HASÇELİK

**HASCELIK SANAYI VE TICARET A.S.**

# KALITE BELGESI / MILL TEST CERTIFICATE

ISO / TS 16949
ISO 9001 / 2008
OHSAS18001

| | | | |
|---|---|---|---|
| Musteri Adi / Customer Name: | | Tarih / Date Of Issue: | 21.8.2024 |
| Urun Adi / Product Name: | COLD DRAWN ROUND BAR | Kesit / Size (mm): | 19,05 |
| Stok Adi / Stock Code: | Y019.99X000.00 HPR (A55/AISI1045) M 00 CO/EN 10823 h13/SC P78 | Kalite / Grade material: | ASTM F1554 G55 |
| Irsalive No / Waybill No: | | Dôkûm No / Heat No: | 1703477 |
| Standart / Material Norm: | EN 10300 h8 | Agirlik / Net-Gross Weight (Kgs) | 3993 |
| Siparis No / Order No: | | | |
| Evrak No / Certificate No: | HPR-2024-08-5783 | | |

Çelik Yapim Metodu / Steel Making Method: Elektrik Ark Ocagî / Electric Arc Fumace

## KIMYASAL KOMPOZISYON / CHEMICAL COMPOSITION IN PRODUCT

| C% | Si% | Mn% | P% | S% | Cr% | Mo% | Ni% | Cu% | AL% | N% | Pb% | V% | Ti% | B% | Sn% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,45 | 0,30 | 0,70 | 0,04 | 0,05 | 0,10 | - | - | 0,20 | - | - | - | - | - | - | - |

## MEKANIK ÖZELLIKLER / MECHANICAL PROPERTIES

| | Akma N/mm2<br>Tensile strength (KSI) | Çekme N/mm2<br>Proof load (KSI) | Uzama (%)<br>Elongation (%) | Sertjik HB<br>Rokwell Hardness | Alan küçültme (%)<br>Reduction of Area min ( %) |
|---|---|---|---|---|---|
| Standar Min - Max | 75 - 95 | 55 - 65 | 21 | C19 - C 34 | 30 |
| Test Result | 84 | 60 | 21 | C28 | 32 |

**Görsel Muayene:** Uygun
**Vakum Durumu: (M) Vakumsuz**
**Yüzey Çatlak Testi: Test Yapilmadi**
**Ultrasonik Test: Test Yapilmadi**
**Parlak Malzeme Yüzay Çatlak Testi: Test Yapilmadi**
**Radyoaktivite Yoktur**

**Visual control:** OK
**Vacuum Condition: None Vacuum Degassed**
**Surface Crack Test: None Tested**
**Ultrasonic Test: None Tested**
**Surface Crack Test Of Bright Products: None Tested**
**Radioactivity Free**

Bu belge yukanda tanimi yapilan maizeme için isiak imzali clarak düzanlenmistir . Çogaltilmis kopyalann guvenliginden HASÇELIK Sorumlu degildir. Malzemelarin test edildigi va sipans sartlanna uygun oldugu onaylanir . Kusku durumunda geçerli belge olarak HASÇELIK leky kaynak kopyaya basvurulmalidir. Bu maizeme AT900-4400 Cihazi ile % 100 radyoaktif testten geçinlmis hammadde ile üreblmistir. Hasçelik San , vi Tic. A.S. Vakumlu/UT Kontrollû/Yüzey Çatlak Kontrollû/Tamamlamali ürünlere kimyasal kompozisyon garantisi ile birlikte tedarikçilenn HASÇELIK e verdigi garanti kapsamindaki garanti sartlanni mûslerilerine sunmaktadir. VAkum$uz/Vakumlu ürünler için kimyasal kompozisyon diŞinda herhangi bir garanti venlmemekfedir Otusabilecek herhangi bir kalite sorununda HASÇELIK sadece maizeme bedeli kadar sorumludur. Garanti Şartlan disinda mûŞteride veya sonraki proseslerde ortaya çikan olûmsuz durumlarda boy kesilmemis/islenmemis malzemenin leknik/ticari olarak iade alinmasi disinda HASÇELIK San , vi Tic. A.S. herhang bir konuda yukûmlu tululamaz

# QUALITY CERTIFICATE

## NINGBO SUNSHINE IMPORT & EXPORT CO., LTD.

24TH FLOOR, BLOCK B, JIAHENG PLAZA, NO.1888 ZHONGSHAN EAST ROAD, NINGBO, CHINA, 315040

Customer:

