

OIL & GAS DEVELOPMENT COMPANY LIMITED

Request For Quotation (LOCAL)



OGDCL House,
Jinnah Avenue,
Islamabad Pakistan

Due Date: 03.11.2022
Bid Bond Value: RS.250,000.00
Purchase Req: 30000211
Attachment (If Any): YES

Header Note: TUBE BUNDLE FOR INLET GAS EXCHANGER E-2304
Tender Enquiry No: 6300000086 / SCM LOCAL /298 / NASHPA FIELD / 2022
Evaluation Criteria: Full Consignment Basis
Bidding Procedure: Single Stage Two Envelope

SR#	Material No	Material Description	Unit	Quantity	Make Brand	Unit Price (PKR) Inclusive Of All Taxes Except GST/PST	Unit Price (PKR) Inclusive Of GST/PST	Total Price (PKR) Inclusive of GST/PST	Delivery Period (Days/Months)	Deviation from Tender Spec. if Any	Plant	
											Plant Code	Plant Name
1.	31-02703	TUBE BUNDLE E-2304 INLET GAS EXCHANGER DEHYDRATION AREA P# E-2304-TUBE BUNDLE DETAIL ATTACHED.	NO	1							0235	NASHPA FIELD

Bid Validity Period: 180 DAYS FROM TECHNICAL BID OPENING
Delivery Period: IN 06 MONTHS ON FOR NASHPA PLANT
Payment Terms: 20% ADVANCE AGAINST BANK GUARANTEE,
80% AFTER DEVIVERY & INSPECTION AT SITE.

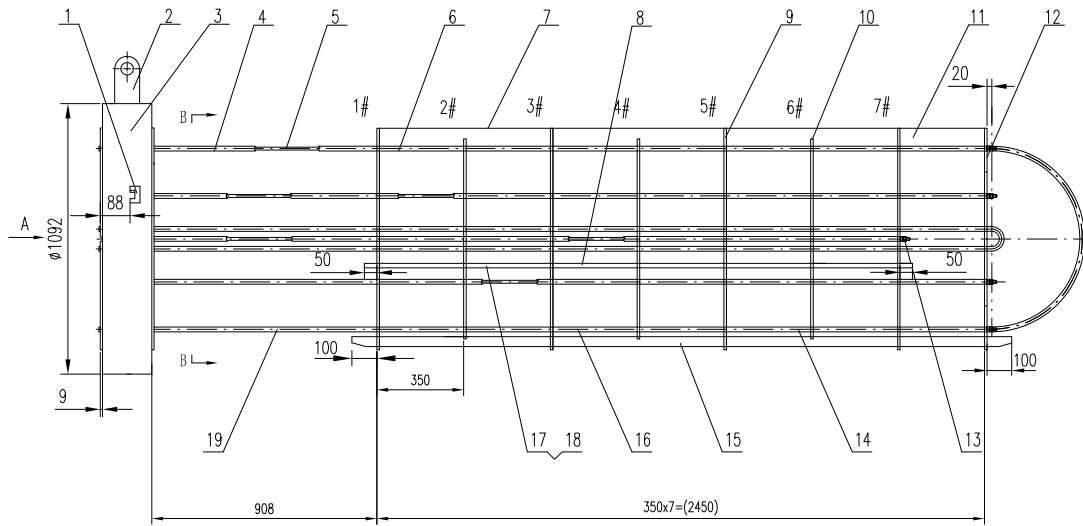
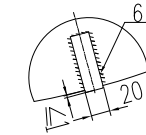
TERMS & CONDITIONS OF SUPPLY:

1. All the specifications / dimensions/ material selection/radiography should be as per attached drawing for the tube bundle.
2. Applicable codes: ASME VIII div. 1 TEMA R (or newer versions).
3. Only those manufacturers having valid ASME U stamp certification at the time of tender opening will be considered for technical evaluation (Certificate status to be provided).
4. Stage inspection (after shipment of material) and completion of fabrication will be carried out at manufacturer works by OGDCL representative(s).
5. Manufacturer of tube bundle should have experience of 7 years for fabrication of high pressure vessels / heat exchangers/tube bundles and should submit reference list for previous supply.
6. The tubes of the tube bundle must be sourced from manufacturers having 10 years of manufacturing experience and of American / European / Japanese origin and MTC to be provided during fabrication phase.
7. All the BOQ mentioned in the drawing(s) for the tube bundle should be included in the scope of work / supply.
8. The tube bundle shall be hydro-tested at site by OGDCL since shell for the tube bundle is available at OGDCL site. Bidder shall be informed for the hydrotesting after which the bidder or the representative of the manufacturer can visit OGDCL's site to witness the hydrotesting (within guarantee period) at its own cost.
9. Guarantee / warrantee for the equipment for a period of 01 year after being taken into service or 18 months after shipment whichever comes earlier.
10. **Delivery period:** 06 months
11. **Delivery location:** Nashpa plant. Delivery at site in bidder scope. Unloading at plant site is in OGDCL scope.
12. **Payment terms:** 20% advance payment after submission of Advance Bank Guarantee. Remaining payment after delivery and inspection at site.
13. All the above terms & conditions should be clearly confirmed in technical bid.

