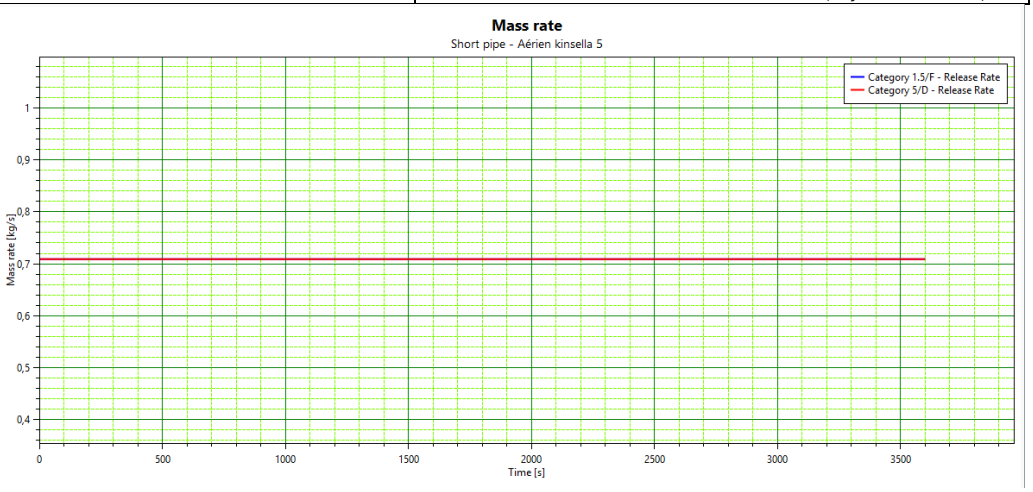
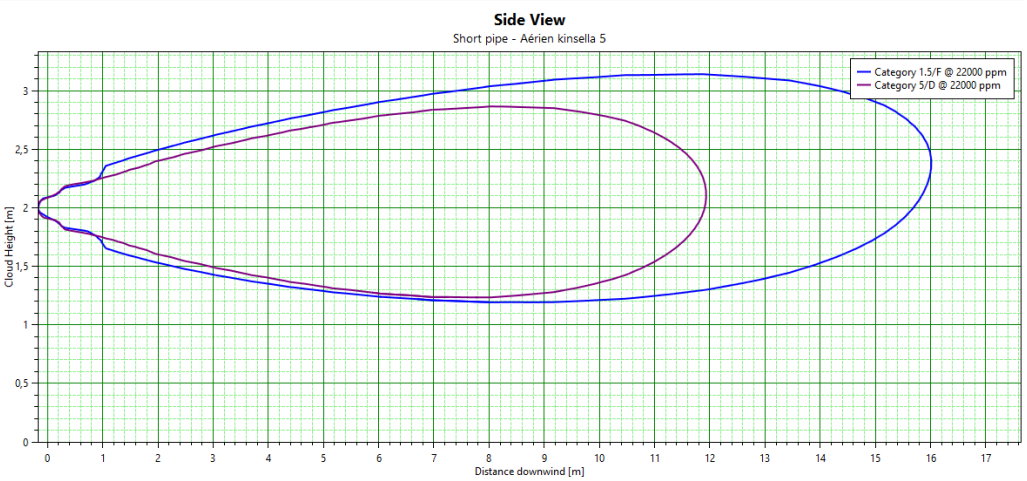
PhD 1.a : Feu torche en continu PhD 1.c : UVCE (régime turbulent)	
DN : 90 mm	Rupture totale
P : 300 mbar	Rejet horizontal
Durée : 3600 s.	**Canalisation Aérienne intérieure (rejet à 2 m/sol)**

Audit Number	2309
Equipment	Pressure vessel
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 5
Workspace	porketo

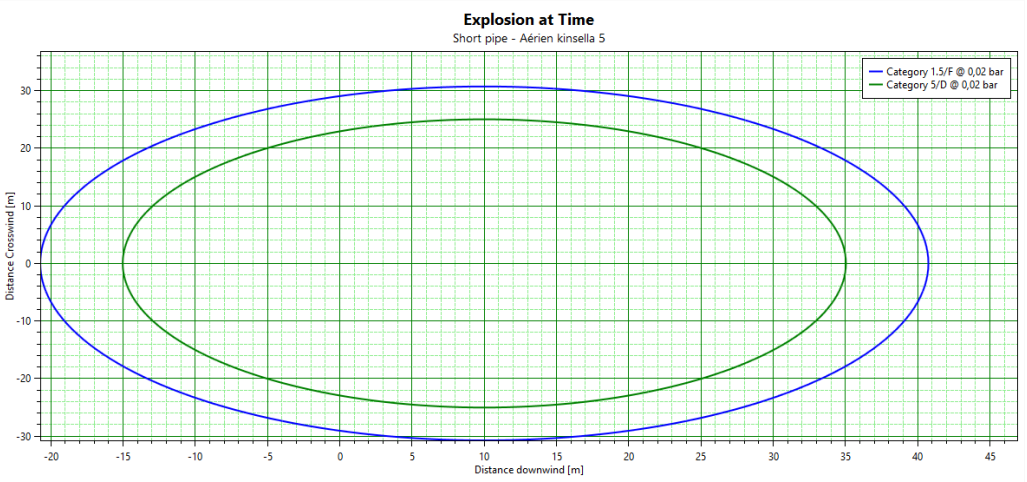


Audit Number	2309
Averaging time	Flammable (18,75 s)
Equipment	Pressure vessel
Spacing parameter for the grid in the x dimension	0,1
Material	METHANE
Material to track	METHANE
Offset from Centerline	0 m
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 5
View Time	3600 s
Weather	Multiple Weather
Workspace	porketo