DESCRIPTION: HEAVY HEX NUT

Class: 2H

SIZE 3/4-10

Quantity: 100.686PCS

Marking: F 2H

Invoice No: 18TYP0653

SC NO. 17TYP617

CODE 37653

LOT NO. 112617

IMPO 762-11(A)

DIMENSIONS OF SPEC

| Inspection Items | Standard | Result |
|---|---|---|
| VISUAL APPEARANCE | ---------- | OK |
| WIDTH ACROSS FLATS | 30.78-31.75 | 30.33-31.45 |
| WIDTH ACROSS Corners | 35.10-36.65 | 35.2-35.66 |
| HEIGHT | 18.03-19.25 | 19.2-19.65 |
| MECHANICAL PROPERTIES | | |
| CHARACTERISTICS | Standard | Result |
| HARDNESS [HRC] | 24-35 | 27-33 |
| PROOF LOAD [IBF] | min 58450 | 60145 |
| MAGNETIC PARTICLE TESTING | | 100%OK |
| CHEMICAL COMPOSITION(%) | | |

| MILL HEAT | C | Si | Mn | P | S | Cr | Ni | Cu | Mo | B |
|---|---|---|---|---|---|---|---|---|---|---|
| G731101025 | 0.43 | 0.18 | 0.64 | 0.01 | 0.015 | | | | | |
| Surface Coating: | HDG | | | | | | | | | |

The information on chemical composition is based on the test certificate received from the steel mill or supplier

宁波荣正进出口有限公司
NINGBO SUNSHINE IMPORT & EXPORT CO.,LTD.

Material described in this document has been inspected under the parameters set forth and found to be in conformance with the physical requirement

We certify the above product meets specific requirement

Quality Control Supervisor 高育良

Quality Control Manager 李达康

**SHANGHAI PRIME MACHINERY CO.,LTD.**
15TH FLOOR 600 HENGFENG ROAD 200070 SHANGHAI
FAX: 86-21-63177538/63178909

# QUALITY CERTIFICATE



CONSIGNOR: SHANGHAI PRIME MACHINERY CO.,LTD.

CONSIGNEE:

CONTRACTNO: 70018176

INVOICE NO. : 10015652

COMMODITY: F436 H.D.G. BULK

SIZE: 3/8、5/8、1/2、3/4、7/8、1、1-1/8、1-1/4、1-1/2、1-5/8、1-3/4、2、2-1/4、2-1/2、2-3/4、3

QUANTITY: X1000PCS 104.400、300.000、100.300、52.800、50.400、20.160、30.060、5.000、3.040、2.000、2.000、1.170

## RESULT OF TESTING:

MATERIAL: 45#

| C | Si | Mn | S | P | Cr | Ni | Mo | Ti | B |
|---|---|---|---|---|---|---|---|---|---|
| 0.450 | 0.190 | 0.610 | 0.008 | 0.016 | | | | | |

## MECHANICAL PROPERTIES:

| Hardness | HR | HRC | 26-45 |
|---|---|---|---|

SAMPLES DRAWN FROM EACH SPECIFICATION OF THE ABOVE MENTIONED GOODS AT RANDOM WERE TESTED AND IT WAS FOUND THE MATERIAL AND DIMENSION WERE UP TO THE EQUIREMENT OF RELATIVE STANDARD.

INSPECTED BY: GU WEIHUA SURVEYOR TO: YAO JIHUA

QUALITY CONTROL DEPARTMENT:

SHANGHAI PRIME MACHINERY CO.,LTD.

HASÇELİK

ISO / TS 16949
ISO 9001 / 2008
OHSAS18001

**HASCELIK SANAYI VE TICARET A.S.**

# KALITE BELGESI / MILL TEST CERTIFICATE

| | | | |
|---|---|---|---|
| Musteri Adi / Customer Name: | | Tarih / Date Of Issue: | 14.09.2024 |
| Urun Adi / Product Name: | COLD DRAWN ROUND BAR | Kesit / Size (mm): | 22.225 |
| Stok Adi / Stock Code: | Y017.47X000.00 HPR (A55) M 00 CO/EN 10394 h9/SC P19 | Kalite / Grade material: | ASTM F1554 G55 |
| Irsaliye No / Waybill No: | | Dökûm No / Heat No: | 1704552 |
| Standart / Material Norm: | EN 10343 h9 | Agirlik / Net-Gross Weight (Kgs) | 3995 |
| Siparis No / Order No: | | | |
| Evrak No / Certificate No: | HPR-2024-09-5255 | Celik Yapim Metodu / Steel Making Method: | Elektrik Ark Ocagî / Electric Arc Fumace |

