



ARVAN
www.arvansanat.com

شرکت آروان صنعت هیراد

تأمین کننده تجهیزات ابزار دقیق
و کابل های خاص خشکی و دریایی



مستقر در پارک علم و فناوری

دانشگاه شهید بهشتی

شرکت مانیاد صنعت رادین آژند

طراحی و تولید تجهیزات ابزار دقیق و کابل های خاص خشکی و دریایی
(کیفیت عالی، دقت به جزئیات)



عضو پارک فناوری و نوآوری نفت و گاز



سیمان



صنایع ریلی



خودرو سازی



کشتی سازی



صنایع غذایی



پلاستیک



شیشه و سرامیک



دارویی و شیمیایی



نیروگاهی



فولاد و معدن



پالایش و پتروشیمی



نفت و گاز



9001:2015



14001:2015



45001:2018



16000:2008



16001:2009



IMS



sales@maniadsanat.com
www.maniadsanat.com



۰۹۳۶۴۷۶۵۹۲۲



۰۹۹۰۶۰۵۴۳۴۷
۰۹۹۶۶۲۶۶۳۵۳



تهران، مابین پالایشگاه تهران و بهران، پارک فناوری و نوآوری نفت و گاز



دسته بندی محصولات



ترانسمیتر دما



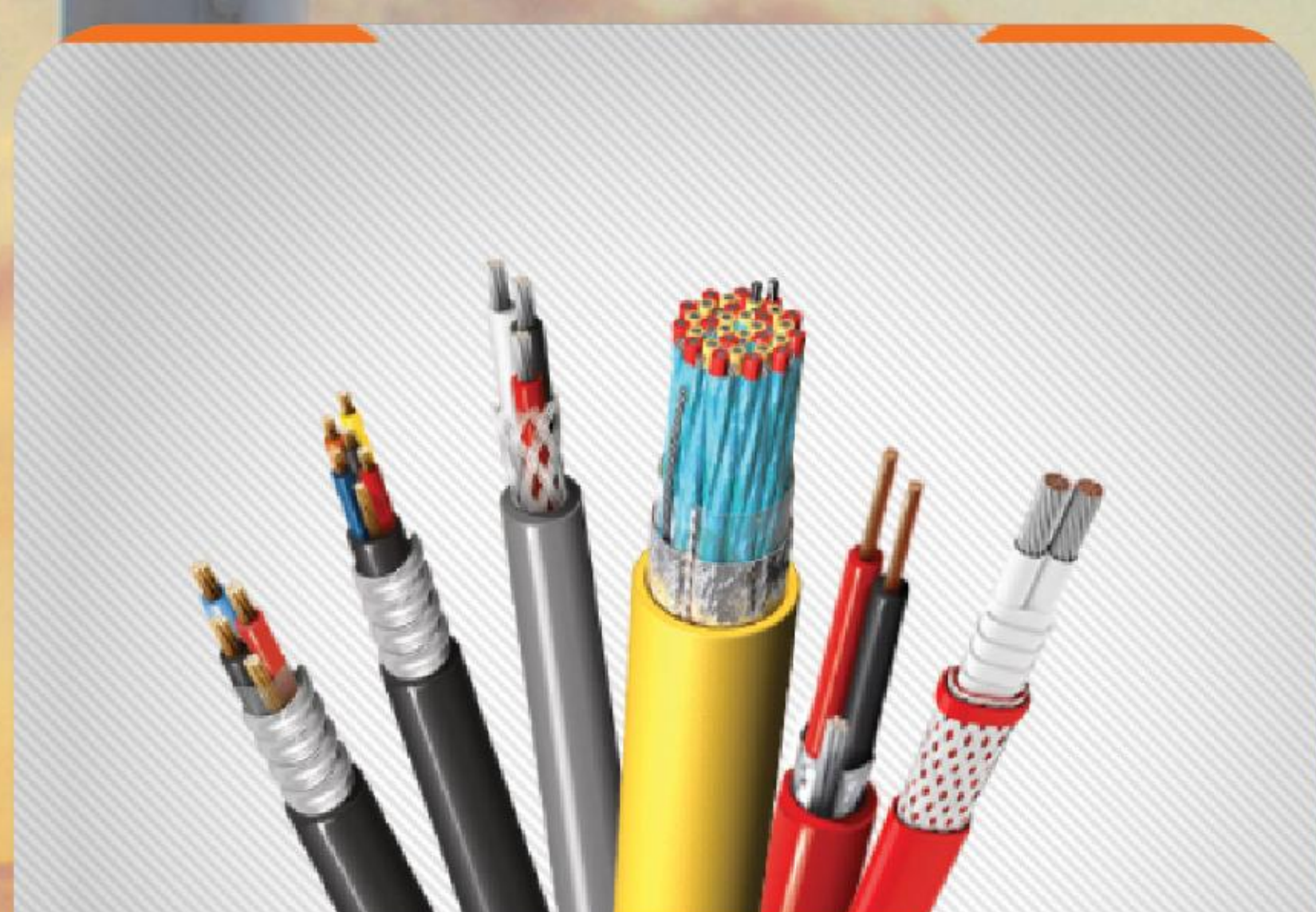
سنسور دما ترموکوپل و RTD



منیفولد و نازل و نتوری



انواع ترموول



کابل کنترل و ابزار دقیق ترموکوپل و نسوز و هیت ترسیسینگ



کابل های خاص خشکی و دریایی



نمایشگر دما و دیگر لوازم جانبی



جرقه زن و جانکشن باکس

1" N.P.T. x .250
MOUNTING ADAPTER
NOTE 1.

SEAL WELD

1" ANSI B16.5
FLANGE

OD: 6mm

L: 150 mm

L: 300 mm

L: 500 mm

Junction Box

Leadwire Transition Adapters (Shown with Thermocouple retracted)

Barrier Type Terminal Strips

1-1/2" Conduit Hub

Removable Cover Plate

2" Cr

2" Pipe

Cooling Fins

2" Pipe

Gauging Stop (Shown with Thermocouple extended)

Cap Screws

Anchor Plate

Process Flange

Sealant Gland Fitting (Dyn)

درباره مانیاد صنعت رادین آژند