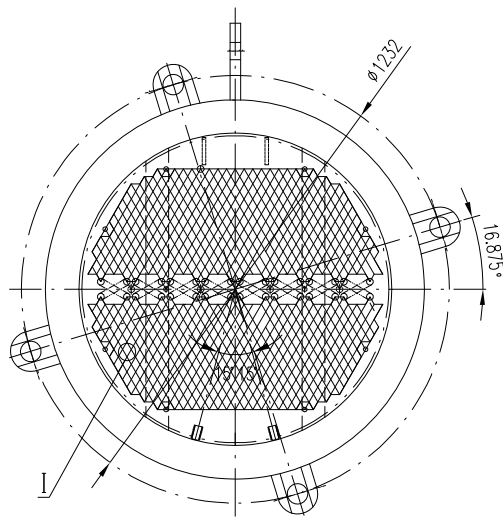
CONNECTION DETAIL OF SLIP PLATE AND SUPPORT

滑道与支持板连接详图

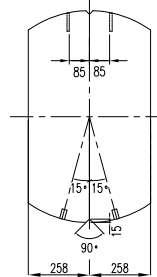
PIPE END CAP
接管堵头



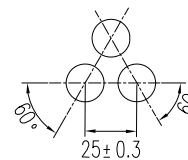
A VIEW
A 向



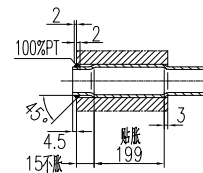
SECTION B-B
B-B (拆去换热管)



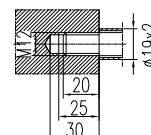
DETAIL I
详图 I



CONNECTION DETAIL OF TUBE AND TUBESHEET
换热管与管板连接详图



CONNECTION DETAIL OF TIE ROD AND TUBESHEET
拉杆与管板连接详图



GENERAL NOTES 技术要求

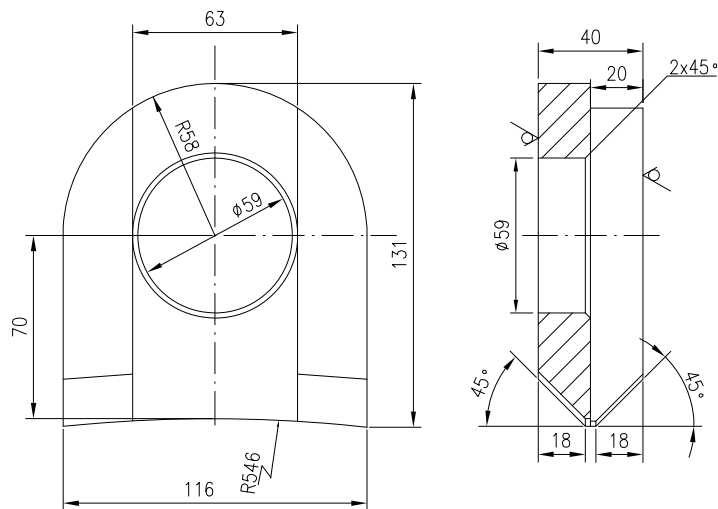
- STRENGTH WELDED PLUS LIGHT EXPANDED IS USED TO CONNECT TUBE AND TUBE SHEET;
换热管与管板的连接采用强度焊加贴胀。
- THE DEFLECTION FOR ALL THE SPACER TUBES SHALL BE -1mm;
所有定距管长度偏差为-1mm;
- UNLESS OTHERWISE NOTED, LEG HEIGHT FOR ALL FILLET WELDS SHALL BE EQUALED TO THE THICKNESS OF THE THINNER ELEMENTS AND BE SEAL WELDED;
所有未注明的角焊缝,其焊脚高度均等于较薄件厚度,且为连续焊;
- THE WELDING JOINT OF HEAT EXCHANGING TUBE AND TUBE SHEET SHALL BE 100% PT;
换热管与管板焊接接头应进行100% PT.
- ALL DIMENSIONS IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
除注明者外,所有尺寸均为毫米(mm).

19	U-16-16-10-18	SPACERS 定距管IV	φ19X2 L=1249	SA-179	4	1.05	4.20	SEE THIS DRAWING 本图
18	U-16-16-10-17	PLATE 堵板	φ15X3	SA-516 Gr.70N	8	0.004	0.032	SEE THIS DRAWING 本图
17	U-16-16-10-16	PIPE 挡管	φ19X2 L=2210	SA-179	4	1.85	7.40	SEE THIS DRAWING 本图
16	U-16-16-10-15	SPACERS 定距管III	φ19X2 L=340	SA-179	40	0.29	11.60	SEE THIS DRAWING 本图
15	U-16-16-10-14	SLIP PLATE 滑道		SA-516 Gr.70N	2	17.12	34.24	
14	U-16-16-10-13	TUBE 换热管组	φ19X2 L=3600	SA-179	450		2920	
13	ASME B18.2.2	NUTS 螺母	M12	SA-194 Gr.2H	20	0.018	0.36	HOT DIP GALVANIZED 热浸锌
12	U-16-16-10-12	SUPPORT PLATE 支持板	φ894Xφ540 δ=10	SA-36	1	31.30	31.30	
11	U-16-16-10-11	BY-PASS SEAL 旁路挡板	340X77X10	SA-36	2	1.95	3.90	SEE THIS DRAWING 本图
10	U-16-16-10-10	EVEN BAFFLE PLATE NO.2,4,6 偶数折流板2,4,6	φ894 δ=10	SA-36	3	22.43	67.29	
9	U-16-16-10-09	ODD BAFFLE PLATE NO.1,3,5,7 奇数折流板1,3,5,7	φ894 δ=10	SA-36	4	36.22	144.68	
8	U-16-16-10-08	TIE ROD 拉杆II	φ12X3075	SA-36	2	2.75	5.5	
7	U-16-16-10-07	BY-PASS SEAL 旁路挡板	690X77X10	SA-36	6	3.90	23.40	SEE THIS DRAWING 本图
6	U-16-16-10-06	SPACERS 定距管II	φ19X2 L=690	SA-179	12	0.58	6.96	SEE THIS DRAWING 本图
5	U-16-16-10-05	TIE ROD 拉杆I	φ12X3425	SA-36	8	3.101	24.81	
4	U-16-16-10-04	SPACERS 定距管I	φ19X2 L=899	SA-179	6	0.75	4.50	SEE THIS DRAWING 本图
3	U-16-16-10-03	TUBESHEET 管板	δ=217	SA-266 GR.2	1		1596	
2	U-16-16-10-02	LIFTING LUG 吊耳		SA-516 Gr.70N	1		4.47	
1	U-16-16-10-01	CLEAT 防松支耳		SA-516 Gr.70N	4	3.71	14.84	
ITEM NO. 号	DWG NO. OR CODE 图号或标准	DESCRIPTION 名称及规格		MATERIAL 材料	QTY. 数量	UNIT 单件	TOTAL 合计	REMARKS 备注