Audit Number	2309
Crosswind Distance	0 m
Equipment	Pressure vessel
Height of interest	1,5 m
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 5
Weather	Multiple Weather
Workspace	porketo

Audit Number	2309
Equipment	Pressure vessel
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 5
Time (Category 1.5/F)	1,91804 s
Time (Category 5/D)	1,91801 s
Weather	Multiple Weather
Workspace	porketo



Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (3 kW/m2) [m]	Distance downwind to intensity level 2 (5 kW/m2) [m]	Distance downwind to intensity level 3 (8 kW/m2) [m]
Study\Pressure vessel	Short pipe - Aérien kinsella 5	Category 1.5/F	11,5775	18,4659	16,2131	14,358
		Category 5/D	14,4254	18,1074	17,1996	16,5153

Explosion Results

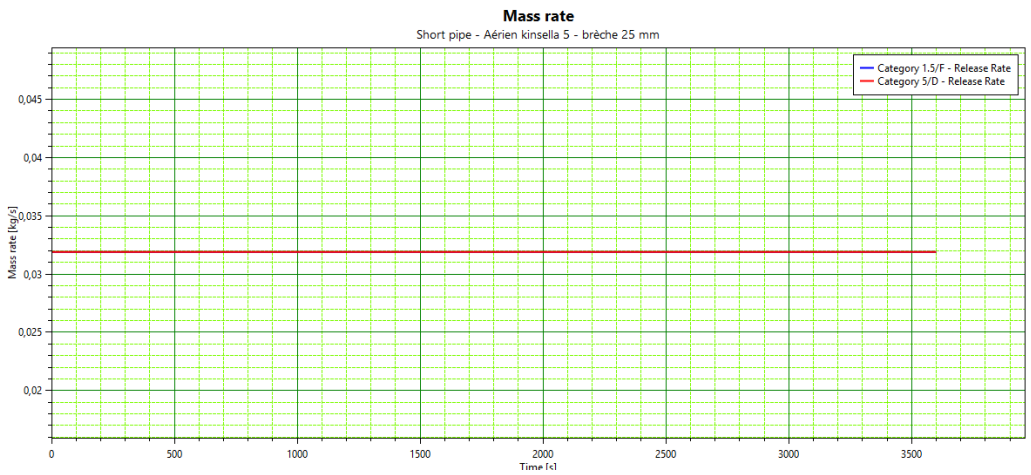
Explosion scenarios for worst-case maximum downwind distance to defined overpressures.

The reported overpressures are defined in the explosion parameters

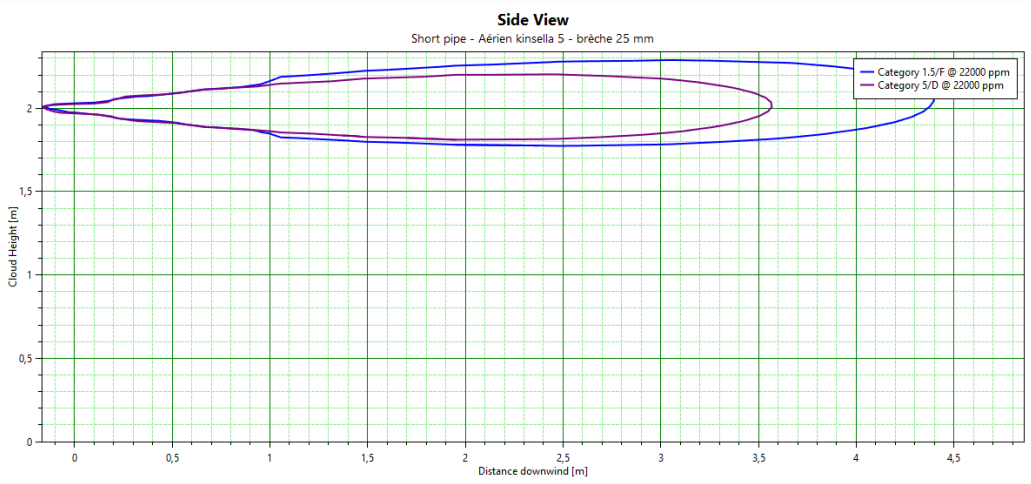
Path	Scenario	Weather	Overpressure level [bar]	Maximum distance [m]	Diameter [m]
Study\Pressure vessel	Short pipe - Aérien kinsella 5	Category 1.5/F	0,02 0,05 0,14 0,2	40,7385 22,2132 14,3131 12,8809	61,477 24,4265 8,62623 5,76183
		Category 5/D	0,02 0,05 0,14 0,2	35,0308 19,9454 13,5122 12,346	50,0616 19,8908 7,02446 4,69194