تجربه بلندمدت همکاری با بازارهای جهانی و تولیدکنندگان بزرگ بین المللی در کنار بهره گیری از کادر فنی و بازرگانی متخصص در امر طراحی و تولید تجهیزات مورد نیاز صنایع مختلف و برخورداری از امکانات لجستیکی از قبیل دفاتر در کشورهای دیگر، مانیاد صنعت را بعنوان یکی از شرکتهای معتبر در زمینه طراحی و ساخت تجهیزات ابزار دقیق و کابل های خاص معرفی نموده است. برخورداری از تیم مهندسی کارآمد و مسلط به مسائل فنی، ما را قادر به شناخت صحیح نیازهای مشتریان و ارائه مشاوره های مورد نیاز به منظور تصمیم گیری خرید نموده است. کارشناسان این شرکت با بررسی شرایط تاثیرگذار بر عملکرد محصول در خواستی و محل نصب تجهیز مورد درخواست، بهترین راهکار فنی را در خصوص طراحی و تولید اقلام مورد نیاز، ارائه خواهند نمود.



مشاوره تخصصی



گارانتی و خدمات پس از فروش



آزمایشگاه کالیبراسیون دما



صادرات محصولات



مهندسی خرید



طراحی و تولید سفارشی

آزمایشگاه کالیبراسیون مانیاد صنعت

MAHMOUD & ASSOCIATES
P.O. Box 12345, Tehran, Iran

گواهی تایید صلاحیت
برای انجام خدمات
تعمیرات و کالیبراسیون تجهیزات
(تایید صلاحیت بر اساس استاندارد
ISO 9001:2015)

TCB
Tehran Calibration Bureau

Certificate No: **1401 C-876**

Standard No: 170-2018

Model No: 170

Calibration Date:

1402/05/07

Calibration Due Date (approx):

1403/05/07

Customer and Equipment Specifications

Customer: **شرکت مانیاد صنعت**

Address:

تهران، خیابان ولیعصر، پلاک ۱۰۰، واحد ۱۰۰

Instrument: **Temperature Transmitter**

Manufacturer: **FOXBORO**

Model: **7110D-02**

Serial No: **1571003**

Range:

0/500

Signal Output:

4-20 mA

Power Supply:

24VDC

Calibration Method: This method includes calibration of the temperature transmitter with PT and Thermocouple.

