

# ACIERS REFRACTAIRES POUR **TRAITEMENT THERMIQUE**

|                 | TREMPE / CEMENTATION                          | TREMPE                    | HYPERTREMPE               | RECUIT                    | MALLEABILISATION     | TREMPE ETAGEE              | EMAILLAGE                 | FRITTAGE                   | BRASAGE                   | PIECES FOUR               |
|-----------------|---|---------------------------|---------------------------|---------------------------|----------------------|----------------------------|---------------------------|----------------------------|---------------------------|---------------------------|
| <b>1 200°C</b>  | ACIERS RAPIDES                                |                           |                           |                           |                      |                            |                           | POUDRES                    | PIECES DIVERSES           |                           |
| MEDIA DE TREMPE | GAZ   | HUILE                     | SELS ISOTH.               |                           |                      |                            |                           |                            |                           |                           |
| ATMOSPHERE      | NEUTRE / SOUS VIDE                            |                           |                           |                           |                      |                            |                           |                            | SOUS VIDE                 |                           |
|                 | CFC Sic / CFC + revêtement                    |                           |                           |                           |                      |                            |                           | HR 23<br>Z50 NCW 48-28-05  | HR 23<br>Z50 NCW 48-28-05 | HR 23<br>Z50 NCW 48-28-05 |
|                 | CFC   |                           |                           |                           |                      |                            |                           |                            |                           |                           |
|                 | HR 38   |                           |                           |                           |                      |                            |                           |                            |                           |                           |
|                 | HR 23<br>Z50 NCW 48-28-05                     |                           |                           |                           |                      |                            |                           |                            |                           |                           |
| <b>1 100°C</b>  | ACIERS RAPIDES / ACIERS MARTENSITIQUES        |                           | INOX AUSTENITIQUE         |                           |                      |                            |                           | POUDRES                    | PIECES DIVERSES           |                           |
| MEDIA DE TREMPE | GAZ   | HUILE                     | SELS ISOTH.               | GAZ                       | EAU                  |                            |                           |                            |                           |                           |
| ATMOSPHERE      | NEUTRE / SOUS VIDE                            |                           | NEUTRE / SOUS VIDE        |                           |                      |                            |                           |                            | SOUS VIDE                 |                           |
|                 | <b>MANCELLIUM</b>                             |                           |                           | HR 38                     |                      |                            |                           | HR 23<br>Z50 NCW 48-28-05  | HR 4<br>Z60 NC 52-17      | HR 23<br>Z50 NCW 48-28-05 |
|                 | HR 38   |                           |                           | HR 9<br>Z15 NCNb 32-20-01 |                      |                            |                           | HR 4<br>Z60 NC 52-17       |                           | HR 4<br>Z60 NC 52-17      |
|                 | HR 4 Nb<br>Z60 NC 52-17 (+Nb)                 |                           |                           | HR 4<br>Z60 NC 52-17      |                      |                            |                           |                            |                           |                           |
|                 | HR 4<br>Z60 NC 52-17                          |                           |                           | HR 8<br>Z25 NCNb 38-18-02 |                      |                            |                           |                            |                           |                           |
|                 | HR 23<br>Z50 NCW 48-28-05                     |                           |                           |                           |                      |                            |                           |                            |                           |                           |
| <b>1 050°C</b>  | ACIERS A OUTILS ET ACIERS INOX MARTENSITIQUES |                           | INOX AUSTENITIQUE         |                           |                      |                            |                           | ACIERS                     | POUDRES                   | PIECES DIVERSES           |
| MEDIA DE TREMPE | AIR   | GAZ                       | HUILE                     | SELS ISOTH.               | EAU                  | POLYMERES                  | CBP                       | GAZ                        | EAU                       | GAZ                       |
| ATMOSPHERE      | NEUTRE / SOUS VIDE OU CEMENTATION             |                           | NEUTRE / SOUS VIDE        | NEUTRE / SOUS VIDE        | NEUTRE / CARB        |                            |                           | FOUR / AIR                 |                           | SOUS VIDE                 |
|                 | HR 4<br>Z60 NC 52-17                          | HR 9<br>Z15 NCNb 32-20-01 | <b>MANCELLIUM</b>         | HR 9<br>Z15 NCNb 32-20-01 | <b>HRZ</b>           | HR 4<br>Z60 NC 52-17       |                           | HR 4<br>Z60 NC 52-17       | HR 4<br>Z60 NC 52-17      | HR 4<br>Z60 NC 52-17      |
|                 | HR 33Nb<br>Z40 NCNb 35-25-02                  |                           |                           | <b>HRZ</b>                | HR 6<br>Z40 NC 25-20 | HR 25<br>Z40 NCNb 24-24-02 |                           |                            | <b>HRZ</b>                |                           |
| <b>1 000°C</b>  | ACIERS DE TREMPE DE CEMENTATION OU A OUTIL    |                           |                           |                           |                      |                            |                           | ACIERS                     |                           |                           |
| MEDIA DE TREMPE | AIR   | GAZ                       | HUILE                     | SELS ISOTH.               | EAU                  | POLYMERES                  | CBP                       | GAZ                        | EAU                       | FOUR                      |
| ATMOSPHERE      | NEUTRE / SOUS VIDE OU CEMENTATION             |                           | NEUTRE / SOUS VIDE        | NEUTRE / CARB             | NEUTRE               |                            |                           | FOUR / AIR                 |                           |                           |
|                 | HR 33<br>Z40 NC 35-25                         | HR 8                      | HR 9<br>Z15 NCNb 32-20-01 | <b>MANCELLIUM</b>         | <b>HRZ</b>           | HR 4<br>Z60 NC 52-17       | HR 8<br>Z25 NCNb 38-18-02 | HR 4<br>Z60 NC 52-17       |                           |                           |
|                 | HR 32<br>Z40 NCNb 38-18-02                    | HR 8<br>Z25 NCNb 38-18-02 |                           |                           | HR 6<br>Z40 NC 25-20 | HR 25<br>Z40 NCNb 24-24-02 | HR 5<br>Z40 NC 38-18      | HR 32<br>Z40 NCNb 38-18-02 | HR 17<br>Z40 NC 35-15     |                           |
|                 | HR 5<br>Z40 NC 38-18                          |                           |                           |                           | HR 7<br>Z40 NC 25-12 |                            | <b>HRZ</b>                |                            |                           |                           |
|                 | HR 17 Nb / HR 17<br>Z40 NC 35-15 (+Nb)        |                           |                           |                           |                      |                            | HR 6<br>Z40 CN 25-20      |                            |                           |                           |
|                 | <b>HRZ</b>                                    |                           |                           |                           |                      |                            |                           |                            |                           |                           |
|                 | HR 6<br>Z40 CN 25-20                          |                           |                           |                           |                      |                            |                           |                            |                           |                           |

900°C