上海蓝滨石化设备有限责任公司
Shanghai Lanbin Petrochemical Equipment Co., Ltd.

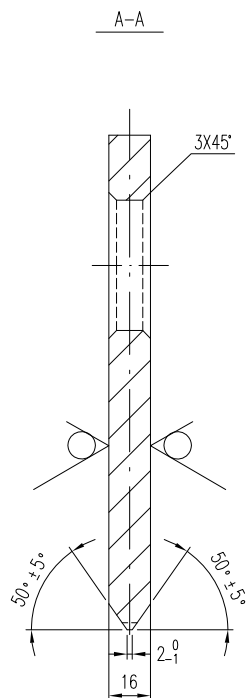
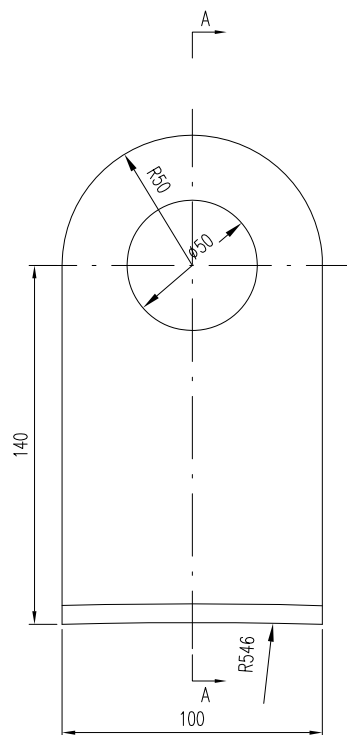
Prepared 设计	徐文芳	2016.07.20	图名 DWG NAME	Project 项目	OED2016-13				
Approved 批准	沈加	2016.07.20	BUNDLE 管束	Sub-Title 分项名称	Client 用户				
Job No. 工号	BU16-16			Scale 比例	1:20	Weight 重量	492.3kg		
Draw 画法			Material	Assembly 组合件	DWG NO: 图号 U-16-16-10-00				
					Phase 设计阶段	Construction 施工图	Page 1 of 1 第1张共1张	Rev. 版次	0



GENERAL NOTES 技术要求

1. THE EDGE OF ALL MATERIAL SHALL BE SMOOTH, THE DEGREE OF COARSENESS IS $\frac{25}{\sqrt{}}$.
下料切边 $\frac{25}{\sqrt{}}$;
2. SHARP ANGLE SHOULD INVERSE OBTUSE ANGLE.
锐角倒钝.