Basis of Calibration: (ISA-88.11.04.1, ISA-88.11.04.2)

Reference Instrument: Traceability Information

No.	Description	ID	Manufacturer	Model	Cal. No.	Exp. Date
1	Standard Temperature	1571003	FOXBORO	7110D-02	1402/05/07	2023-05-07
2	PT and Thermocouple Transmitter	1571003	FOXBORO	7110D-02	1402/05/07	2023-05-07
3	Calibration Bath	1571003	FOXBORO	7110D-02	1402/05/07	2023-05-07
4	Calibration Bath	1571003	FOXBORO	7110D-02	1402/05/07	2023-05-07
5	Calibration Bath	1571003	FOXBORO	7110D-02	1402/05/07	2023-05-07
6	Calibration Bath	1571003	FOXBORO	7110D-02	1402/05/07	2023-05-07

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

1. Purpose:

The purpose of this report is to provide a detailed record of the calibration process and the results obtained. The report is intended for use by the customer and the calibration laboratory for quality control and traceability purposes.

2. Scope:

The scope of this report is limited to the calibration of the temperature transmitter with PT and Thermocouple. The report does not cover the calibration of other instruments or the calibration of the calibration laboratory.

3. References:

The following references are used in the preparation of this report: ISA-88.11.04.1, ISA-88.11.04.2, and the calibration laboratory's internal procedures.

4. Results:

The results of the calibration are shown in the table below. The results are in good agreement with the reference values and the calibration laboratory's internal procedures.

5. Conclusion:

The calibration of the temperature transmitter with PT and Thermocouple is complete and the results are in good agreement with the reference values and the calibration laboratory's internal procedures.

6. Signature:

The calibration was performed by the calibration laboratory and the results are in good agreement with the reference values and the calibration laboratory's internal procedures.

7. Date:

The calibration was performed on 1402/05/07 and the results are in good agreement with the reference values and the calibration laboratory's internal procedures.

8. Location:

The calibration was performed at the calibration laboratory and the results are in good agreement with the reference values and the calibration laboratory's internal procedures.

9. Remarks:

The calibration was performed by the calibration laboratory and the results are in good agreement with the reference values and the calibration laboratory's internal procedures.

End of Calibration Report

1. Scope:

The scope of this report is limited to the calibration of the temperature transmitter.

2. References:

The following references are used in the preparation of this report:

3. Results:

The results of the calibration are shown in the table below.

4. Conclusion:

The calibration of the temperature transmitter is complete and the results are in good agreement with the reference values.

گواهی تایید صلاحیت

برای انجام خدمات

تعمیرات و کالیبراسیون تجهیزات

(تایید صلاحیت بر اساس استاندارد

ISO 9001:2015)

گواهی تایید صلاحیت

برای انجام خدمات

تعمیرات و کالیبراسیون تجهیزات

(تایید صلاحیت بر اساس استاندارد

ISO 9001:2015)

MAHMOUD & ASSOCIATES, Tehran, Iran - گواهی تایید صلاحیت برای انجام خدمات تعمیرات و کالیبراسیون تجهیزات (تایید صلاحیت بر اساس استاندارد ISO 9001:2015)

MAHMOUD & ASSOCIATES

گواهی تایید صلاحیت

برای انجام خدمات

تعمیرات و کالیبراسیون تجهیزات

(تایید صلاحیت بر اساس استاندارد

ISO 9001:2015)

گواهی کالیبراسیون

CERTIFICATE OF CALIBRATION

آزمایشگاه کالیبراسیون و تعمیرات

NACI
NATIONAL
ACCREDITED

FORM No: PSA - F-01-01

Page 1 of 2

CERT NO:

1402/05/07-002

شماره گواهی: ۰۰۰۰۰۰۰۰

CALIBRATION RESULTS

Item	Temp (°C)	Unit Under Calibration (U)	Error (°C)	Uncertainty (°C)
1	25.0	25.00	0.02	0.03
2	50.0	50.01	0.01	0.03
3	75.0	75.02	0.01	0.03
4	100.0	100.03	0.01	0.03
5	125.0	125.04	0.01	0.03
6	150.0	150.05	0.01	0.03

• END OF CALIBRATION REPORT •

Pars Calibration Lab

Calibration by

www.parscalibration.com

parscalibration@gmail.com

تهران، خیابان ولیعصر، پلاک ۱۰۰، واحد ۱۰۰
تلفن: ۰۲۱-۸۸۸۸۸۸۸۸
پست الکترونیک: info@parscalibration.com

