

Hydraulic Test (according ASTM F 441/FF441M-02) at room temperature 22°C for one hour

The assemblies composed of pipe , were subjected to the following procedure:

The three assemblies were subjected to 40 bar (during test duration for one hour, no cracks or any damage is completely observed). Barometric pressure are one atm.

Another test for higher temporary pressure the three assemblies were subjected to 50 bar at room temperature for 15 minutes (during test duration for one hour, no cracks or any damage is completely observed). Barometric pressure are one atm. The three assemblies afford test without any leakage or drop in test pressure.

الاختبار الهيدروليكي (وفقاً للمواصفة ASTM F 441/FF441M-02) عند درجة حرارة الغرفة ٢٢ درجة

منوية لمدة ساعة واحدة

تم إخضاع التجميعات المكونة من الأنابيب للإجراء التالي:

تم تعريض التجميعات الثلاثة لضغط ٤٠ بار (خلال مدة الاختبار لمدة ساعة واحدة، لم يلاحظ أي تشققات أو أي ضرر بشكل كامل). الضغط الجوي هو واحد ATM.

اختبار آخر لارتفاع الضغط المؤقت تم تعريض المجموعات الثلاثة إلى ٥٠ بار في درجة حرارة الغرفة لمدة ١٥ دقيقة (خلال مدة الاختبار لمدة ساعة واحدة، لم يلاحظ أي شقوق أو أي ضرر تماماً). الضغط الجوي هو واحد

ATM.

تتحمل المجموعات الثلاثة الاختبار دون أي تسرب أو انخفاض في ضغط الاختبار.

تكنولوجيا نلصليب
رقم التسجيل: ٦٥٢٩٥١٤٤٩
سجل تجاري: ١٧٤٣٧٥



2- Chemical Test:

Test equipment: ARL 3460 spectrometer Arc/Spark OES

| ID(s)- avg. of 2 runs of each ID | Elements Analyzed, % | | | | | | | | | | | | | |
|---|----------------------|------|-------|-------|------------|------|-------|------|-------|------|-------|------|------|------|
| | C | Si | Mn | Cr | Mo | Ni | AL | Co | Cu | Nb | Ti | V | W | Fe |
| Sample 1 | <0.01 | 0.00 | 0.085 | 0.047 | <0.00 1 | 0.09 | 0.064 | 0.09 | 0.014 | 0.00 | 0.049 | 0.12 | 0.04 | 99.4 |
| Sample 2 | <0.01 | 0.05 | 0.34 | 0.043 | <0.00 4 | 0.07 | 0.036 | 0.07 | 0.007 | 0.00 | 0.000 | 0.12 | 0.00 | 99.2 |
| Sample 3 | <0.01 | 0.06 | 0.36 | 0.042 | <0.00 4 | 0.09 | 0.048 | 0.10 | 0.008 | 0.00 | 0.000 | 0.12 | 0.04 | 99.1 |

- The tests result represent a sample provided – by the customer- to the Lab only and do not represent the quantities of production or any other quantities belongs to the customer.

Mechanical Tests: Test machine SHIMADZU /UH 1000KMX Universal Testing machine.

| Test | Specimen | Sample 1 | Sample 2 | Sample 2 |
|-----------------------------|----------|----------|----------|----------|
| Dimension inch | | 1 | 2 | 2 |
| Yield stress, MPa | | 264 | 383 | 375 |
| Ultimate Tensile stress MPa | | 320 | 501 | 483 |
| Elongation, Longitudinal % | | 27 | 22 | 20 |
| Hardness HRC | | 21 | 20 | 20 |

Number of specimens passed the test (All THREE)

Number of specimens Failed the test (Non)

Tests were carried out according to 227-28/10/2021

*All information was taken from the client letter (on his sole responsibility) or from the delivered specimens.




تكنولوجيا للصلاب
رقم التسجيل: ١٤٢٩٥١٤٤٩
سجل تجاري: ١٧٤٢٧٥

Dimensions:

Specimen sample 1 (cylinder Diameter 1 inch) wall thickness 3.38 rating of schedule 40 seamless pipe of equivalent material (reference: ANSI B16.11) and density 2.52 kg/m.

Specimen sample 2 (cylinder Diameter 1.5 inch) wall thickness 3.68 rating of schedule 40 seamless pipe of equivalent material (reference: ANSI B16.11) and density 4.053 kg/m.

Specimen sample 3 (cylinder Diameter 2 inch) wall thickness 3.91 rating of schedule 40 seamless pipe of equivalent material (reference: ANSI B16.11) and density 5.44 kg/m.

Conformity Report

Final Evaluation:

According to compliance with EN 10025-2:2004

- 1- The Specimen tensile properties are in conformity with ASTM A53
- 2- The Specimen chemical analysis is in conformity with ASTM A53

Conclusion

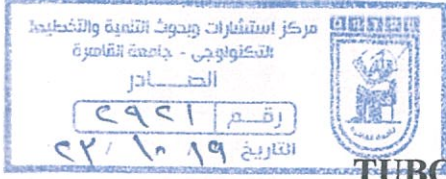
Test specimens had Passed all the required tests satisfactory.

Report Prepared by :



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DRTPC Consultant





TUBOLOGY STEEL السادة/ مصنع تيوبولوجي للصلب وتشغيل المعادن
القطعة ١٢ بالمنطقة الصناعية بمدينة بدر - القاهرة

تحية طيبة و بعد.....

التالي نتائج اختبار هيدروستاتيكي وتحليل كيميائي اختبار ميكانيكي على عينتين عبارة عن ثلاث
إسطوانات مصنوعة من الحديد تم توريدها بمعرفة العميل و النتائج لا تمثل إلا العينات التي تم
اختبارها.

Test Report:

The results of a hydrostatic test and a chemical analysis, a mechanical test on three
samples consisting of three iron cylinders that were supplied with the knowledge of
the customer, and the results represent only the samples that have been tested.

| | | |
|--------------|--|----------------|
| DRTPC | Project Number | DRTPC23 |
| | Certification Number | 2023/ DRTPC5/7 |
| | Test Date | 16/10/2023 |
| Sample(s) ID | 1 (cylinder Diameter 1 inch) 2 (cylinder Diameter 1.5 inch) 3 (cylinder Diameter 2 inch) | |

Date of Receipt: 11/10/2023

Issue Date: 17/10/2023

Test Condition

Temperature: 23°C

Humidity: 55% RH

| | | | |
|---|---|-----------------|---|
| Date of Request | 11/10/2023 | Number of pages | 4 |
| Test(s) Required: | Hydraulic, Mechanical and Chemical | | |
| Test Item Description: | Three different diameter random samples | | |
| • The customer sent different of random samples | | | |

