** In this mode, please don't connect to other control mode to prevent from communication disorder.

### Hanger and Lifting Ring Installation Method:



### Consumptive Material Type Options Instruction:

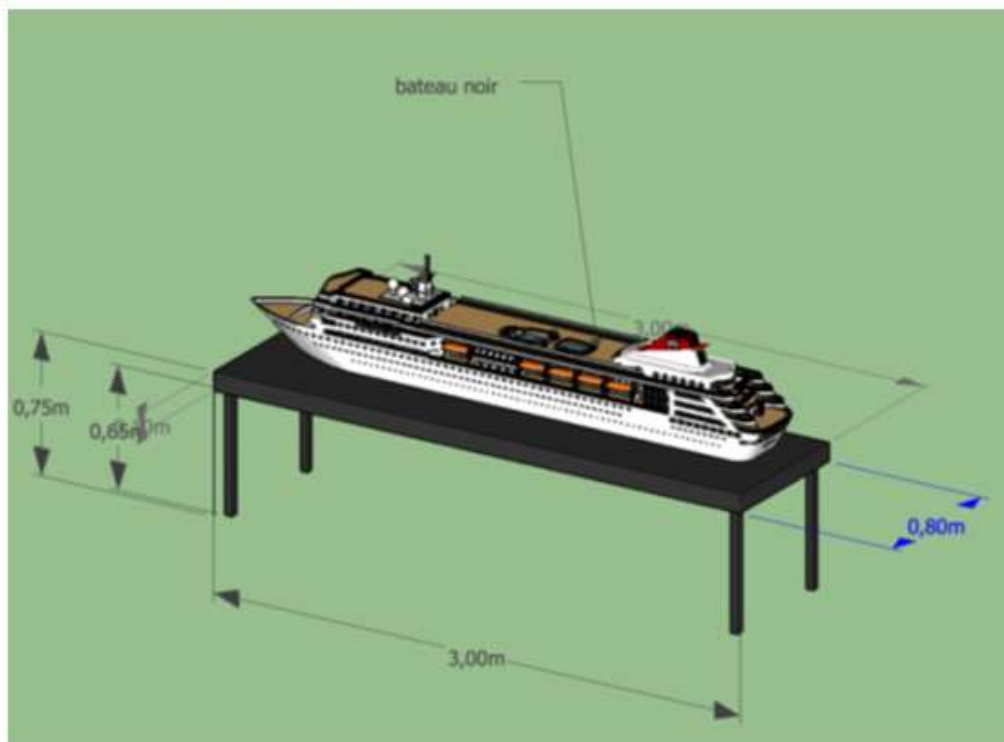
HC8200	Fall length (Low Level)	Fall length (High Level)
MEDIUM	2m	3m
LARGE	3m	4m
LARGE- I	4m	5m
LARGE- II	5m	7m