تهران، خیابان ولیعصر، پلاک ۱۰۰، واحد ۱۰۰
تلفن: ۰۲۱-۸۸۸۸۸۸۸۸
پست الکترونیک: info@parscalibration.com

CERTIFICATE OF CALIBRATION

Calibration of Temperature Transmitters
 1. Instrument: FOXBORO
 2. Model: 7110D-02
 3. Serial No: 1571003
 4. Calibration Date: 1402/05/07
 5. Calibration Due Date: 1403/05/07

CERTIFICATE NO:
 DATE OF ISSUE:

ISSUED BY:
 APPROVED BY:

Page 2 of 2

CALIBRATION RESULTS

Set Point °C	Reference °C	Under Calibration °C	Correction	Uncertainty of Reference °C
0	0.12	0.03	-0.11	0.07
30	30.22	30.81	-0.59	0.07
75	75.16	75.63	-0.47	0.07
113	113.19	113.50	-0.31	0.07
150	150.11	150.20	-0.15	0.07

Reference (°C)	Under Calibration (°C)	Correction (°C)
0	0.12	-0.11
30	30.22	-0.59
75	75.16	-0.47
113	113.19	-0.31
150	150.11	-0.15

این سند، برگه کالیبراسیون، برگه

WALID CALIBRATION
THERMAL SYSTEMS

موسسه کالیبراسیون
سیستم های حرارتی
و مکانیک

CD

Certificate No. 1402/05/07

Standard No: 170

Calibration Date:

1402/05/07

Rev: 1.1

Revised No: 1718

Calibration Due Date (approx):

1403/05/07

Customer and Equipment Specifications

Customer:

شرکت مانیاد صنعت

Address:

تهران، خیابان ولیعصر، پلاک ۱۰۰، واحد ۱۰۰

Instrument: Temperature

ترانسمیتر دما

Manufacturer:

FOXBORO

Model:

7110D-02

Serial No:

1571003

Calibration Method:

This method includes calibration of the temperature transmitter with PT and Thermocouple. All results have been verified.

Basis of Calibration:

(ISA-88.11.04.1, ISA-88.11.04.2)

Reference Instrument:

Traceability Information

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

No.	Description	ID	Manufacturer	Model	Cal. No.
1	Standard Temperature	1571003	FOXBORO	7110D-02	1402/05/07
2	Reference Temperature	1571003	FOXBORO	7110D-02	1402/05/07
3	Calibration Bath	1571003	FOXBORO	7110D-02	1402/05/07
4	Calibration Bath	1571003	FOXBORO	7110D-02	1402/05/07
5	Calibration Bath	1571003	FOXBORO	7110D-02	1402/05/07
6	Calibration Bath	1571003	FOXBORO	7110D-02	1402/05/07

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

This calibration is valid only for the instrument and the calibration method used. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration. The instrument must be used in the same manner as it was during the calibration.

Calibration Results

گواهی کالیبراسیون دما

کالیبراسیون سنسور دما، یکی از مهم ترین اقدامات پس از تولید و همچنین در زمان نصب و بهره برداری از این تجهیزات ابزار دقیق است. همانطور که می دانید امروزه با پیشرفت علم، اندازه گیری دما به چند روش امکان پذیر است. بطور کلی این نوع از دماسنج های صنعتی به دو دسته تماسی و غیر تماسی تقسیم می شوند. سنسور ترموکوپل و آر تی دی بخصوص ترموکوپل تایپ K و سنسور مقاومتی (RTD) (PT100) جزو رایج ترین نوع از سنسور های دما تماسی هستند. در صنعت هر جا که نیاز به سنجش دما داشته باشد، از تجهیزاتی به نام سنسور دما استفاده می کنند.

مهندسان برق و ابزار دقیق با توجه به اثر سبک و همچنین ضریب حساسیت ترموکوپل و پل وتسون به منظور انجام فرآیند اندازه گیری های دقیق و قابل استناد، بیشتر از سنسور دما ترموکوپل استفاده می کنند. بخصوص در مکان هایی که لازم است حتی یک جهش کوچک دما ثبت شود، از سنسور های پیشرفته اندازه گیری دما استفاده می کنند. در این شرایط ترموکوپل، یکی از بهترین گزینه ها می باشد.