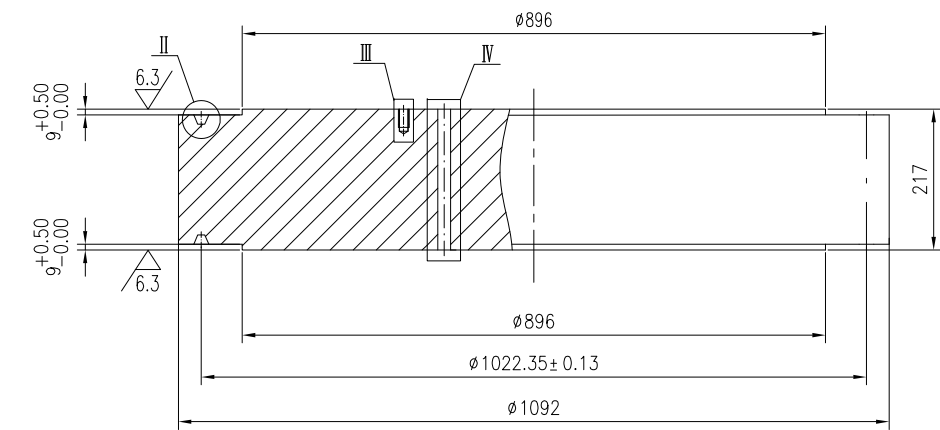
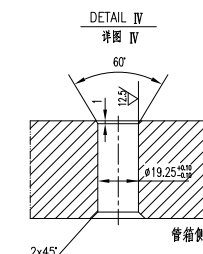
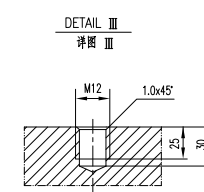
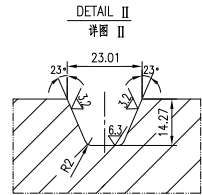
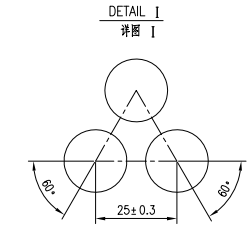
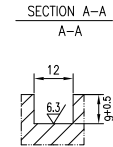
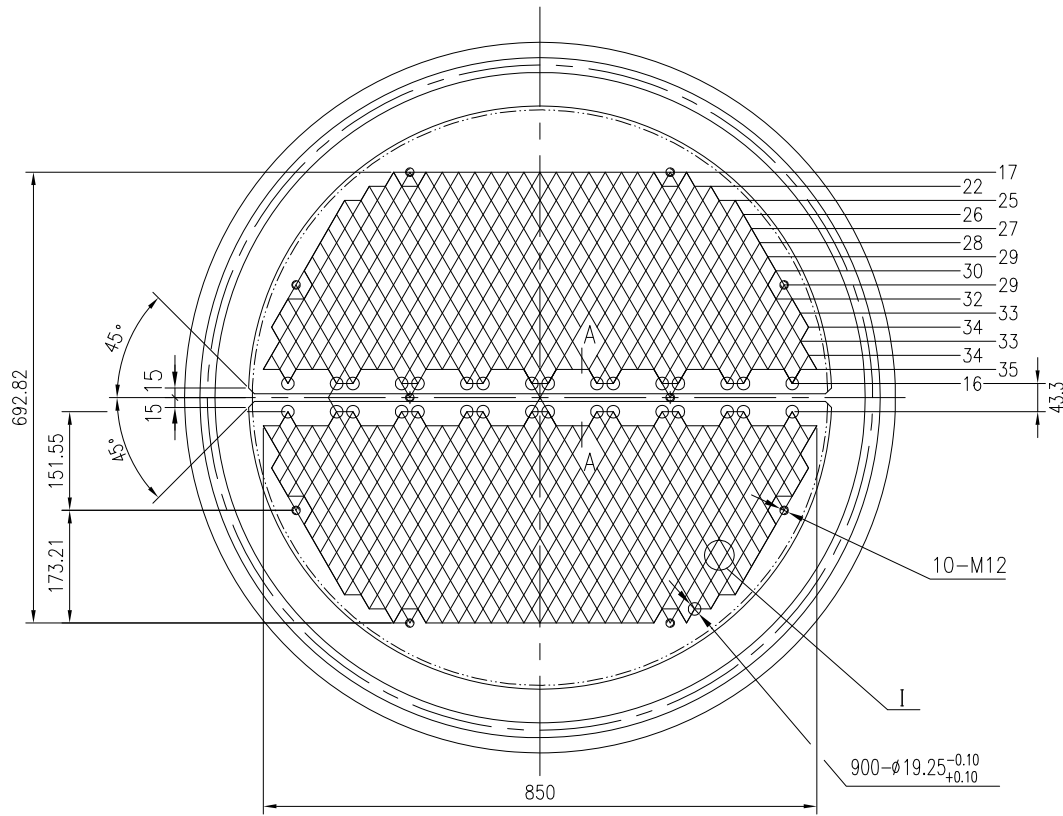
 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.								
Prepared 设计	徐文芳	2016.07.20	图名 DWG NAME CLEAT 支耳	Project 项目	OED2016-13			
Approved 批准	江加峰	2016.07.20		Sub-Title 分项名称	Client 客户			
Job No. 工号	BU16-16			Scale 比例	1:1	Weight 重量	3.71 kg	
Draw 画法		Material		SA-516 Gr.70N	DWG NO: 图号	BU16-16-10-01		
				Phase 设计阶段	Construction 施工	Page 1 of 1 第1张共1张	Rev. 版次	0



GENERAL NOTES 技术要求


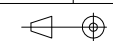
1. THE MATERIAL SHALL BE NO BEND AND DEFORM AFTER FABRICATION, AND EDGES SHALL BE ROUNDED.
材料须校平,尖角倒钝。

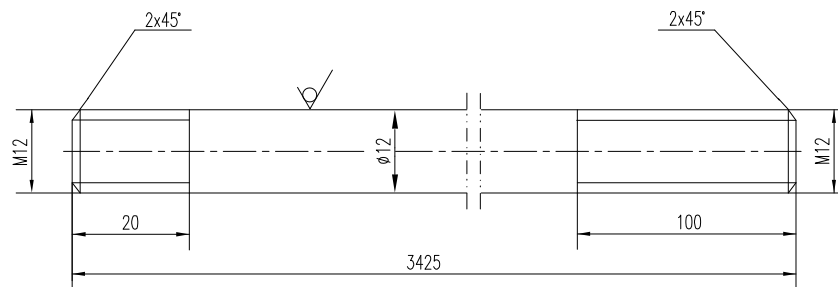
 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.		Project 项目		OED2016-13	
Prepared 设计	徐文芳	2016.07.20	图名 DWG NAME		Client 用户
Approved 批准	江加号	2016.07.20	LIFTING LUG 吊耳		Scale 比例
Job No. 工号	BU16-16				1:1
Draw 画法		Material	SA-516 Gr.70N	DWG NO: 图号 U-16-16-10-02	
				Phase 设计阶段	Construction 施工图
				Page 1 of 1 第1张 共1张	Rev. 版次 0



GENERAL NOTES 技术要求

- MATERIAL OF TUBESHEET SHALL BE IN ACCORDANCE WITH ASME CODE SEC. II SA-266;
管板材料应符合ASME CODE SEC. II SA-266中的规定;
- MINIMUM STD. LIGAMENTS $B \geq 4.30\text{mm}$, MINIMUM PERMISSIBLE LIGAMENT WIDTH OF 4% $B \geq 3.45\text{mm}$;
相邻两管孔之间的孔桥宽度 $B \geq 4.30\text{mm}$,允许4%孔桥宽度 $B \geq 3.45\text{mm}$;
- PERMISSIBLE TOLERANCES OF 4% TUBE HOLE IS $\phi 19.25^{+0.15}_{-0.10}$
允许4%管孔公差为 $\phi 19.25^{+0.15}_{-0.10}$
- ALL DIMENSIONS IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
除注明者外,所有尺寸均为毫米(mm).