PhD 1.b : Feu torche en continu	
DN : 90 mm	Brèche 25 mm
P : 300 mbar	Rejet horizontal
Durée : 3600 s.	**Canalisation Aérienne intérieure (rejet à 2 m/sol)**

Audit Number	2392
Equipment	Pressure vessel
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 5 - brèche 25 mm
Workspace	porketo



Audit Number	2392
Averaging time	Flammable (18,75 s)
Equipment	Pressure vessel
Spacing parameter for the grid in the x dimension	0,1
Material	METHANE
Material to track	METHANE
Offset from Centerline	0 m
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 5 - brèche 25 mm
View Time	3600 s
Weather	Multiple Weather
Workspace	porketo



Audit Number	2392
Crosswind Distance	0 m
Equipment	Pressure vessel
Height of interest	1,5 m
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 5 - brèche 25 mm
Weather	Multiple Weather
Workspace	porketo

Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (3 kW/m2) [m]	Distance downwind to intensity level 2 (5 kW/m2) [m]	Distance downwind to intensity level 3 (8 kW/m2) [m]
Study\Pressure vessel	Short pipe - Aérien kinsella 5 - brèche 25 mm	Category 1.5/F	3,62391	3,70305	3,15745	n/a
		Category 5/D	4,54694	n/a	n/a	n/a

PhD 1.e : Explosion de gaz dans un milieu confiné – Local chaufferie PhD 4 : Explosion de gaz dans un milieu confiné – Corps de chauffe
Résistance des parois du local chaufferie à 50 mbar
Résistance des parois du corps de chauffe de 1 bar
Durée : Instantané.

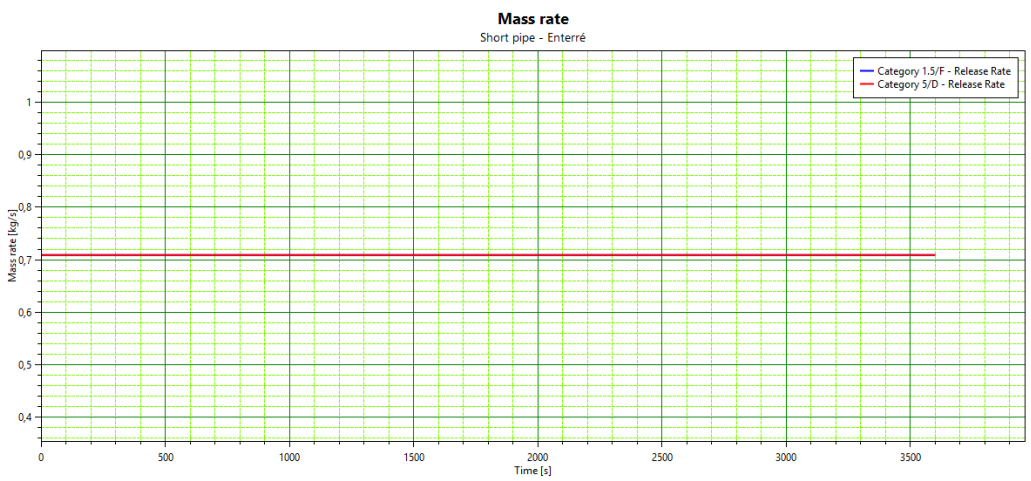
Calcul des distances d'effets pour une explosion de gaz en milieu confiné

