

# PETROFLANGE

|                      |                                     |                  |               |
|----------------------|-------------------------------------|------------------|---------------|
| <b>DISTRIBUIDOR:</b> | INDUSTRIAS IBERO STEEL S.A. DE C.V. | <b>Folio:</b>    | 2733          |
| <b>Vendido a:</b>    |                                     | <b>Cert. No.</b> | PF-3585-86433 |
| <b>Pedido:</b>       |                                     | <b>Date.</b>     | MARZO-2020    |

|             |  |                |  |   |  |  |  |
|-------------|--|----------------|--|---|--|--|--|
| HEAT NO.    |  | MATERIAL GRADE |  | STANDARD  |  | Technical Requirements                   |  |
| 16453       |  | MSS-SP-97-2012 |  | ASTM A105-14/ASME SA-105-N /NACE MR-0175/ISO 15156 (2015) /<br>MIR0103/ISO 17495-1 : 2016 |  | ASME BRG.1 - 2016 NRE-09-6<br>PRMEX-2010 |  |
| DESCRIPTION |  | QTY (PCS)      |  | INSPECTION  |  | SATISFACTORY                             |  |
| 1 RZ863     |  | 10             |  | TEE 6000# S.W. 2"   |  |  |  |
| 2 RZ340     |  | 10             |  | RED. TEE 6000# S.W. 1-1/2" X 3/4"   |  |  |  |
| 3 RZ340     |  | 10             |  | RED. TEE 6000# S.W. 2" X 1"   |  |  |  |
| 4 18-210877 |  | 10             |  | RED. TEE 6000# S.W. 2" X 3/4"   |  |  |  |

CE = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu) /15  
 NOTE: FORGED ROLLED 1150°C -1200°C  
 NORMALIZED 900°C AND ALLOWED TO COOL IN STILL AIR

| ITEM | CHEMICAL COMPOSITION % |                |                 |                 |                |                |                 |      |                 |                |                 | MECHANICAL PROPERTIES |                      |                                |                        |                        |
|------|------------------------|----------------|-----------------|-----------------|----------------|----------------|-----------------|------|-----------------|----------------|-----------------|-----------------------|----------------------|--------------------------------|------------------------|------------------------|
|      | HEAT NO.               | C <sup>%</sup> | Si <sup>%</sup> | Mn <sup>%</sup> | P <sup>%</sup> | S <sup>%</sup> | Cr <sup>%</sup> | Ni   | Mo <sup>%</sup> | V <sup>%</sup> | Cu <sup>%</sup> | BRINELL HARDNESS      | TENSILE STRENGTH MPA | YIELD STRENGTH 0.2% OFFSET MPA | ELONGATION In 2 inch % | REDUCTION OF AREA MIN% |
|      | MIN                    | 0.10           | 0.60            |                 |                |                |                 |      |                 |                |                 | 187                   | 485                  | 250                            | 22                     | 30                     |
|      | MAX                    | 0.35           | 0.35            | 1.05            | 0.035          | 0.040          | 0.30            | 0.40 | 0.120           | 0.08           | 0.40            | 187                   | 507                  | 310                            | 33                     | 44                     |
| 1    | 16453                  | 0.25           | 0.21            | 1.01            | 0.022          | 0.021          | 0.16            | 0.15 | 0.075           | 0.01           | 0.12            | 183                   | 502                  | 303                            | 33                     | 35                     |
| 2    | RZ863                  | 0.25           | 0.15            | 0.69            | 0.011          | 0.012          | 0.15            | 0.13 | 0.081           | 0.01           | 0.02            | 179                   | 496                  | 303                            | 34                     | 35                     |
| 3    | RZ340                  | 0.23           | 0.18            | 0.66            | 0.011          | 0.015          | 0.20            | 0.11 | 0.076           | 0.01           | 0.14            | 183                   | 506                  | 286                            | 46                     | 39                     |
| 4    | 18-210877              | 0.33           | 0.20            | 0.88            | 0.022          | 0.027          | 0.23            | 0.31 | 0.115           | 0.01           | 0.36            | 182                   |                      |                                |                        |                        |