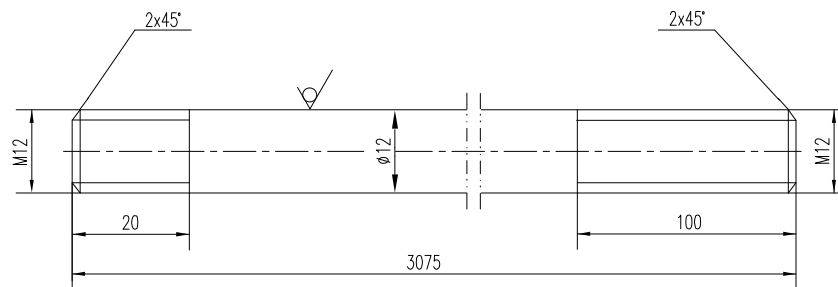
 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.		Project 项目 OED2016-13	
Prepared 设计 徐文芳	2016.07.20	图名 DWG NAME TUBESHEET 管板	Client 用户
Approved 批准 沈加军	2016.07.20		Weight 重量 1596kg
Job No. 工号 BU16-16		DWG NO: 图号 U-16-16-10-03	
Draw 画法		Material SA-266 Gr.2	Phase 设计阶段 Construction 施工图 Page 1 of 1 第1张共1张 Rev. 0



GENERAL NOTES 技术要求


1. ALL DIMENSIONS IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
除注明者外,所有尺寸均为毫米(mm);

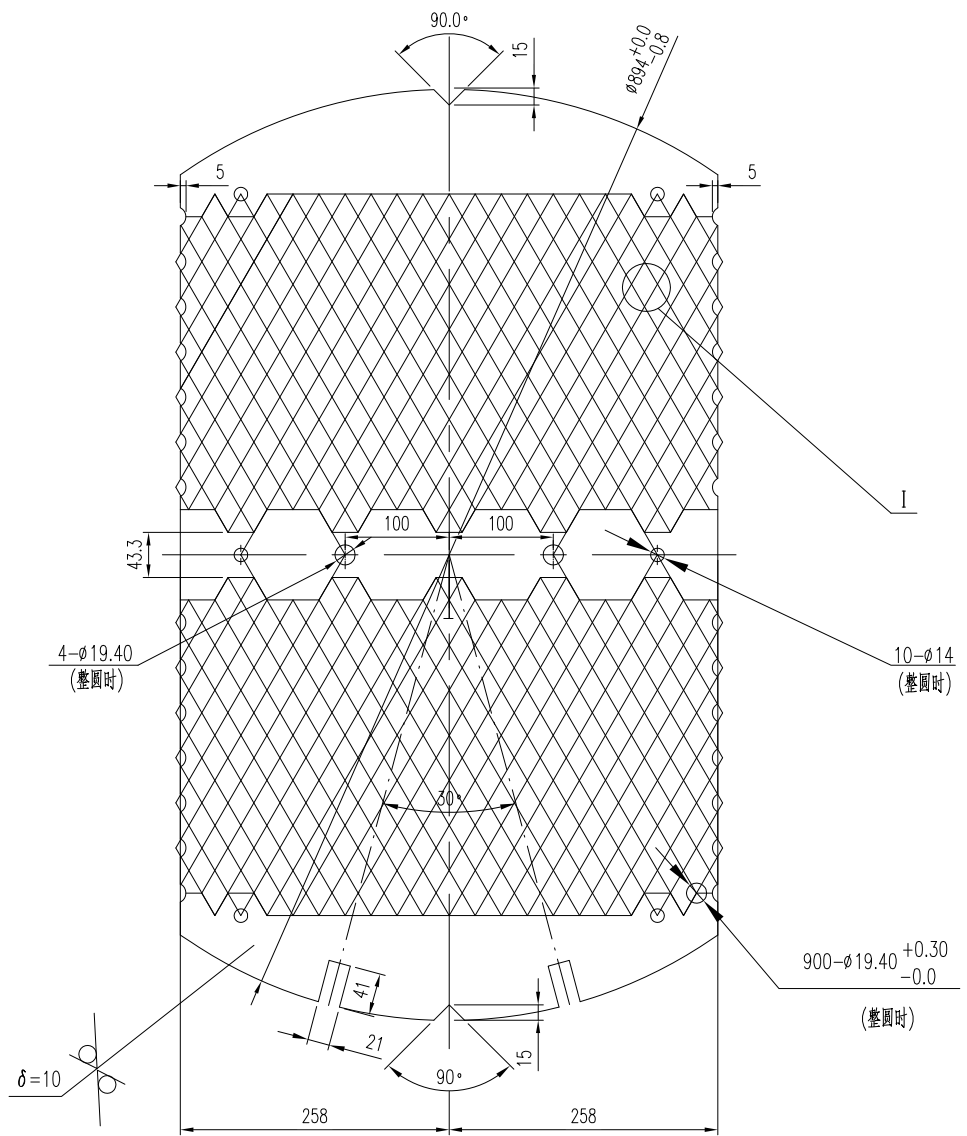
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		Prepared 设计	徐文芳	2016.07.20	Sub-Title 分类名称
Approved 批准	汪明	2016.07.20	Scale 比例	1:1	Weight 重量
Job No. 工号	BU16-16		DWG NO: 图号		
		Material	SA-36	U-16-16-10-05	
				Phase 设计阶段	Construction 施工图
				Page 1 of 1 第1张 共1张	Rev. 版次