Champs à renseigner
Champs de calcul automatique

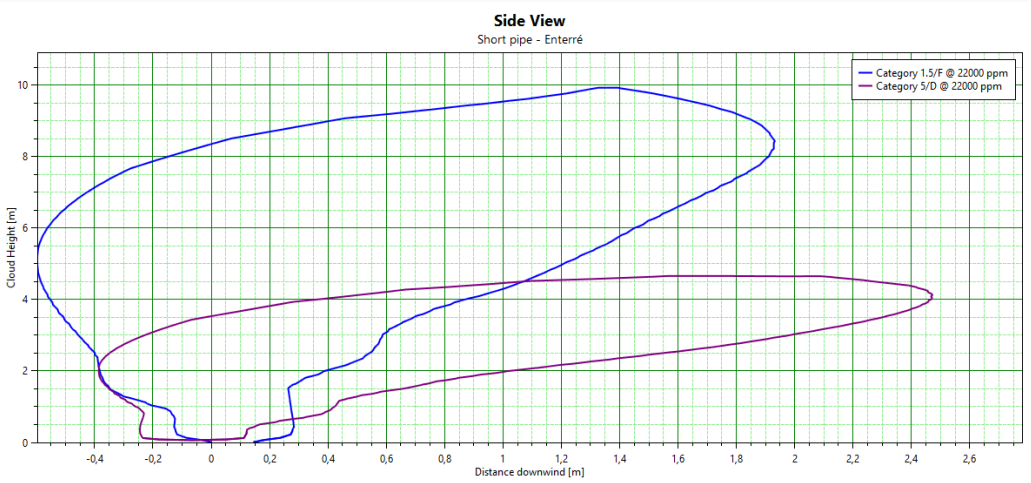
Symbole	Paramètre	Unité	Installation 1	Installation 2
V	Volume interne de l'enceinte	m3	700	10
Pecl	Pression d'eclatement de l'enceinte (absolue)	Pa	1,06E+05	2,01E+05
Patm	Pression atmosphérique	Pa	101325	101325
Gamma	Rapport des chaleurs spécifiques	/	1,314	1,314
E	Energie de l'explosion de gaz	J	11146496,8	3184713,4
D300	Distance pour des effets de 300 mbar	m	6,3	4,1
D200	Distance pour des effets de 200 mbar	m	7,1	4,7
D140	Distance pour des effets de 140 mbar	m	11,2	7,4
D50	Distance pour des effets de 50 mbar	m	24,6	16,2
D20	Distance pour des effets de 20 mbar	m	49,1	32,4

PhD 2.a : Feu torche en continu PhD 2.c : Flash fire en continu	
DN : 90 mm	Rupture totale
P : 300 mbar	Rejet vers le haut (vertical)
Durée : 3600 s.	**Canalisation Enterrée extérieure**

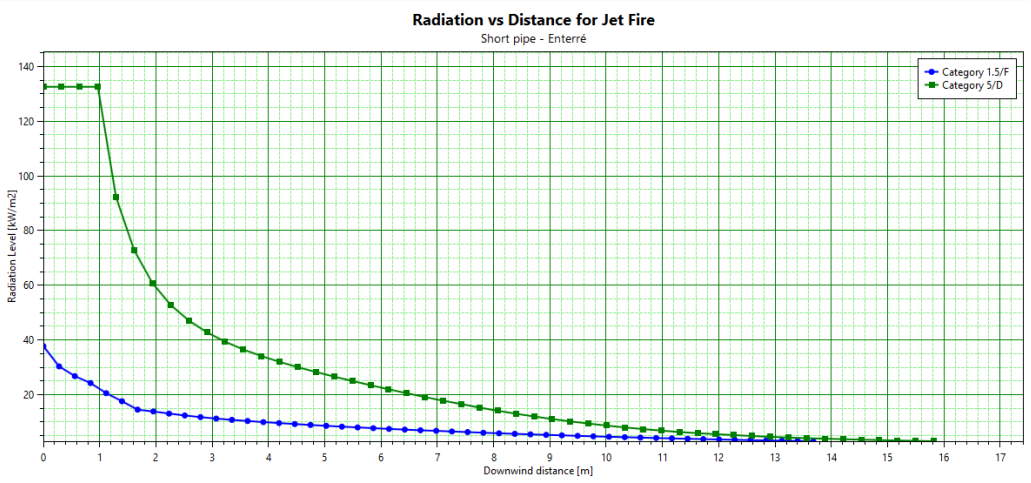
Audit Number	2393
Equipment	Pressure vessel
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Enterré
Workspace	porketo



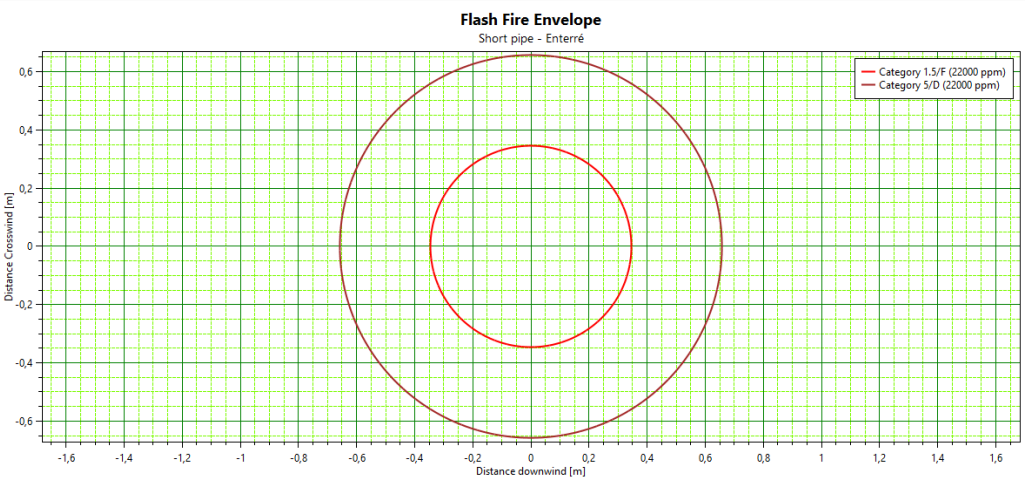
Audit Number	2393
Averaging time	Flammable (18,75 s)
Equipment	Pressure vessel
Spacing parameter for the grid in the x dimension	0,1
Material	METHANE
Material to track	METHANE
Offset from Centerline	0 m
Program	Phast 8,22
Scenario	Short pipe - Enterré
View Time	3600 s
Weather	Multiple Weather
Workspace	porketo