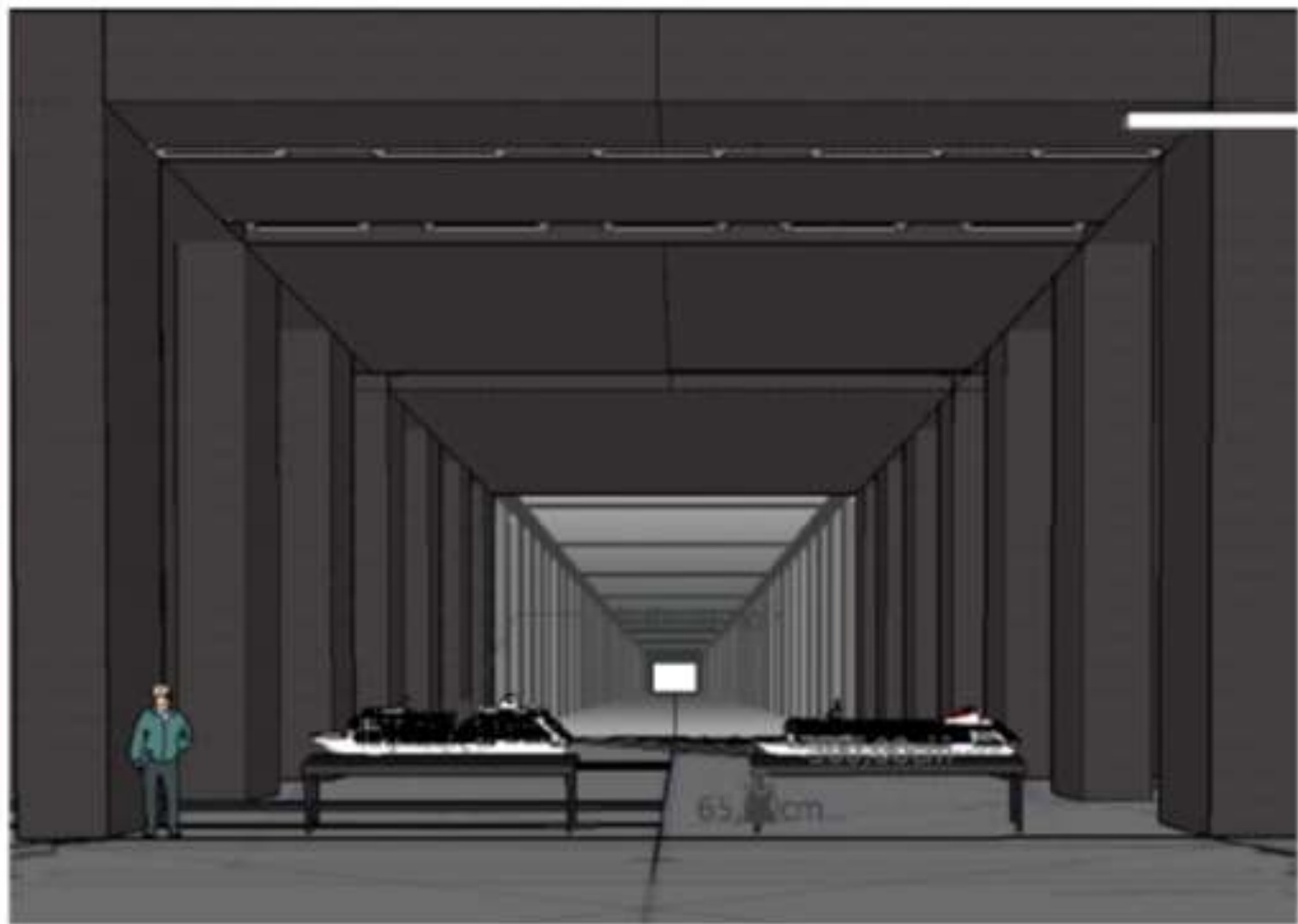
### **Burning boat on water :**

On act 3, two scale model (3m/0,4 m/0,6m) of boats come on stage and burn. The scale models are made out of steel and will be moving on rolling tables. they will get out of stage still burning.

*Two models of boat in metal, 3m long are placed on a table (made from metal) with wheels. Stage is covered with water, cleared of any hanging elements above the boats and placed behind the iron curtain. Models are positioned in a secure distance from the singers. There are several fire proof containers for the isopropanol liquid fixed to the boat models in different places to cover the whole area with fire. Ignition is made with an electric igniter remotely controlled. Fireman must be present during the performance. Fire extinguisher and anti-fire blankets are placed around the scene for safety.*

[https://www.youtube.com/watch?v=oGoNQF6x3mw&feature=youtu.be&utm\\_source=LIST+INTERNE+COMPLETE+2018+06+08&utm\\_campaign=a1571d392c-EMAIL+CAMPAIGN+2018+12+11+08+26&utm\\_medium=email&utm\\_term=0\\_4056c13c83-a1571d392c-39762733](https://www.youtube.com/watch?v=oGoNQF6x3mw&feature=youtu.be&utm_source=LIST+INTERNE+COMPLETE+2018+06+08&utm_campaign=a1571d392c-EMAIL+CAMPAIGN+2018+12+11+08+26&utm_medium=email&utm_term=0_4056c13c83-a1571d392c-39762733)