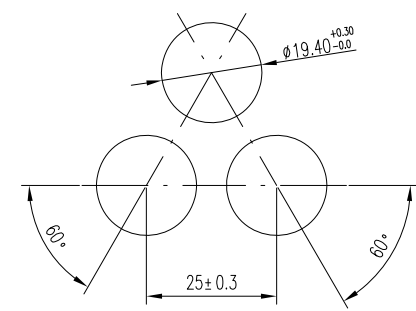
GENERAL NOTES 技术要求

1. ALL DIMENSIONS IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
除注明者外,所有尺寸均为毫米(mm);

 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.				Project 项目		OED2016-13		
Prepared 设计	徐文芳	2016.07.20	图名 DWG NAME	Sub-Title 分类名称	Client 用户			
Approved 批准	江加号	2016.07.20		TIE ROD 拉杆II	Scale 比例	1:1	Weight 重量	2.79kg
Job No. 工号	BU16-16				DWG NO: 图号 U-16-16-10-08			
			Material	SA-36	Phase 设计阶段	Construction 施工图	Page 1 of 1 第1张 共1张	Rev. 版次


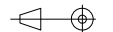


DETAIL I
详图 I

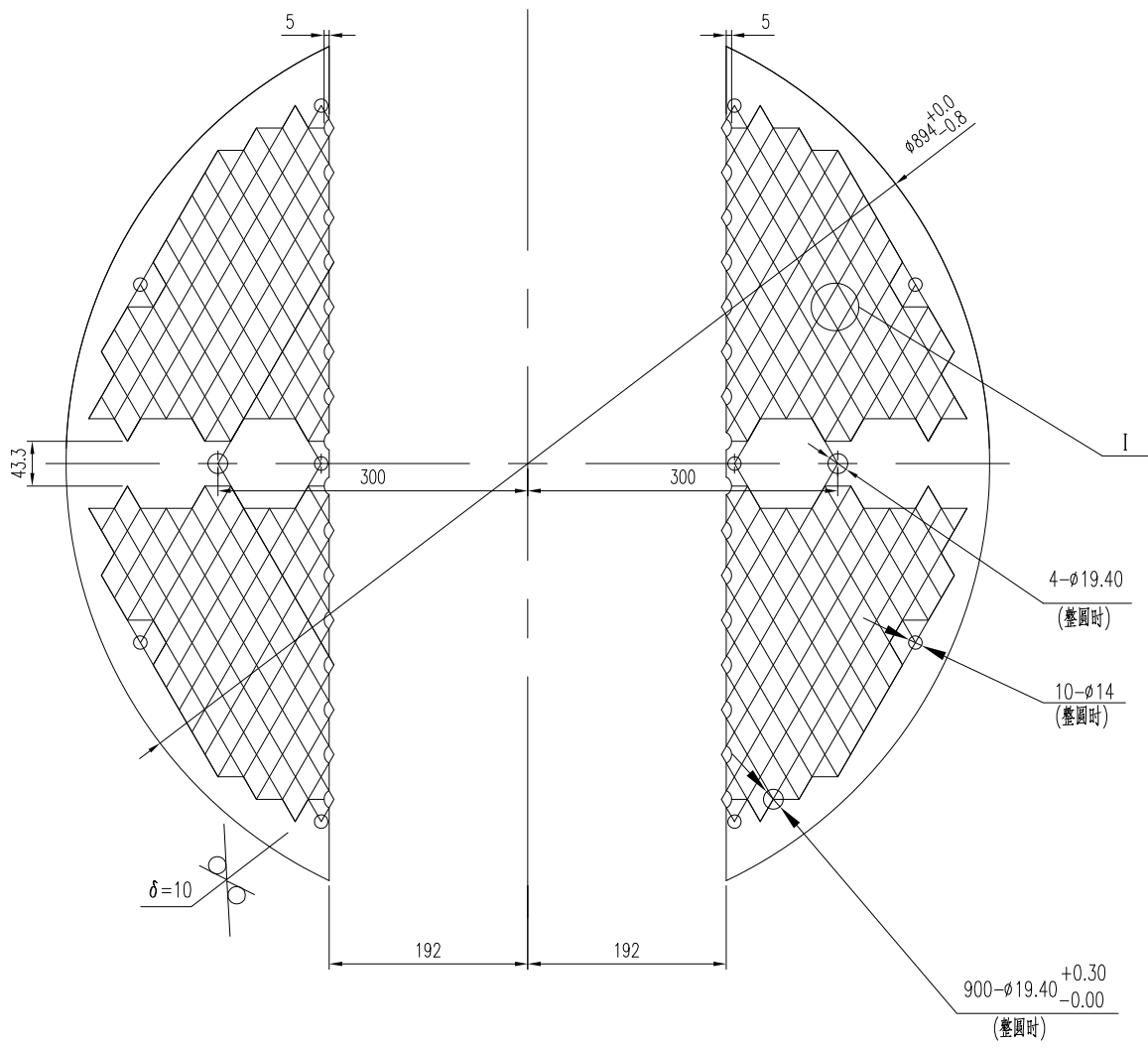
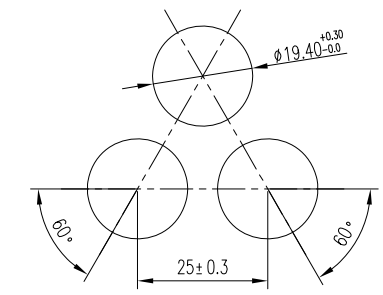


GENERAL NOTES 技术要求

- ALL BAFFLE PLATE SHALL BE FLATENED BEFORE MACHINING AND ALL BURRS SHALL BE REMOVED AFTER MACHINING.
折流板应校平后加工,加工后去掉毛刺;
- THE BAFFLE PLATE SHALL BE SMOOTH AND FLAT;
折流板切口应光滑平整;
- ALL DIMENSIONS IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
除注明者外,所有尺寸均为毫米(mm).