## KIMYASAL KOMPOZISYON / CHEMICAL COMPOSITION IN PRODUCT

| C% | Si% | Mn% | P% | S% | Cr% | Mo% | Ni% | Cu% | AL% | N% | Pb% | V% | Ti% | B% | Sn% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,45 | 0,30 | 0,70 | 0,04 | 0,05 | 0,10 | - | - | 0,20 | - | - | - | - | - | - | - |

## MEKANIK ÖZELLIKLER / MECHANICAL PROPERTIES

| | Akma N/mm2<br>Tensile strength (KSI) | Çekme N/mm2<br>Proof load (KSI) | Uzama (%)<br>Elongation (%) | Sertlik HB<br>Rokwell Hardness | Alan küçültme (%)<br>Reduction of Area min ( %) |
|---|---|---|---|---|---|
| Standar Min - Max | 75 - 95 | 55 - 65 | 21 | C19 - C 34 | 30 |
| Test Result | 82 | 61 | 21 | C26 | 32 |

**Görsel Muayene:** Uygun
**Vakum Durumu: (M) Vakumsuz**
**Yüzey Çatlak Testi: Test Yapilmadi**
**Ultrasonik Test: Test Yapilmadi**
**Parlak Malzeme Yüzay Çatlak Testi: Test Yapilmadi**
**Radyoaktivite Yoktur**

**Visual control:** OK
**Vacuum Condition: None Vacuum Degassed**
**Surface Crack Test: None Tested**
**Ultrasonic Test: None Tested**
**Surface Crack Test Of Bright Products: None Tested**
**Radioactivity Free**

Bu belge yukanda tanimi yapilan maizeme için isiak imzali clarak düzanlenmistir . Çogaltilmis kopyalann guvenliginden HASÇELIK Sorumlu degildir. Malzemelarin test edildigi va sipans sartlanna uygun oldugu onaylanir . Kusku durumunda geçerli belge olarak HASÇELIK leky kaynak kopyaya basvurulmalidir. Bu maizeme AT900-4400 Cihazi ile % 100 radyoaktif testten geçinlmis hammadde ile ûreblmistir. Hasçelik San , vi Tic. A.S. Vakumlu/UT Kontrollû/Yüzey Çatlak Kontrollû/Tamamlamali ûrûnlere kimyasal kompozisyon garantisi ile birlikte tedarikçilenn HASÇELIK e verdigi garanti kapsamindaki garanti sartlanni mûslerilerine sunmaktadir. VAkum$uz/Vakumlu ûrûnler için kimyasal kompozisyon di$Inda herhangi bir garanti venlmemekfedir Otusabilecek herhangi bir kalite sorununda HASÇELIK sadece maizeme bedeli kadar sorumludur. Garanti $artlan disinda mû$teride veya sonraki proseslerde ortaya çikan olûmsuz durumlarda boy kesilmemis/islenmemis malzemenin leknik/ticari olarak iade alinmasi disinda HASÇELIK San , vi Tic. A.S. herhang bir konuda yukûmlu tululamaz

# LEFA INTERNATIONAL LIMITED
# QUALITY CERTIFICATE

Tel: 0086-13777022789 Fax: 0086-574-87838429 Email: LORA@LEFASTENER.COM

Customer:

Marking: F 2H

Class: 2H

Quantity: 5.791PCS

DESCRIPTION: 7/8-9UN

SC No.: 17TYP030

Invoice No: 18TYP0416

CODE. 37530

IMPO. 112-17(B)

LOT NO 617030

DIMENSIONS OF SPEC

| Inspection Items | Standard | Result |
|---|---|---|
| VISUAL APPEARANCE | ———— | OK |
| WIDTH ACROSS FLATS | 69.85-67.62 | 63.4-64.8 |
| WIDTH ACROSS Corners | 80.64-77.09 | 72.3-73.2 |
| HEIGHT | 44.67-42.65 | 40.2-40.9 |

MECHANICAL PROPERTIES

| CHARACTERISTICS | Standard | Result |
|---|---|---|
| HARDNESS [HRC] | 24-35 | 27-33 |
| PROOF LOAD [kN] | min 364000 | 366870 |

MACRO ETCH

| Division | Surface Condition | Random Condition | Center Segregation | Spec.Of test method |
|---|---|---|---|---|
| Spec. | S4 | R4 | C4 | ASTM E381-94 |
| Results | S2 | R2 | C2 | |