Audit Number	2393
Crosswind Distance	0 m
Equipment	Pressure vessel
Height of interest	1,5 m
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Enterré
Weather	Multiple Weather
Workspace	porketo



Audit Number	2393
Equipment	Pressure vessel
Height of interest	1,5 m
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Enterré
Workspace	porketo



Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (3 kW/m2) [m]	Distance downwind to intensity level 2 (5 kW/m2) [m]	Distance downwind to intensity level 3 (8 kW/m2) [m]
Study\Pressure vessel	Short pipe - Enterré	Category 1.5/F	12,1784	13,6788	9,46521	5,64252
		Category 5/D	8,91528	15,8214	12,5175	10,3597

Flash Fire Results

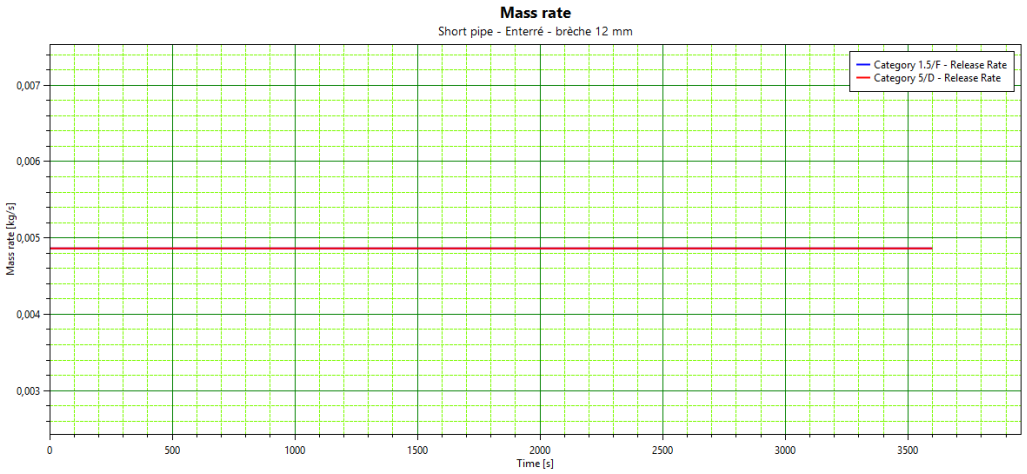
Distance downwind to defined concentrations

The reported LFL and LFL fraction are defined in the respective material property

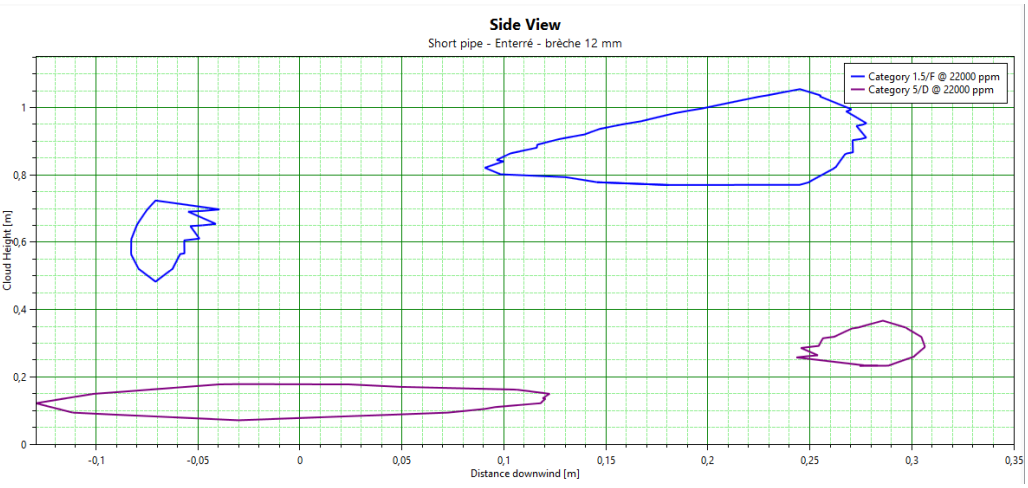
Path	Scenario	Weather	Distance downwind to LFL [m]	Distance downwind to LFL Fraction [m]
Study\Pressure vessel	Short pipe - Enterré	Category 1.5/F	0,302165	0,345826
		Category 5/D	0,543456	0,657482

PhD 2.d : Feu torche en continu	
DN : 90 mm	Brèche 12 mm
P : 300 mbar	Rejet vers le haut (vertical)
Durée : 3600 s.	**Canalisation Enterrée extérieure**

Audit Number	2476
Equipment	Pressure vessel
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Enterré - brèche 12 mm
Workspace	porketo



