-

* 1. Equipment Specifications compliance - to be provided by the equipment manufacturer

|  |  |
| --- | --- |
| **Supplier name** |  |
| **Offer reference** |  |

**C = Compliant**

**NC = Non Compliant adaptations are necessary**

**NA = Non Applicable**

| Spécification Topics | Compliant? | | | Supplier Comments | Supplier Alternative proposal | Final decision |
| --- | --- | --- | --- | --- | --- | --- |
| 1.Purpose | C | NC | NA |  |  |  |
| 7.1 Expected Spécifications | C | NC | NA |  |  |  |
| 7.3 IT equipment | C | NC | NA |  |  |  |
| 8.1 Supply limits | C | NC | NA |  |  |  |
| 8.2 Environnement facilities | C | NC | NA |  |  |  |
| 8.3 Delivery | C | NC | NA |  |  |  |
| 8.4. Conditions for performing work on the CEA site | C | NC | NA |  |  |  |
| 9-Lead Times | C | NC | NA |  |  |  |
| 10 Quality | C | NC | NA |  |  |  |
| 11 1.Risk analysis | C | NC | NA |  |  |  |
| 11.2.1- Power supply disconnection and separation device | C | NC | NA |  |  |  |
| 11.2.2 Power supply lockout/tagout device | C | NC | NA |  |  |  |
| 11.2.3- Emergency stop | C | NC | NA |  |  |  |
| 11.2.4-“Service” nitrogen or compressed air connection | C | NC | NA |  |  |  |
| 11.3.1 Risks related to electricity - Generalities | C | NC | NA |  |  |  |
| 11.3.2 Presence of an uninterruptible power supply (UPS) | C | NC | NA |  |  |  |
| 11.4- Risk related to fire | C | NC | NA |  |  |  |
| 11.5 Risks related to explosion | C | NC | NA |  |  |  |
| 11.6 Risks related to chemicals | C | NC | NA |  |  |  |
| 11.7 Risks related to handling | C | NC | NA |  |  |  |
| 11.8 Risks related to pressure vessels | C | NC | NA |  |  |  |
| 11.9 Risks related to work at height | C | NC | NA |  |  |  |
| 11.10 Risks related to artificial optical radiation | C | NC | NA |  |  |  |
| 11.11 Risks related to noise | C | NC | NA |  |  |  |
| 11.12 Risks related to temperatures | C | NC | NA |  |  |  |
| 11.13 Signalling | C | NC | NA |  |  |  |
| 11.14.1 Work equipment inspections | C | NC | NA |  |  |  |
| 11.14.2 Regulatory electrical inspections | C | NC | NA |  |  |  |
| 12. Environmental Clauses | C | NC | NA |  |  |  |
| 13. Equipment documentation | C | NC | NA |  |  |  |
| 14 Acceptance Conditions | C | NC | NA |  |  |  |
| 15.1 Training on the use of the equipment | C | NC | NA |  |  |  |
| 15.2 Training on first level maintenance | C | NC | NA |  |  |  |
| 15.3 Training on advanced maintenance | C | NC | NA |  |  |  |
| 16 Warranty | C | NC | NA |  |  |  |
| 17 Maintenance | C | NC | NA |  |  |  |
| 18 Elements to be provided in the BID | C | NC | NA |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Validation summary of the points to be clarified** | | | |
|  | ***Name*** | ***Date*** | ***Signature*** |
| ***SUPPLIER*** |  |  |  |
| ***CDPE*** |  |  |  |
| ***Division Manager*** |  |  |  |

***Dispatch: Head of the Department- CDPE (Chef de Projet Equipement) - Service Achats - Chef d’installation - Responsable plateforme***

* 1. Specifications for installing equipment - to be provided by the equipment manufacturer

Features completed with fluid requirements, power supply and any other interfaces he deems necessary for a good estimate of the cost of installing the equipment.

1) This appendix will allow the CEA to produce the fluids PID and electrical PID.

2) These PIDs will then be sent for verification to the equipment supplier for approval.

3) The Hook Up and Fit Up will begin after the official validation of the PIDs by the supplier.