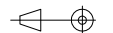
 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.				Project 项目 OED2016-13			
Prepared 设计	徐文芳	2016.07.20	图名 DWG NAME ODD BAFFLE PLATE 奇数折流板1,3,5,7	Sub-Title 分类名称	Client 用户		
Approved 批准	汪加号	2016.07.20		Scale 比例	1:5	Weight 重量	
Job No. 工号	BU16-16			DWG NO: 图号	U-16-16-10-9		
Draw 画法			Material	SA-36	Phase 设计阶段		
				Construction 施工图	Page 1 of 1 第1张共1张	Rev. 版次	0

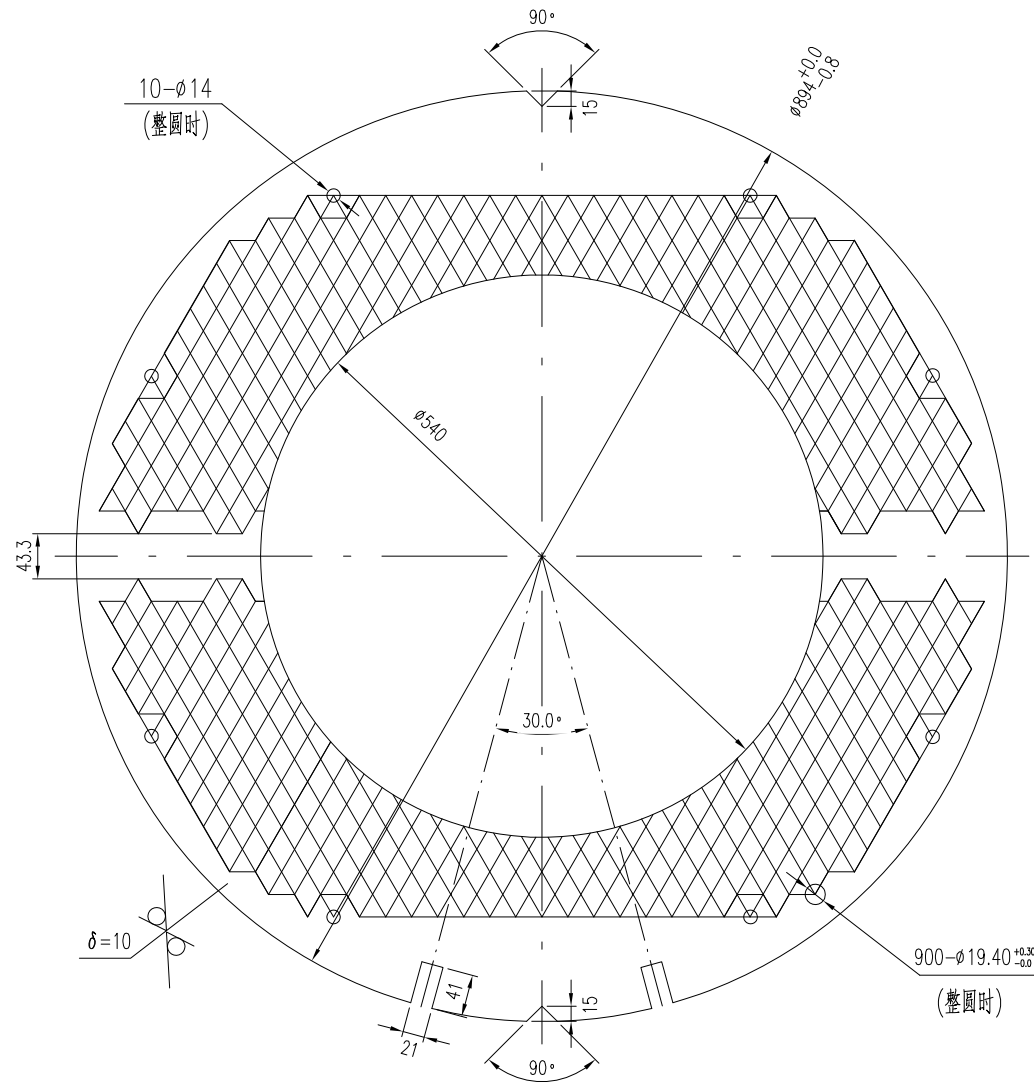
DETAIL I
详图 I



GENERAL NOTES 技术要求



1. ALL BAFFLE PLATE SHALL BE FLATENED BEFORE MACHINING AND ALL BURRS SHALL BE REMOVED AFTER MACHINING.
折流板应校平后加工,加工后去掉毛刺;
2. THE BAFFLE PLATE SHALL BE SMOOTH AND FLAT;
折流板切口应光滑平整;
3. ALL DIMENSIONS IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
除注明者外,所有尺寸均为毫米(mm).