CHEMICAL COMPOSITION(%)

| MILL HEAT | C | Si | Mn | P | S | Cr | Ni | Cu | Mo | B |
|---|---|---|---|---|---|---|---|---|---|---|
| F4070765 | 0.45 | 0.23 | 0.62 | 0.021 | 0.004 | | | | | |
| Surface Coating: | HDG | | | | | | | | | |

The information on chemical composition is based on the test certificate received from the steel mill or supplier

Material described in this document has been inspected under the parameters set forth and found to be in conformance with the physical requirement

We certify the above product meets specific requirement

For and on behalf of LEFA INTERNATIONAL LIMITED

Authorized Signature(s)

Quality Control Supervisor 高圆圆

Quality Control Manager 王思聪

**SHANGHAI PRIME MACHINERY CO.,LTD.**
15TH FLOOR 600 HENGFENG ROAD 200070 SHANGHAI
FAX: 86-21-63177538/63178909

# QUALITY CERTIFICATE



CONSIGNOR: SHANGHAI PRIME MACHINERY CO.,LTD.

CONSIGNEE:

CONTRACTNO: 70018176

INVOICE NO. : 10015652

COMMODITY: F436 H.D.G. BULK

SIZE: 3/8、5/8、1/2、3/4、7/8、1、1-1/8、1-1/4、1-1/2、1-5/8、1-3/4、2、2-1/4、2-1/2、2-3/4、3

QUANTITY: X1000PCS 104.400、300.000、100.300、52.800、50.400、20.160、30.060、5.000、3.040、2.000、2.000、1.170

## RESULT OF TESTING:

MATERIAL: 45#

| C | Si | Mn | S | P | Cr | Ni | Mo | Ti | B |
|---|---|---|---|---|---|---|---|---|---|
| 0.450 | 0.190 | 0.610 | 0.008 | 0.016 | | | | | |

## MECHANICAL PROPERTIES:

| Hardness | HR | HRC | 26-45 |
|---|---|---|---|

SAMPLES DRAWN FROM EACH SPECIFICATION OF THE ABOVE MENTIONED GOODS AT RANDOM WERE TESTED AND IT WAS FOUND THE MATERIAL AND DIMENSION WERE UP TO THE EQUIREMENT OF RELATIVE STANDARD.

INSPECTED BY: GU WEIHUA SURVEYOR TO: YAO JIHUA

QUALITY CONTROL DEPARTMENT:

SHANGHAI PRIME MACHINERY CO.,LTD.

HASÇELİK

HASCELIK SANAYI VE TICARET A.S.

# KALITE BELGESI / MILL TEST CERTIFICATE

ISO / TS 16949
ISO 9001 / 2008
OHSAS18001

| | | | |
|---|---|---|---|
| Musteri Adi / Customer Name: | | Tarih / Date Of Issue: | 11.10.2024 |
| Urun Adi / Product Name: | COLD DRAWN ROUND BAR | Kesit / Size (mm): | 31,75 |
| Stok Adi / Stock Code: | Y017.74X000.00 HPR (A55/AISI1045) M 00 CO/EN 10775 h9/SC P3 | Kalite / Grade material: | ASTM F1554 G55 |
| Irsaliye No / Waybill No: | | Dökûm No / Heat No: | 1701737 |
| Standart / Material Norm: | EN 10278 h9 | Agirlik / Net-Gross Weight (Kgs) | 3993 |
| Siparis No / Order No: | | | |
| Evrak No / Certificate No: | HPR-2024-10-3967 | | |

Celik Yapim Metodu / Steel Making Method: Elektrik Ark Ocagî / Electric Arc Fumace

## KIMYASAL KOMPOZISYON / CHEMICAL COMPOSITION IN PRODUCT

| C% | Si% | Mn% | P% | S% | Cr% | Mo% | Ni% | Cu% | AL% | N% | Pb% | V% | Ti% | B% | Sn% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,45 | 0,30 | 0,70 | 0,04 | 0,05 | 0,10 | - | - | 0,20 | - | - | - | - | - | - | - |

## MEKANIK ÔZELLIKLER / MECHANICAL PROPERTIES

| | Akma N/mm2<br>Tensile strength (KSI) | Çekme N/mm2<br>Proof load (KSI) | Uzama (%)<br>Elongation (%) | Sertjik HB<br>Rokwell Hardness | Alan küçültme (%)<br>Reduction of Area min ( %) |
|---|---|---|---|---|---|
| Standar Min - Max | 75 - 95 | 55 - 65 | 21 | C19 - C 34 | 30 |
| Test Result | 82 | 58 | 21 | C26 | 24 |