# Task 3 – Pyro task

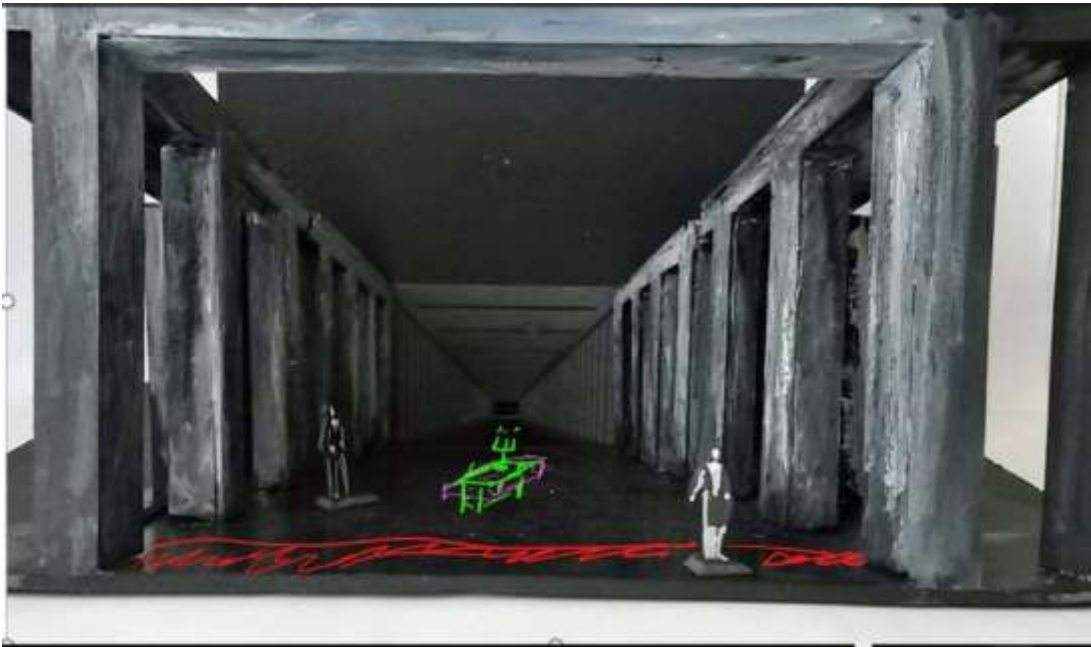
(Maik & Jakob had to cancel)

- La gioconda
- The set :
- Traditional construction, metal, plywood painted, **all the setting is based on a water basin with 2,5 cm of water.**



# Task 3 – Pyro Task 1

- **Candles on a table :**
- 
- On the end of third act, there is a table with table cloth and a few props.
- The singer will pull the table cloth down, candles will fall with all the props.
- The director wants real candles.



# Task 3 – Pyro Task 1

- **Execution:**

- Iron table with glass fabric tablecloth, non-flammable.
- All props non flammable and unbreakable.
- Keep a safe distance especially from the orchestra pit.

D Glasgewebe

F Fibres de verre

E Woven Glass

**Qualität 96 201**  
Art. 1561-

**Qualität 96 105**  
Art. 1562-

**Qualität 96 110**  
Art. 1563-

**Qualität 96 029**  
Art. 1566-

**Qualité 96 201**  
Réf. 1561-

**Qualité 96 105**  
Réf. 1562-

**Qualité 96 110**  
Réf. 1563-


**Qualité 96 029**  
Réf. 1566-

**Quality 96 201**  
Art. 1561-

**Quality 96 105**  
Art. 1562-

**Quality 96 110**  
Art. 1563-

**Quality 96 029**  
Art. 1566-



**Glasgewebe Qualität 96 201**

100 % Tedülgas.  
Schwere Qualität.  
Nicht trennbar.  
Stücklängen ca. 15, 30 und 60 fm.  
Nur in ganzen Stücken lieferbar.  
Sortenfarben ab ca. 500 fm.  
Akustisches Gebächten verfügbar.


