



1303 North Service Road East, Unit #1, Oakville, ON L6H 1A7 Phone: (905)842-1700;Fax: (905)842-5802

## **304/L SEAMLESS PIPE**

| MATERIAL SPECIFICATI            | ONS   | PREPARED BY: H.POPE   | REVISION                           | I DATE: 03/15/2013                  |  |
|---------------------------------|---|---|------------------------------------|-------------------------------------|--|
| MATERIAL                        | 304/304L STAINLESS ST                         | 304/304L STAINLESS STEEL SEAMLESS PIPE<br>LENGTH 20-24' PLAIN ENDS                      |                                    | COLD/HOT FINISHED<br>DUAL CERTIFIED |  |
|                                 | LENGTH 20-24'                                 |   |                                    |                                     |  |
|                                 |   |   |                                    |                                     |  |
| SPECIFICATIONS                  | ALL SPECIFICATIONS WITH LATEST YEAR REVISIONS |   |                                    |                                     |  |
|                                 |   | ASTM A 312, ASTM A262 PRACTICE E, ASTM A 999<br>ASME SA 312, NACE MR 0175, EN 10204 3.1 |                                    |                                     |  |
|                                 |   | E/  |                                    |                                     |  |
| CHEMICAL ANALYSIS               |   | MECHANICAL PROPE  | MECHANICAL PROPERTIES              |                                     |  |
| Carbon ( C)                     | .035  | Tensile Strength  | 75 KSI                             | 515 Mpa                             |  |
| Manganses (Mn)                  | 2.00  |   |                                    |                                     |  |
| Phosphorus (P)                  | .045  | Yield Strength  | 30 KSI                             | 205 Mpa                             |  |
| Sulfur (S)                      | .03   |   |                                    |                                     |  |
| Silicon (Si)                    | 1.00  | Elongation  | 35%                                |                                     |  |
| Chromium (Cr)                   | 18.00-20.00                                   | 2 inch min %  |                                    |                                     |  |
| Nickel (Ni)                     | 8.00-13.00                                    |   |                                    |                                     |  |
| Molybdenum (Mo)                 |   |   | 2                                  |                                     |  |
| Titanium (Ti)                   |   | Hardness  | 90 HRB                             | maximum                             |  |
| Nitrogen (N)                    |   |   |                                    |                                     |  |
| Copper (Cu)                     |   |   | 50                                 |                                     |  |
|                                 | The % of Cobalt must be reported              |   | 07                                 |                                     |  |
| Other                           |   |   | UT.                                |                                     |  |
| All singular chemistry values a | are   | All singular mechanical val   | All singular mechanical values are |                                     |  |
| MAXIMUM unless otherwise r      | noted   | MINIMUM unless otherwise  | MINIMUM unless otherwise noted     |                                     |  |

## OTHER TEST(S) AND/OR REQUIREMENTS

BEND AND FLATTENING TEST ULTRASONIC, EDDY CURRENT, OR HYDROSTATIC PRESSURE TESTED TYPE OF NON-DESTRUCTIVE ELECTRIC TEST PREFORMED, OR ACTUAL HYDROSTATIC TEST PRESSURE FOR MATERIAL SUBJECT TO THIS TEST. MERCURY FREE CONTAMINATION STATEMENT NO WELD REPAIR STATEMENT PMI (Positive Material Identification) TESTED. LINE MARKING TO INCLUDE PMI SOLUTION ANNEALED TEMP. 1900 F / 1040 C MINIMUM AND WATER QUENCHED OR RAPIDLY COOLED HEAT TREATMENT, FINISHED CONDITION AND MELTING PROCESS MUST BE REPORTED. PLAIN ENDS, RANDOM 20-24' LENGTHS ALL PIPE TO BE CONTINUOUSLY LINE MARKED. MARKING INK MUST NOT CONTAIN HALOGENS. EACH SIZE AND HEAT MUST BE BUNDLED SEPARATELY AND CLEARLY TAGGED STANDARD SEA WORTHY PACKING. COMPLETELY WRAPPED WITH LIFTING NYLON STRAPS BUNDLE WEIGHT 2000 LBS MAXIMUM

## **IMPORTANT:**

ORIGINAL CERTIFICATES OF CHEMICAL & PHYSICAL ANALYSIS REQUIRED TWO (2) WEEKS BEFORE SHIPMENT ARRIVES ALL TEST REPORTS MUST STATE COUNTRY OF ORIGIN ALL TEST REPORTS MUST HAVE THE POSITION AND NAME OF AUTHORIZED PERSON PRINTED ALL TEST REPORTS MUST BE SIGNED ISO CERTIFIED STATEMENT