شرکت مانیاد صنعت رادین آژند مفتخر است که اعلام نماید آزمایشگاه کالیبراسیون سنسورهای دما خود را راه اندازی نموده است و هر سنسوری که تولید می شود، تحت آزمایش قرار گرفته و برای آن محصول گواهی کالیبراسیون صادر گردیده و سپس برای مشتری ارسال می شود.

استاندارد رنگ کابل های ترموکوپل

International Thermocouple Color Codes

Thermocouple and Extension Grade Wires

THERMO-COUPLE TYPE		ALLOY COMBINATION		THERMOCOUPLE GRADE		EXTENSION GRADE		PLUG & JACK		IEC 584-3		IEC 584-3 Intrinsically Safe		BS 1843		DIN 43710		JIS C 1610		NFC 42-324	
		U.S. & CANADIAN (ANSI/MC96.1, ANSI/ASTM E230)								International		International		Czech British		Netherlands German		Japanese		French	
T	Copper	Brown	Blue + Red -	Blue	Blue + Red -	Blue	Brown + White -	Blue	Brown + White -	Blue	White + Blue -	Brown	Red + Brown -	Brown	Red + White -	Brown	Red + Brown -	Brown	Red + White -	Blue	Yellow + Blue -
	Constantan (Copper-Nickel)																				
J	Iron (magnetic)	Brown	White + Red -	Black	White + Red -	Black	Black + White -	Blue	Black + White -	Black	Yellow + Blue -	Blue	Red + Blue -	Blue	Red + Blue -	Blue	Red + Blue -	Yellow	Red + White -	Black	Yellow + Black -
	Constantan (Copper-Nickel)																				
E	Nickel - Chromium	Brown	Purple + Red -	Purple	Purple + Red -	Purple	Purple + White -	Blue	Purple + White -	Brown	Brown + Blue -	Black	Red + Black -	Purple	Red + White -	Purple	Red + White -	Purple	Yellow + Purple -	Purple	Yellow + Purple -
	Constantan (Copper- Nickel)																				
K	Nickel - Chromium	Brown	Yellow + Red -	Yellow	Yellow + Red -	Green	Green + White -	Blue	Green + White -	Red	Brown + Blue -	Green	Red + Green -	Blue	Red + White -	Blue	Red + White -	Blue	Red + White -	Yellow	Yellow + Purple -
	Nickel - Aluminium (magnetic)																				
N	Nicrosil (Nickel-Chromium- Silicon)	Brown	Orange + Red -	Orange	Orange + Red -	Orange	Orange + White -	Blue	Pink + White -	Orange	Orange + Blue -	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)
	Nisil (Nickel-Silicon-Magnesium)																				
S	Platinum Rhodium - 10%	None	Black + Red -	Green	Black + Red -	Orange	Orange + White -	Blue	Orange + White -	Green	White + Blue -	White	Red + White -	Black	Red + White -	Black	Red + White -	Black	Red + White -	Green	Yellow + Green -
	Platinum	Established																			
R	Platinum Rhodium - 13%	None	Black + Red -	Green	Black + Red -	Orange	Orange + White -	Blue	Orange + White -	Green	White + Blue -	White	Red + White -	Black	Red + White -	Black	Red + White -	Black	Red + White -	Green	Yellow + Green -
	Platinum	Established																			
B	Platinum Rhodium - 30%	None	Gray + Red -	White (Uncompensated)	Gray + Red -	Gray	Gray + White -	No Standard (Use Copper Wire)	No Standard (Use Copper Wire)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)	No Standard (Use American Color Codes)
	Platinum Rhodium - 6%	Established																			
C	Tungsten Rhenium - 5%	None	Green + Red -	Red	Green + Red -	Red	Green + Red -	Red	Green + Red -	Red	Green + Red -	Red	Green + Red -	Red	Green + Red -	Red	Green + Red -	Red	Green + Red -	Red	Green + Red -
	Tungsten Rhenium - 26%	Established																			