**Görsel Muayene:** Uygun
**Vakum Durumu: (M) Vakumsuz**
**Yüzey Çatlak Testi: Test Yapilmadi**
**Ultrasonik Test: Test Yapilmadi**
**Parlak Malzeme Yüzay Çatlak Testi: Test Yapilmadi**
**Radyoaktivite Yoktur**

**Visual control:** OK
**Vacuum Condition: None Vacuum Degassed**
**Surface Crack Test: None Tested**
**Ultrasonic Test: None Tested**
**Surface Crack Test Of Bright Products: None Tested**
**Radioactivity Free**

Bu belge yukanda tanimi yapilan maizeme için isiak imzali clarak düzanlenmistir . Çogaltilmis kopyalann guvenliginden HASÇELIK Sorumlu degildir. Malzemelarin test edildigi va sipans sartlanna uygun oldugu onaylanir . Kusku durumunda geçerli belge olarak HASÇELIK leky kaynak kopyaya basvurulmalidir. Bu maizeme AT900-4400 Cmazi ile % 100 radyoaktif testten geçinlmis hammadde ile üreblmistir. Hasçelik San , vi Tic. A.S. Vakumlu/UT Kontrollû/Yüzey Çatlak Kontrollû/Tamamlamali ürünlere kimyasal kompozisyon garantisi ile birlikte tedarikçilenn HASÇELIK e verdigi garanti kapsamindaki garanti sartlanni müslerilerine sunmaktadir. VAkum$uz/Vakumlu ûrûnler için kimyasal kompozisyon diŞinda herhangi bir garanti venlmemekfedir Otusabilecek herhangi bir kalite sorununda HASÇELIK sadece maizeme bedeli kadar sorumludur. Garanti Şartlan disinda mû$teride veya sonraki proseslerde ortaya çikan olûmsuz durumlarda boy kesilmemis/islenmemis malzemenin leknik/ticari olarak iade alinmasi disinda HASÇELIK San , vi Tic. A.S. herhang bir konuda yukûmlu tululamaz

# LEFA INTERNATIONAL LIMITED
# QUALITY CERTIFICATE

Tel: 0086-13777022789 Fax: 0086-574-87838429 Email: LORA@LEFASTENER.COM

Customer:

| | | | |
|---|---|---|---|
| DESCRIPTION: | HEX HEAVY NUT | Invoice No: | 18TYP0710 |
| Class: | 2H | SC NO. | 17TYP030 |
| SIZE | 1.1/4-8UNC. | CODE | 37651 |
| Quantity: | 32.400MPCS | LOT NO. | 617030 |
| Marking: | F 2H | IMPO | 112C-17 |

DIMENSIONS OF SPEC

| Inspection Items | Standard | Result |
|---|---|---|
| VISUAL APPEARANCE | ---------- | OK |
| WIDTH ACROSS FLATS | 21.59-22.22 | 21.65-21.86 |
| WIDTH ACROSS Corners | 24.62-25.65 | 25.2-25.6 |
| HEIGHT | 11.79-12.8 | 12.2-12.6 |

MECHANICAL PROPERTIES

| CHARACTERISTICS | Standard | Result |
|---|---|---|
| HARDNESS [HRC] | 24-35 | 30-32 |
| PROOF LOAD [LBF] | min 24830 | 27013 |

MACRO ETCH

| Division | Surface Condition | Random Condition | Center Segregation | Spec.Of test method |
|---|---|---|---|---|
| Spec. | S4 | R4 | C4 | ASTM E381-94 |
| Results | S2 | R2 | C2 | |

CHEMICAL COMPOSITION(%)

| MILL HEAT | C | Si | Mn | P | S | Cr | Ni | Cu | Mo | B |
|---|---|---|---|---|---|---|---|---|---|---|
| E21506613 | 0.44 | 0.18 | 0.71 | 0.015 | | | | | | |
| Surface Coating: | HDG | | | | | | | | | |

The information on chemical composition is based on the test certificate received from the steel mill or supplier

Material described in this document has been inspected under the parameters set forth and found to be in conformance with the physical requirement

We certify the above product meets specific requirement

For and on behalf of LEFA INTERNATIONAL LIMITED

Authorized Signature(s)

Quality Control Supervisor 严大炮 Quality Control Manager庞鸟朱

**SHANGHAI PRIME MACHINERY CO.,LTD.**
15TH FLOOR 600 HENGFENG ROAD 200070 SHANGHAI
FAX: 86-21-63177538/63178909

# QUALITY CERTIFICATE



CONSIGNOR: SHANGHAI PRIME MACHINERY CO.,LTD.