Audit Number	2476
Averaging time	Flammable (18,75 s)
Equipment	Pressure vessel
Spacing parameter for the grid in the x dimension	0,1
Material	METHANE
Material to track	METHANE
Offset from Centerline	0 m
Program	Phast 8,22
Scenario	Short pipe - Enterré - brèche 12 mm
View Time	3600 s
Weather	Multiple Weather
Workspace	porketo



Audit Number	2476
Crosswind Distance	0 m
Equipment	Pressure vessel
Height of interest	1,5 m
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Enterré - brèche 12 mm
Weather	Multiple Weather
Workspace	porketo

Jet Fire Results

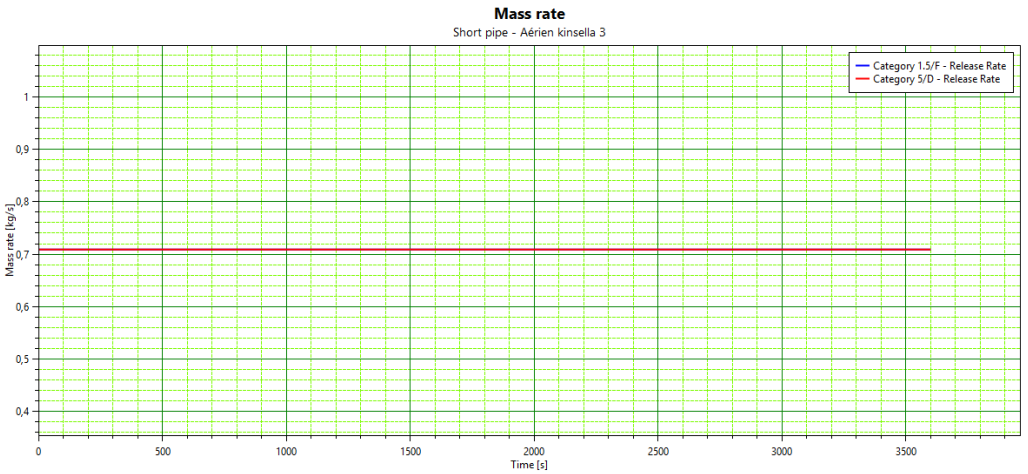
Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

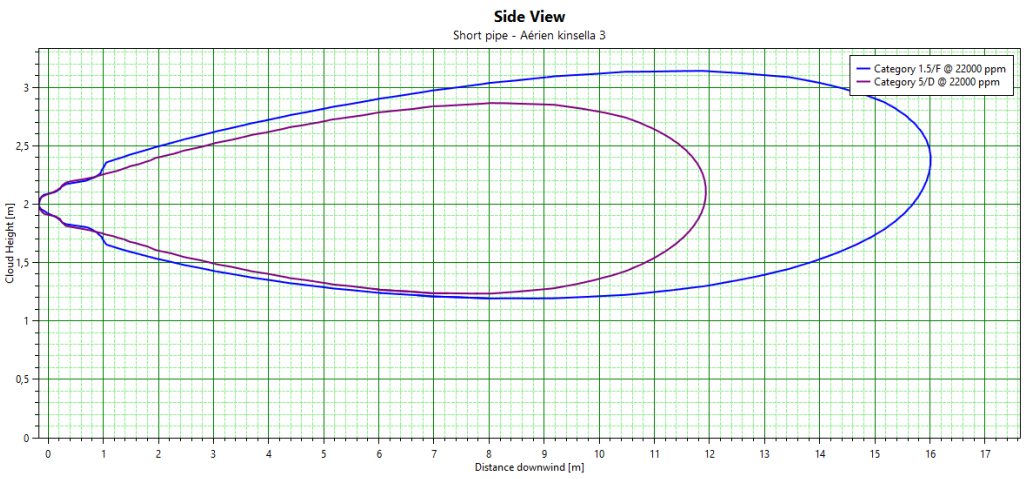
Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (3 kW/m2) [m]	Distance downwind to intensity level 2 (5 kW/m2) [m]	Distance downwind to intensity level 3 (8 kW/m2) [m]
Study\Pressure vessel	Short pipe - Enterré - brèche 12 mm	Category 1.5/F	1,64527	1,68044	1,67544	1,67544
		Category 5/D	1,20443	0,996656	n/a	n/a

PhD 3.a : Feu torche en continu PhD 3.b : UVCE PhD 3.c : Flash fire en continu	
DN : 90 mm	Rupture totale
P : 300 mbar	Rejet horizontal
Durée : 3600 s.	**Canalisation aérienne extérieure**

Audit Number	2477
Equipment	Pressure vessel
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 3
Workspace	porketo