برخی رضایتنامه های خُسن انجام کار



دنیای مس کاشان



فولاد خراسان



پتروشیمی مهاباد



پتروشیمی خوزستان



مجتمع گاز پارس جنوبی



گروه ماشین سازی تبریز



موتورن



فروسیلیسیوم خمین



سیمان سفید شرق



ساینا فولاد



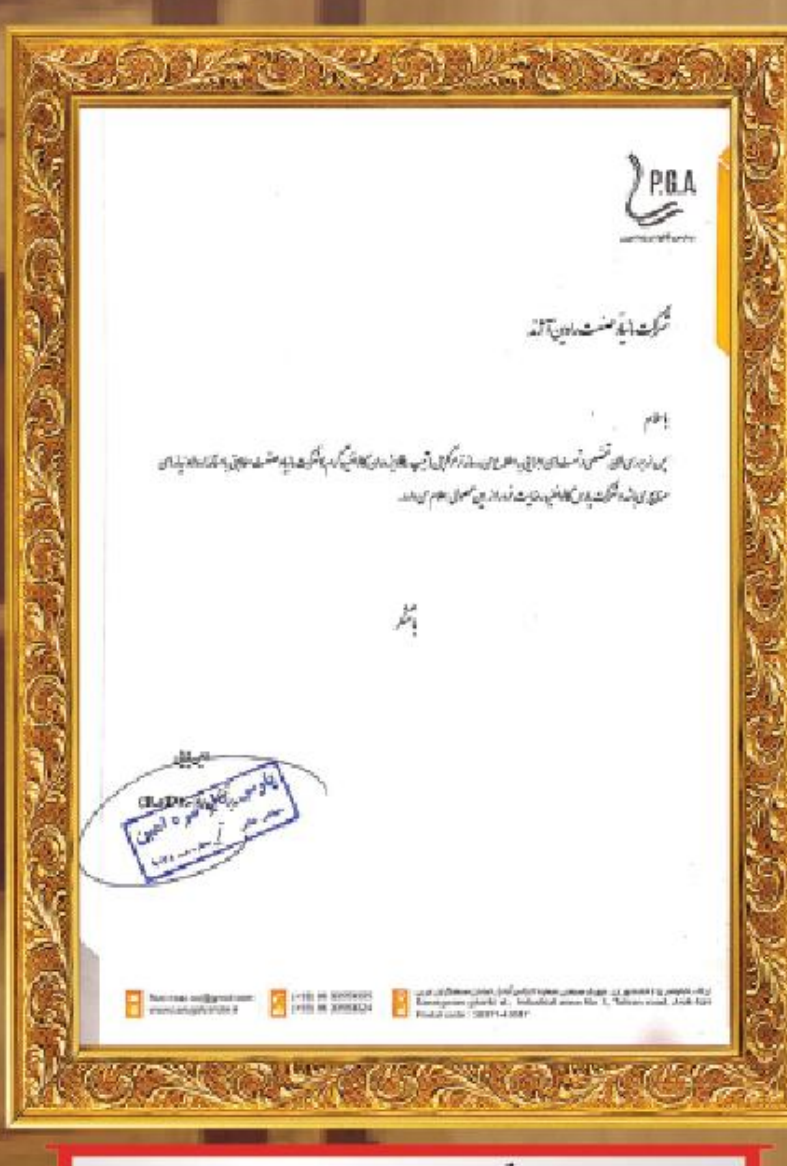
آجر ماشینی پی دژ گرگان



بهپو فناوری نوین



شیشه آذر مهر هریس



پارس گالوانیزه امین



سامان پلاست آریا



گروه ساتراپ مهدیشهر



مبدل سازان آریا



توسعه بن دا فراور



نفیش شیشه



ریخته گری دقیق پارس

برخی وندور لیست های تأیید شده



پالایش نفت تبریز



پالایش نفت لاوان



نفت فلات قاره ایران



شرکت صنایع پتروشیمی خلیج فارس



شرکت ملی صنایع پتروشیمی ایران



پلیمر آریا ساسول



پتروشیمی خوزستان



پتروشیمی پردیس



مخازن سبز پتروشیمی عسلویه



پتروشیمی تبریز



پتروشیمی مهاباد



پتروشیمی زاگرس



پتروشیمی پارس



پتروشیمی هنگام



پتروشیمی ایلام



سیمان سفید شرق



شرکت ملی صنایع مس ایران



آلومینیوم ایران



ایران خودرو



گروه مپنا



آذر فولاد ایران



فولاد خراسان



فولاد هرمزگان



ذوب آهن اصفهان



مجتمع فولاد مبارکه

عضو انجمن های:



انجمن صنفی کارفرمایی سازندگان
سیستم های کنترل و ابزار دقیق



انجمن اپنا



انجمن صنفی شرکت های اتوماسیون صنعتی
A . I . A . E

انجمن سازندگان
تجهیزات
صنعت نفت ایران
S.I.P.I.E.M