**Fibre de verre 96 201**

100 % fibre de verre.  
Qualité lourde.  
Non inflammable.  
Longueur des pièces env. 15, 30 et 60 m.  
Livrable uniquement par pièces entières.  
Couleurs spéciales à partir 500 ml.  
Certificat acoustique disponible.



**Woven Glass 96 201**

100 % woven fiberglass.  
Heavy duty.  
Non-combustible.  
Piece lengths approx. 16.4, 32.8 and 65.6 yds.  
Available in full pieces only.  
Minimum quantity for custom dyed colours approx. 546.8 yds.  
Acoustic certificate available.

Art. / Ref.	Farben	Colors	Colours	A2	M0	EN	ENFR	↔	cm	ft/in	↔	g/m²	sp/yd
1561 1113	weiß	blanc	white	•	•				150	59"		435	12.83
1561 2708	grau	gris	grey	•	•				150	59"		435	12.83
1561 2801	beige	beige	beige	•	•				150	59"		435	12.83
1561 1153	blau	bleu	blue	•	•				150	59"		435	12.83
1561 1286	weinst	bordeaux	wine red	•	•				150	59"		435	12.83
1561 1721	dunkelgrau	gris foncé	dark grey	•	•				150	59"		435	12.83
1561 1100	schwarz	noir	black	•	•				150	59"		435	12.83



-1113

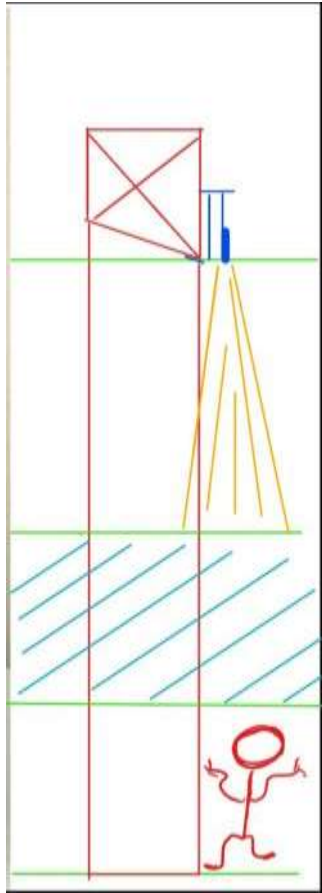


# Task 3 – Pyro Task 2

- **Sparkling fall fire :**
- At the end of act 2, sparkling fire falling from the roof of the set (8m high), the choir will



# Task 3 – Pyro Task 2



- **Height:**
- Pyro 8m
- Safety range 5m
- People 2m

# Task 3 – Pyro Task 2



Safex Silverstream "C20"

With good spark density, a long-lasting and low-smoking show effect;

especially when several fountains are used at the same time,

z. B. fan-shaped or "crossed".

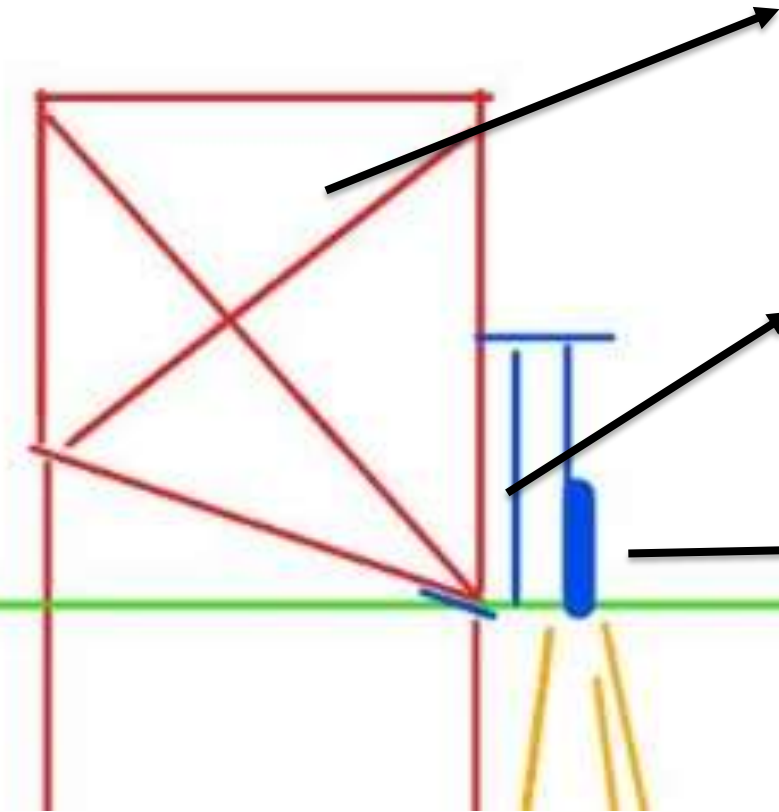
Recommended safety distance: 3.0 metres to the side and 5.5 metres in the firing direction.