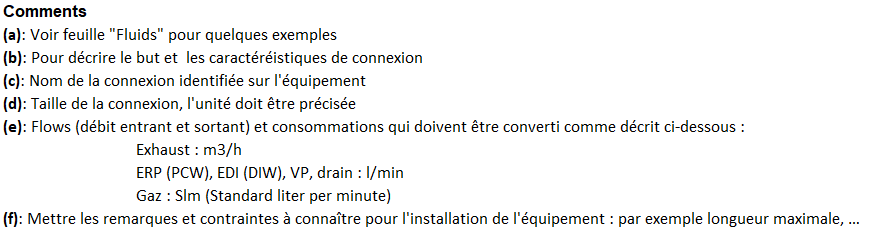


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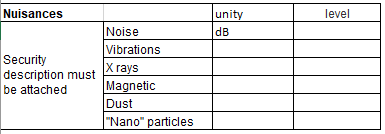














* 1. CEA INES – PUMA 2 FLUIDES GENERAUX

## A. Fluides

1. Eau de ville
2. Eau adoucie
3. Eau chaude secondaire
4. Eau glacée
5. Eau de refroidissement B1
6. Eau de refroidissement B2
7. Eau de refroidissement B3
8. Eau déionisée B1/2/3
9. Eaux usées
10. Vide process

## B. Gaz

1. Azote process
2. Azote service
3. Air comprimé
4. Argon
5. Oxygène
6. Hydrogène
7. Hélium
8. 10% PH3/H2
9. 10% B2/H6/H2
10. NH3
11. SiH4
12. CH4
13. CO2
14. 10% He/Ar
15. 5% He/Ar
16. 4% H2/N2
17. 5% H2/N2
18. C2F6
19. N2O
20. NF3
21. 1% PH3/H2
22. 0.5% B2H6/H2
23. BCL3
24. TransLC
25. POCl3

## C. Chimie

1. Ethanol ABS DENAT
2. Acétone 100%
3. Acide Acétique 99.9ù
4. HCL 37%
5. HF 50%
6. HNO3 69.5%
7. H2SO4 69.5%
8. Ammoniaque 29%
9. H2O2 30%
10. IPA 100%
11. KOH 44%
12. Ethylène Glycol

## D. Extractions

1. Extraction chaleur
2. Extraction solvant
3. Extraction acide

## E. Effluents

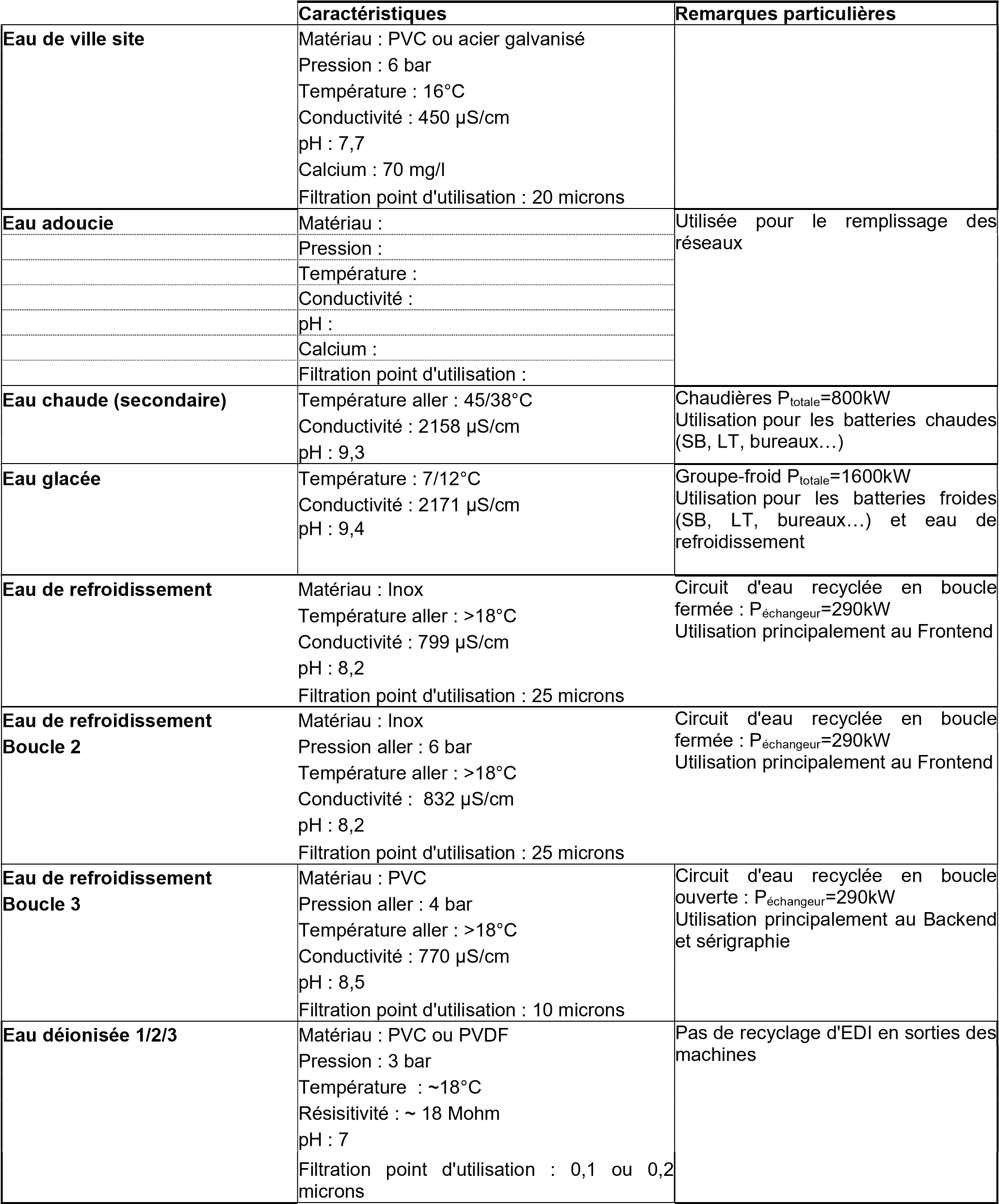
1. Effluents acido-basiques de rinçage
2. Effluents fluorés concentrés
3. Effluents acido-basiques concentrés
4. Effluents solvants