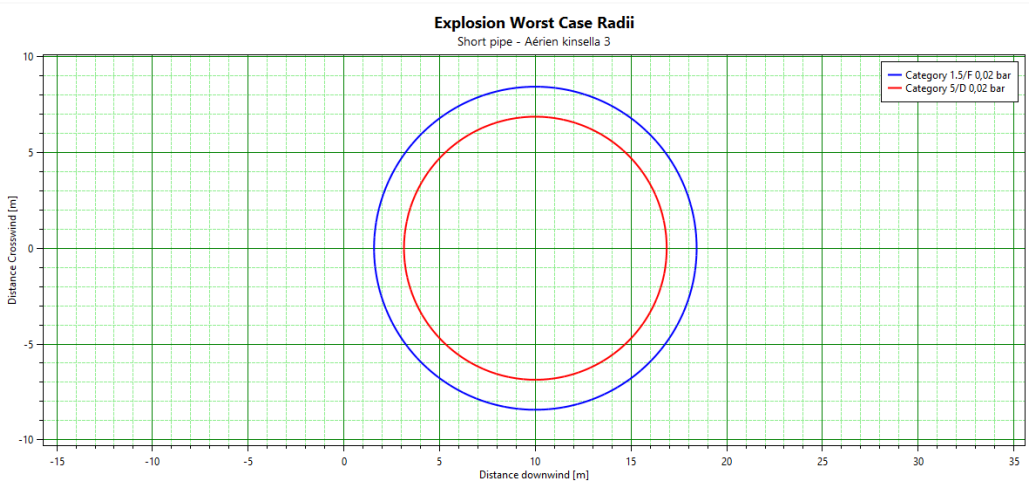


Audit Number	2477
Averaging time	Flammable (18,75 s)
Equipment	Pressure vessel
Spacing parameter for the grid in the x dimension	0,1
Material	METHANE
Material to track	METHANE
Offset from Centerline	0 m
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 3
View Time	3600 s
Weather	Multiple Weather
Workspace	porketo

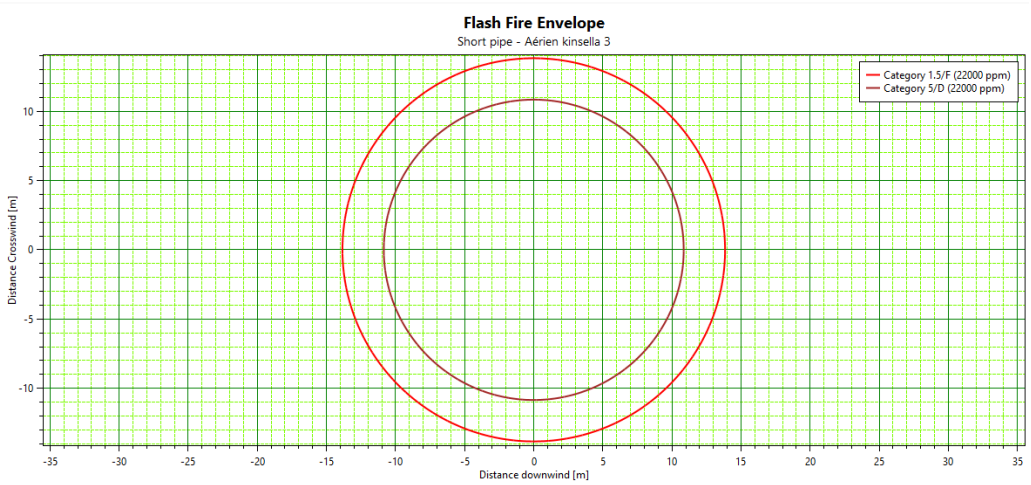


Audit Number	2477
Crosswind Distance	0 m
Equipment	Pressure vessel
Height of interest	1,5 m
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 3
Weather	Multiple Weather
Workspace	porketo

Audit Number	2477
Equipment	Pressure vessel
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 3
Weather	Multiple Weather
Workspace	porketo



Audit Number	2477
Equipment	Pressure vessel
Height of interest	1,5 m
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 3
Workspace	porketo



Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (3 kW/m2) [m]	Distance downwind to intensity level 2 (5 kW/m2) [m]	Distance downwind to intensity level 3 (8 kW/m2) [m]
Study\Pressure vessel	Short pipe - Aérien kinsella 3	Category 1.5/F	11,5775	18,4659	16,2131	14,358
		Category 5/D	14,4254	18,1074	17,1996	16,5153

Explosion Results

Explosion scenarios for worst-case maximum downwind distance to defined overpressures.

The reported overpressures are defined in the explosion parameters

Path	Scenario	Weather	Overpressure level [bar]	Maximum distance [m]	Diameter [m]
Study\Pressure vessel	Short pipe - Aérien kinsella 3	Category 1.5/F	0,02 0,05 0,14 0,2	18,4259 12,9814 Not reachable Not reachable	16,8518 5,96287 0 0
		Category 5/D	0,02 0,05 0,14 0,2	16,8613 12,4278 Not reachable Not reachable	13,7226 4,85565 0 0