CONSIGNEE:

CONTRACTNO: 70018176

INVOICE NO. : 10015652

COMMODITY: F436 H.D.G. BULK

SIZE: 3/8、5/8、1/2、3/4、7/8、1、1-1/8、1-1/4、1-1/2、1-5/8、1-3/4、2、2-1/4、2-1/2、2-3/4、3

QUANTITY: X1000PCS 104.400、300.000、100.300、52.800、50.400、20.160、30.060、5.000、3.040、2.000、2.000、1.170

## RESULT OF TESTING:

MATERIAL: 45#

| C | Si | Mn | S | P | Cr | Ni | Mo | Ti | B |
|---|---|---|---|---|---|---|---|---|---|
| 0.450 | 0.190 | 0.610 | 0.008 | 0.016 | | | | | |

## MECHANICAL PROPERTIES:

| Hardness | HR | HRC | 26-45 |
|---|---|---|---|

SAMPLES DRAWN FROM EACH SPECIFICATION OF THE ABOVE MENTIONED GOODS AT RANDOM WERE TESTED AND IT WAS FOUND THE MATERIAL AND DIMENSION WERE UP TO THE EQUIREMENT OF RELATIVE STANDARD.

INSPECTED BY: GU WEIHUA SURVEYOR TO: YAO JIHUA

QUALITY CONTROL DEPARTMENT:

SHANGHAI PRIME MACHINERY CO.,LTD.

HASÇELİK

ISO / TS 16949
ISO 9001 / 2008
OHSAS18001

**HASCELIK SANAYI VE TICARET A.S.**

# KALITE BELGESI / MILL TEST CERTIFICATE

| | | | |
|---|---|---|---|
| Musteri Adi / Customer Name: | | Tarih / Date Of Issue: | 28.11.2024 |
| Urun Adi / Product Name: | COLD DRAWN ROUND BAR | Kesit / Size (mm): | 38,10 |
| Stok Adi / Stock Code: | Y025.49X000.00 HPR (A55/AISI1045) M 00 CO/EN 10993 h4/SC P3 | Kalite / Grade material: | ASTM F1554 G55 |
| Irsalive No / Waybill No: | | Dôkûm No / Heat No: | 1704981 |
| Standart / Material Norm: | EN 10300 h4 | Agirlik / Net-Gross Weight (Kgs) | 3990 |
| Siparis No / Order No: | | | |
| Evrak No / Certificate No: | HPR-2024-11-5319 | | |

Celik Yapim Metodu / Steel Making Method: Elektrik Ark Ocagî / Electric Arc Fumace

## KIMYASAL KOMPOZISYON / CHEMICAL COMPOSITION IN PRODUCT

| C% | Si% | Mn% | P% | S% | Cr% | Mo% | Ni% | Cu% | AL% | N% | Pb% | V% | Ti% | B% | Sn% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,45 | 0,30 | 0,70 | 0,04 | 0,05 | 0,10 | - | - | 0,20 | - | - | - | - | - | - | - |

## MEKANIK ÔZELLIKLER / MECHANICAL PROPERTIES

| | Akma N/mm2<br>Tensile strength (KSI) | Çekme N/mm2<br>Proof load (KSI) | Uzama (%)<br>Elongation (%) | Sertjik HB<br>Rokwell Hardness | Alan küçültme (%)<br>Reduction of Area min ( %) |
|---|---|---|---|---|---|
| Standar Min - Max | 75 - 95 | 55 - 65 | 21 | C19 - C 34 | 30 |
| Test Result | 82 | 58 | 21 | C26 | 24 |

**Görsel Muayene:** Uygun
**Vakum Durumu: (M) Vakumsuz**
**Yüzey Çatlak Testi: Test Yapilmadi**
**Ultrasonik Test: Test Yapilmadi**
**Parlak Malzeme Yüzay Çatlak Testi: Test Yapilmadi**
**Radyoaktivite Yoktur**

**Visual control:** OK
**Vacuum Condition: None Vacuum Degassed**
**Surface Crack Test: None Tested**
**Ultrasonic Test: None Tested**
**Surface Crack Test Of Bright Products: None Tested**
**Radioactivity Free**