## F. Alimentation électrique

1. Monophasé
2. Triphasé

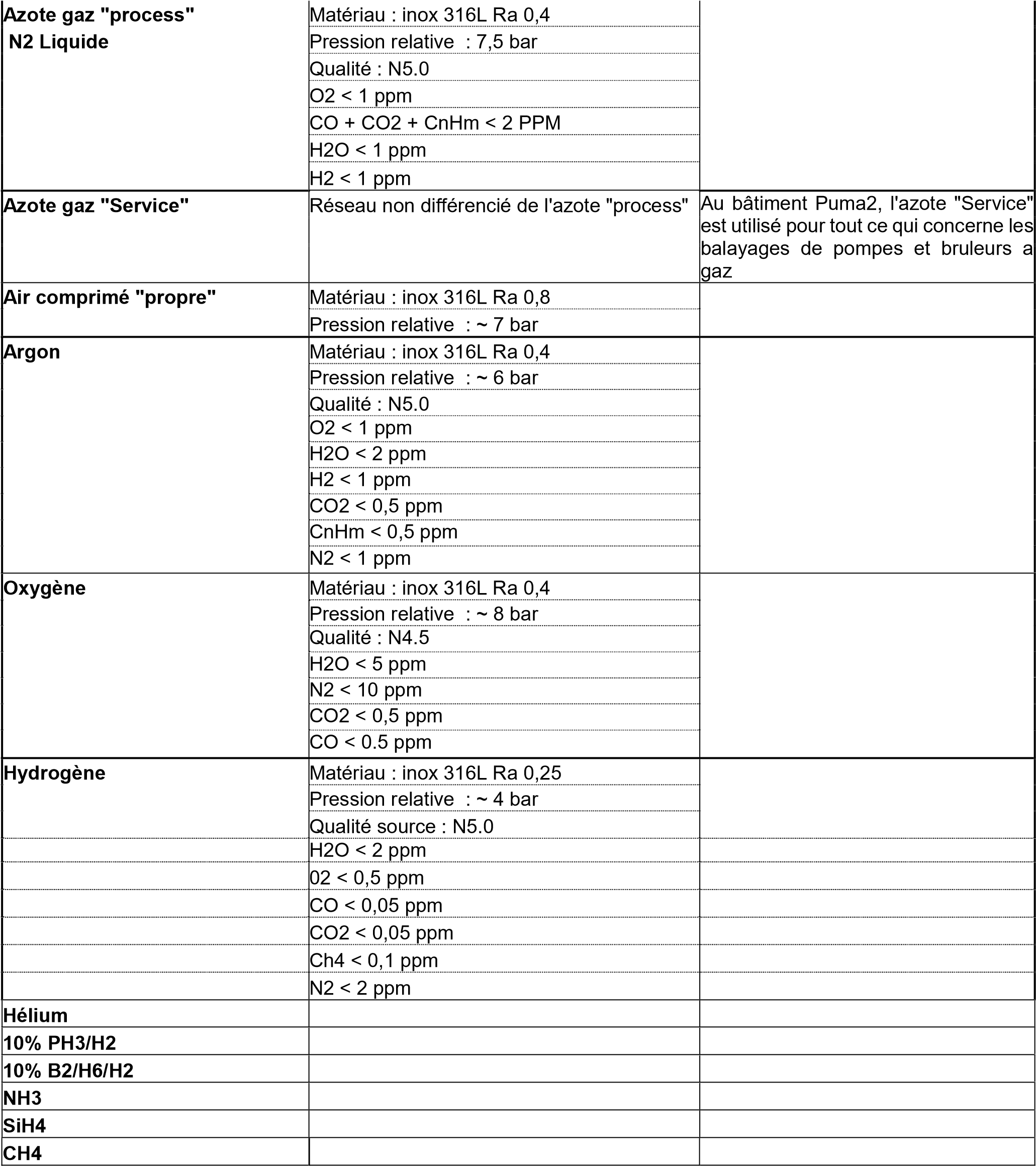
## G. Bâtiment

1. Surcharge admissible
2. Plans d’infrastructures
   * 1. **Fluides**



### Gaz

|  |  |  |
| --- | --- | --- |
| Réseau eaux usées | Matériau : PVC |  |
| Vide process | Matériau : acier galvanisé ou inox  Pression relative : ~ -700 mbar |  |



|  |  |  |
| --- | --- | --- |
| CO2 |  |  |
| 10% He/Ar |  |  |
| 5% He/Ar |  |  |
| 4% H2/N2 |  |  |
| 5%H2/N2 |  |  |
| C2F6 |  |  |
| N2O |  |  |
| NF3 |  |  |
| 1% PH3/H2 |  |  |
| 0,5% B2H6/H2 |  |  |
| BCL3 |  |  |
| TransLC |  |  |
| POCl3 |  |  |

### Chimie

|  |  |  |
| --- | --- | --- |
| Ethanol ABS DENAT | Volume : 5L |  |
| Acétone 100% | Volume : 5L |  |
| Acide Acétique 99.9% | Volume : 2.5L |  |
| HCL 37% | Volume : 30L / 2.5L |  |
| HF 50% | Volume : 56L / 2.5L |  |
| HNO3 69.5% | Volume : 2.5L |  |
| H2SO4 69.5% | Volume : 2.5L |  |
| Ammoniaque 29% | Volume : 30L / 5L |  |
| H2O2 30% | Volume : 58L / 2.5L |  |
| IPA 100% | Volume : 2.5L |  |
| KOH 44% | Volume : 60L / 2.5L |  |
| Ethylène Glycol | Volume : 5L |  |

### Extractions

|  |  |  |
| --- | --- | --- |
| Extraction chaleur | Matériau : Acier galvanisé | Rejet commun avec extraction solvant Variateurs à 74.6% au 01/2023 |
| Pression : -740Pa |
| Extraction solvant | Matériau : Acier galvanisé | Rejet commun avec extraction chaleur |