Effect duration: approx. 22 seconds

Effect height: approx. 3.5 metres

# Task 3 – Pyro Task 2



- portal bridge

- Heat shield sheet iron

- Safex Silverstream  
"C20"

- about 17 pieces

# Task 3 – Pyro Task 2

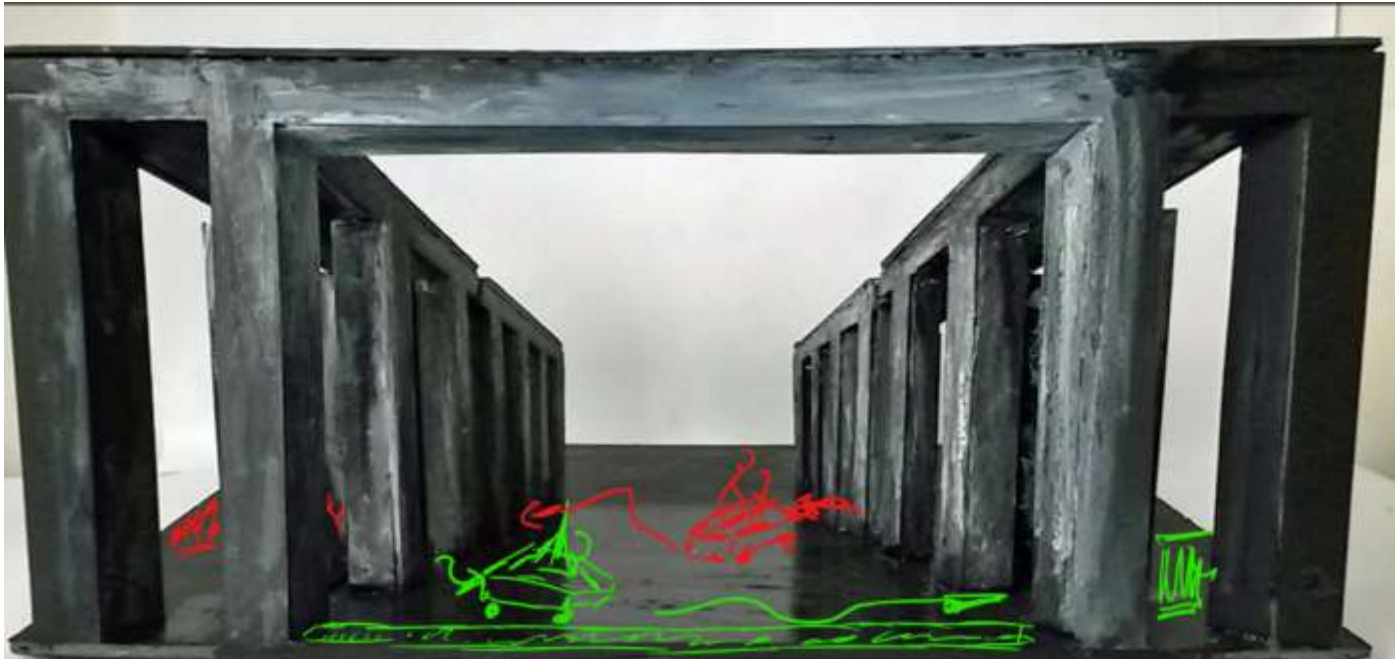


- Example from the Badisches Staatstheater
- Si j'étais roi Premiere 26.01.02
- (If I were king)
- Needed:
- 17 Safex Silverstream C-15 stage fountains