Flash Fire Results

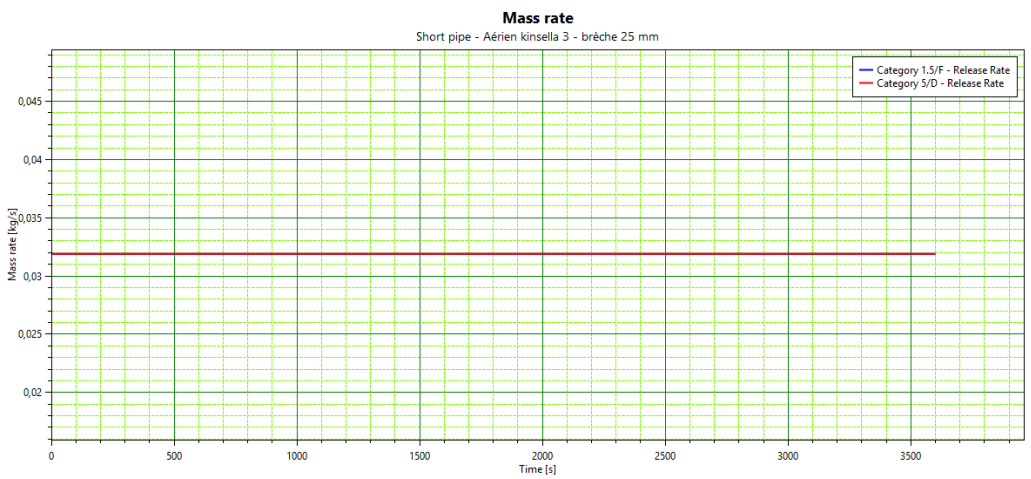
Distance downwind to defined concentrations

The reported LFL and LFL fraction are defined in the respective material property

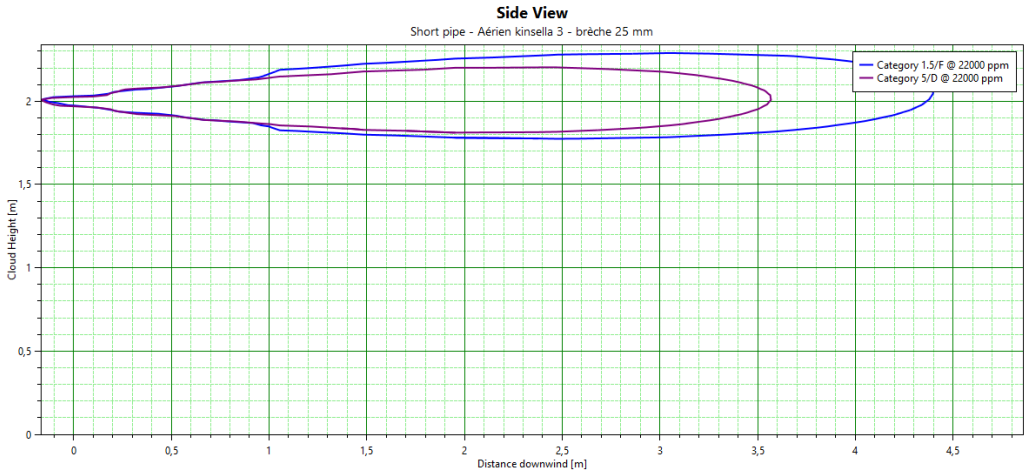
Path	Scenario	Weather	Distance downwind to LFL Fraction [m]
Study\Pressure vessel	Short pipe - Aérien kinsella 3	Category 1.5/F	13,8431
		Category 5/D	10,8511

PhD 3.d : Feu torche en continu	
DN : 90 mm	Brèche 25 mm
P : 300 mbar	Rejet horizontal
Durée : 3600 s.	**Canalisation aérienne extérieure**

Audit Number	2559
Equipment	Pressure vessel
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 3 - brèche 25 mm
Workspace	porketo



Audit Number	2559
Averaging time	Flammable (18,75 s)
Equipment	Pressure vessel
Spacing parameter for the grid in the x dimension	0,1
Material	METHANE
Material to track	METHANE
Offset from Centerline	0 m
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 3 - brèche 25 mm
View Time	3600 s
Weather	Multiple Weather
Workspace	porketo



Audit Number	2559
Crosswind Distance	0 m
Equipment	Pressure vessel
Height of interest	1,5 m
Material	METHANE
Program	Phast 8,22
Scenario	Short pipe - Aérien kinsella 3 - brèche 25 mm
Weather	Multiple Weather
Workspace	porketo

Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (3 kW/m2) [m]	Distance downwind to intensity level 2 (5 kW/m2) [m]	Distance downwind to intensity level 3 (8 kW/m2) [m]
Study\Pressure vessel	Short pipe - Aérien kinsella 3 - brèche 25 mm	Category 1.5/F	3,62391	3,70305	3,15745	n/a
		Category 5/D	4,54694	n/a	n/a	n/a

PhD 5 : Dispersion de vapeurs toxiques

Audit Number	2560
Averaging time	Multiple Averaging time
Equipment	Atmospheric storage tank
Material	NITRIC ACID
Program	Phast 8,22
Scenario	Catastrophic rupture
Workspace	porketo