|  | Pression : -650Pa | Variateurs à 82.5% au 01/2023 |
| Extraction acide | Matériau : PVC | Rejet indépendant à Puma 2A |
|  | Pression : -1150Pa | Variateurs à 59.3% au 01/2023 |

### Effluents

|  |  |  |  |
| --- | --- | --- | --- |
| Réseau effluents acido-basique de rincage | Matériau : PEHD | Retraité en local dans une centrale de neutralisation - limitation impérative de la température de rejet en sortie machine --> inférieure à 60°C |  |
| Réseau effluents fluorés concentrés | Matériau : PEHD | Collecté en cuve pour retraitement hors site - limitation impérative de la température de rejet en sortie machine |  |
|  |  | --> inférieure à 60°C --> gravitaire. | vidange |
| Réseau effluents acido-basique concentrés | Matériau : PEHD | Collecté en cuve pour retraitement hors site - limitation impérative de la température de rejet en sortie machine |  |
|  |  | --> inférieure à 60°C --> gravitaire. | vidange |
| Réseau effluents solvants | Matériau : acier galvanisé | Collecté en cuve 30 litres pour retraitement hors site | |

### Alimentation électrique

|  |  |  |
| --- | --- | --- |
| Transformateur | 2 transformateurs 1600 kVA |  |
| Monophasé/Triphasé | 3 phases + neutre + terre  Phase/Phase tension: 400 V +/- 10 %  Phase/Neutre tension: 220 V + / - 10 % | Fréquence: 50 Hz  Régime neutre TNS |