Bu belge yukanda tanimi yapilan maizeme için isiak imzali clarak düzanlenmistir . Çogaltilmis kopyalann guvenliginden HASÇELIK Sorumlu degildir. Malzemelarin test edildigi va sipans sartlanna uygun oldugu onaylanir . Kusku durumunda geçerli belge olarak HASÇELIK leky kaynak kopyaya basvurulmalidir. Bu maizeme AT900-4400 Cihazi ile % 100 radyoaktif testten geçinlmis hammadde ile üreblmistir. Hasçelik San , vi Tic. A.S. Vakumlu/UT Kontrollû/Yüzey Çatlak Kontrollû/Tamamlamali ûrünlere kimyasal kompozisyon garantisi ile birlikte tedarikçilenn HASÇELIK e verdigi garanti kapsamindaki garanti sartlanni mûslerilerine sunmaktadir. VAkumSuz/Vakumlu ürünler için kimyasal kompozisyon diŠinda herhangi bir garanti venlmemektedir Otusabilecek herhangi bir kalite sorununda HASÇELIK sadece maizeme bedeli kadar sorumludur. Garanti Şartlan disinda mûŞteride veya sonraki proseslerde ortaya çikan olûmsuz durumlarda boy kesilmemis/islenmemis malzemenin leknik/ticari olarak iade alinmasi disinda HASÇELIK San , vi Tic. A.S. herhang bir konuda yukûmlu tululamaz

# LEFA INTERNATIONAL LIMITED
# QUALITY CERTIFICATE

Tel: 0086-13777022789 Fax: 0086-574-87838429 Email: LORA@LEFASTENER.COM

Customer:

DESCRIPTION: HEX HEAVY NUT

Class: 2H

SIZE 1.1/2-8UNC.

Quantity: 32.400MPCS

Marking: F 2H

Invoice No: 18TYP0710

SC NO. 17TYP030

CODE 37651

LOT NO. 617030

IMPO 112C-17

DIMENSIONS OF SPEC

| Inspection Items | Standard | Result |
|---|---|---|
| VISUAL APPEARANCE | ---------- | OK |
| WIDTH ACROSS FLATS | 21.59-22.22 | 21.65-21.86 |
| WIDTH ACROSS Corners | 24.62-25.65 | 25.2-25.6 |
| HEIGHT | 11.79-12.8 | 12.2-12.6 |

MECHANICAL PROPERTIES

| CHARACTERISTICS | Standard | Result |
|---|---|---|
| HARDNESS [HRC] | 24-35 | 30-32 |
| PROOF LOAD [IBF] | min 24830 | 27013 |

MACRO ETCH

| Division | Surface Condition | Random Condition | Center Segregation | Spec.Of test method |
|---|---|---|---|---|
| Spec. | S4 | R4 | C4 | ASTM E381-94 |
| Results | S2 | R2 | C2 | |

CHEMICAL COMPOSITION(%)

| MILL HEAT | C | Si | Mn | P | S | Cr | Ni | Cu | Mo | B |
|---|---|---|---|---|---|---|---|---|---|---|
| E21506613 | 0.44 | 0.18 | 0.71 | 0.015 | | | | | | |
| Surface Coating: | HDG | | | | | | | | | |

The information on chemical composition is based on the test certificate received from the steel mill or supplier

Material described in this document has been inspected under the parameters set forth and found to be in conformance with the physical requirement

We certify the above product meets specific requirement

For and on Behalf of LEFA INTERNATIONAL LIMITED

Authorized Signature(s)

Quality Control Supervisor 严大炮

Quality Control Manager庞莺朱

**SHANGHAI PRIME MACHINERY CO.,LTD.**
15TH FLOOR 600 HENGFENG ROAD 200070 SHANGHAI
FAX: 86-21-63177538/63178909

# QUALITY CERTIFICATE



CONSIGNOR: SHANGHAI PRIME MACHINERY CO.,LTD.

CONSIGNEE:

CONTRACTNO: 70018176

INVOICE NO. : 10015652

COMMODITY: F436 H.D.G. BULK

SIZE: 3/8、5/8、1/2、3/4、7/8、1、1-1/8、1-1/4、1-1/2、1-5/8、1-3/4、2、2-1/4、2-1/2、2-3/4、3

QUANTITY: X1000PCS 104.400、300.000、100.300、52.800、50.400、20.160、30.060、5.000、3.040、2.000、2.000、1.170

## RESULT OF TESTING:

MATERIAL: 45#

| C | Si | Mn | S | P | Cr | Ni | Mo | Ti | B |
|---|---|---|---|---|---|---|---|---|---|
| 0.450 | 0.190 | 0.610 | 0.008 | 0.016 | | | | | |

## MECHANICAL PROPERTIES:

| Hardness | HR | HRC | 26-45 |
|---|---|---|---|

SAMPLES DRAWN FROM EACH SPECIFICATION OF THE ABOVE MENTIONED GOODS AT RANDOM WERE TESTED AND IT WAS FOUND THE MATERIAL AND DIMENSION WERE UP TO THE EQUIREMENT OF RELATIVE STANDARD.