# Task 3 – Pyro Task 3

- **Burning boat on water :**

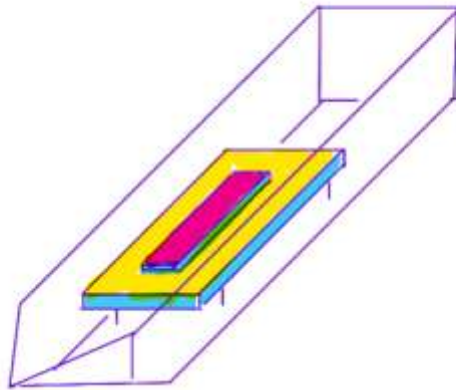
- On act 3, two scale model (3m/0,4 m/0,6m) of boats come on stage and burn.
- The scale models are made out of steel and will be moving on rolling tables.
- they will get out of stage still burning.



# Task 3 – Pyro Task 3

Iron boat

Cooling bowl with wet quartz sand



Fire bowl with fire paste

Adjust the quantity exactly to the time of the scene.

## Execution:

Iron boat inside a cooling bowl with wet quartz sand.

On the cooling bowl a fire tub with fire paste.

Adjust the amount of fire paste exactly to the length of the scene.

When moving the boats on the stage, safety distances must be observed.

When the burning boats leave the stage, have the fire watch ready with extinguishing agents.

Cover the fire tub directly with an iron cover and the fire is out.

## SAFEX®-Brandmasse \*A\*- 1 Liter Dose



SAF-BR-A-1

### 1 Liter Brennstoffpaste - Brandmasse - Brandgel

SAFEX®-BRANDMASSE "A" ist die in Europa am längsten verwendete Spezialeffekt-Brennstoff-paste für Innenräume in Theatern, Film- und Fotostudios etc. sowie für spezielle Feuertrainings. Sie ist das seit 40 Jahren bewährte Präzisionsprodukt, das absolut gleichbleibende und definierte Abbrenneigenschaften besitzt: Im Gegensatz zu selbst gemischten oder einfachen Brandgels, z. B. für gastronomische Zwecke oder Gel-Kamine besitzt sie folgende wichtige Eigenschaften:

- Realistische, sehr gut sichtbare, rötliche Flamme.
- Brennt nahezu rauchlos und geräuschlos.
- Praktisch immer gleiche Flammgröße/-höhe in Innenräumen\*).
- Die dunkle Paste ist während Abbrennens nicht sichtbar.
- Hinterlässt nur leicht entfernbare, ungefährliche Rückstände.
- Gleichbleibende Viskosität/Pastenform.
- Immer gleicher Brennstoffgehalt.
- Verflüssigt sich nicht beim Abbrand!

\*) Etwasige Abweichungen von den Sollwerten beruhen auf unterschiedlicher Umgebungstemperatur.

Insofern lassen sich einmal damit erzielten Effekte sehr genau wiederholen, wenn die gleiche Bedingungen bzw. Abbrennvorrichtungen vorliegen.

5 Liter Dose

### Optionen:

- Gefahrgutklasse: Keine
- Klassifizierung: ohne





## Candles on a table



### How would you do these pyros :

On the end of third act, there is a table with table cloth and a few props.

The singer will pull the table cloth down, candles will fall with all the props.

The director wants real candles.

### RDT handling of candles:

Standard precautions when using candles during a show:

- Prevent tipping accidents by securing the candle (and candleholder) with a bracket, brace or likewise

In this case – due to the 2,5 cm water – the use of real candle light is allowed, provided the cloth is fire-resistant