INSPECTED BY: GU WEIHUA SURVEYOR TO: YAO JIHUA

QUALITY CONTROL DEPARTMENT:

SHANGHAI PRIME MACHINERY CO.,LTD.

HASÇELİK

HASCELIK SANAYI VE TICARET A.S.

# KALITE BELGESI / MILL TEST CERTIFICATE

ISO / TS 16949
ISO 9001 / 2008
OHSAS18001

| | | | |
|---|---|---|---|
| Musteri Adi / Customer Name: | | Tarih / Date Of Issue: | 29.11.2024 |
| Urun Adi / Product Name: | COLD DRAWN ROUND BAR | Kesit / Size (mm): | 28,575 |
| Stok Adi / Stock Code: | Y088.66X000.00 HPR (A55/AISI1045) M 00 CO/EN 10992 h8/SC P11 | Kalite / Grade material: | ASTM F1554 G55 |
| Irsalive No / Waybill No: | | Dôkûm No / Heat No: | 1704877 |
| Standart / Material Norm: | EN 10300 h4 | Agirlik / Net-Gross Weight (Kgs) | 3992 |
| Siparis No / Order No: | | | |
| Evrak No / Certificate No: | HPR-2024-11-5780 | | |

Celik Yapim Metodu / Steel Making Method: Elektrik Ark Ocagî / Electric Arc Fumace

## KIMYASAL KOMPOZISYON / CHEMICAL COMPOSITION IN PRODUCT

| C% | Si% | Mn% | P% | S% | Cr% | Mo% | Ni% | Cu% | AL% | N% | Pb% | V% | Ti% | B% | Sn% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,45 | 0,30 | 0,70 | 0,04 | 0,05 | 0,10 | - | - | 0,20 | - | - | - | - | - | - | - |

## MEKANIK ÔZELLIKLER / MECHANICAL PROPERTIES

| | Akma N/mm2<br>Tensile strength (KSI) | Çekme N/mm2<br>Proof load (KSI) | Uzama (%)<br>Elongation (%) | Sertjik HB<br>Rokwell Hardness | Alan küçültme (%)<br>Reduction of Area min ( %) |
|---|---|---|---|---|---|
| Standar Min - Max | 75 - 95 | 55 - 65 | 21 | C19 - C 34 | 30 |
| Test Result | 82 | 60 | 21 | C26 | 32 |

**Görsel Muayene:** Uygun
**Vakum Durumu: (M) Vakumsuz**
**Yüzey Çatlak Testi: Test Yapilmadi**
**Ultrasonik Test: Test Yapilmadi**
**Parlak Malzeme Yüzay Çatlak Testi: Test Yapilmadi**
**Radyoaktivite Yoktur**

**Visual control:** OK
**Vacuum Condition: None Vacuum Degassed**
**Surface Crack Test: None Tested**
**Ultrasonic Test: None Tested**
**Surface Crack Test Of Bright Products: None Tested**
**Radioactivity Free**

Bu belge yukanda tanimi yapilan maizeme için isiak imzali clarak düzanlenmistir . Çogaltilmis kopyalann guvenliginden HASÇELIK Sorumlu degildir. Malzemelarin test edildigi va sipans sartlanna uygun oldugu onaylanir . Kusku durumunda geçerli belge olarak HASÇELIK leky kaynak kopyaya basvurulmalidir. Bu maizeme AT900-4400 Cihazi ile % 100 radyoaktif testten geçinlmis hammadde ile üreblmistir. Hasçelik San , vi Tic. A.S. Vakumlu/UT Kontrollü/Yüzey Çatlak Kontrollü/Tamamlamali ürünlere kimyasal kompozisyon garantisi ile birlikte tedarikçilenn HASÇELIK e verdigi garanti kapsamindaki garanti sartlanni müslerilerine sunmaktadir. VAkumŞuz/Vakumlu ürünler için kimyasal kompozisyon diŞinda herhangi bir garanti venlmemekfedir Otusabilecek herhangi bir kalite sorununda HASÇELIK sadece maizeme bedeli kadar sorumludur. Garanti Şartlan disinda müŞteride veya sonraki proseslerde ortaya çikan olümsuz durumlarda boy kesilmemis/islenmemis malzemenin leknik/ticari olarak iade alinmasi disinda HASÇELIK San , vi Tic. A.S. herhang bir konuda yukümlu tululamaz