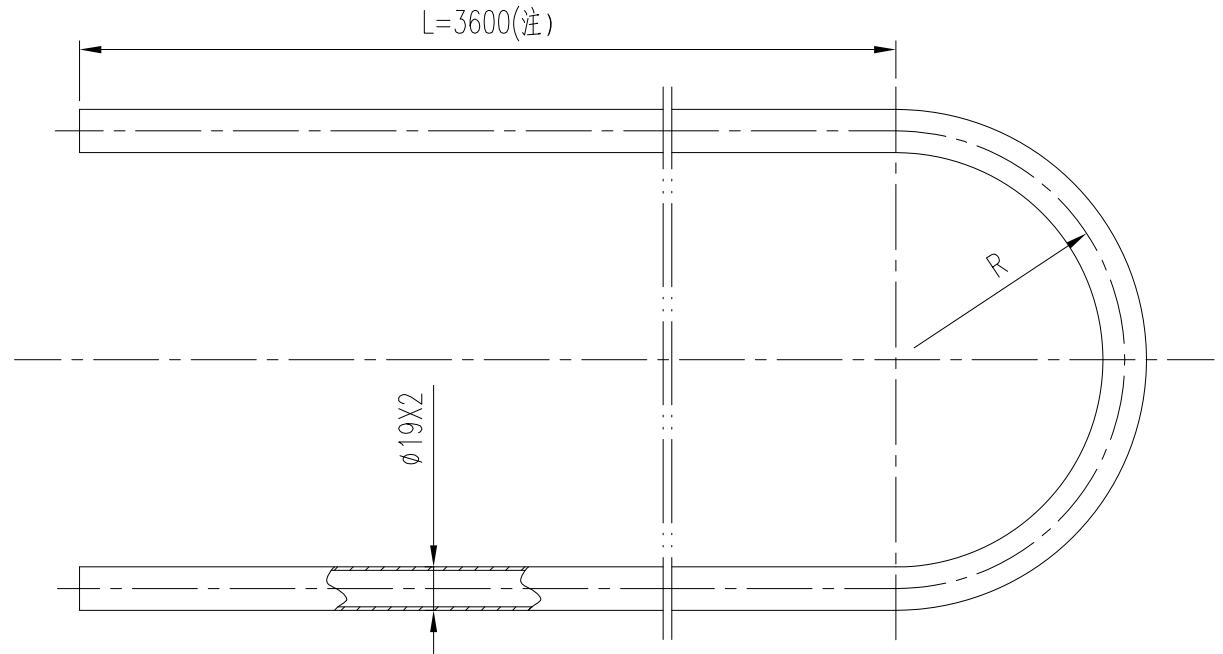
 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.		Project 项目		OED2016-13			
		Sub-Title 分类名称	Client 用户				
Prepared 设计	徐文芳	2016.07.20	Scale 比例	1:5	Weight 重量	22.43kg	
Approved 批准	江加号	2016.07.20	DWG NO: 图号			U-16-16-10-10	
Job No. 工号	BU16-16		Phase 设计阶段	Construction 施工图	Page 1 of 1 第1张共1张	Rev. 版次	0
Draw 画法		Material	SA-36				



GENERAL NOTES 技术要求

1. ALL SUPPORT PLATE SHALL BE FLATENED BEFORE MACHINING AND ALL BURRS SHALL BE REMOVED AFTER MACHINING;
支持板应校平后加工,加工后去掉毛刺;
2. THE SUPPORT PLATE SHALL BE SMOOTH AND FLAT;
支持板切口应光滑平整;
3. ALL DIMENSIONS IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
除注明者外,所有尺寸均为毫米(mm).

 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.		Project 项目		OED2016-13	
		Prepared 设计	徐文芳	2016.07.20	Sub-Title 分类名称
Approved 批准	江加峰	2016.07.20	Scale 比例	1:5	Weight 重量
Job No. 工号	BU16-16		DWG NO: 图号		
Draw 画法		Material	SA-36	Page 1 of 1 第1张共1张	Rev. 0
图名 DWG NAME			U-16-16-10-12		
SUPPORT PLATE 支持板					



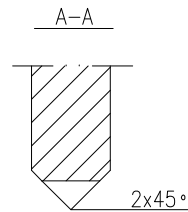
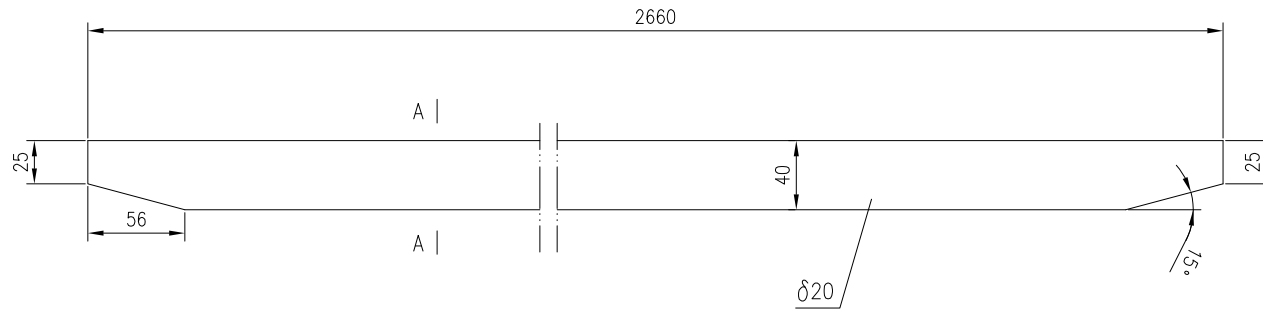
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16	324.75	8220.23	SA-179	22	6.89	151.58
15	303.10	8152.22	SA-179	25	6.84	171.00
14	281.45	8084.20	SA-179	26	6.78	176.28
13	259.80	8016.19	SA-179	27	6.72	181.44
12	238.15	7948.17	SA-179	28	6.66	186.48
11	216.50	7880.15	SA-179	29	6.61	191.69
10	194.85	7744.12	SA-179	30	6.49	194.70
9	173.20	7608.09	SA-179	29	6.38	185.02
8	151.55	7676.11	SA-179	32	6.44	206.08
7	129.90	7608.09	SA-179	33	6.38	210.54
6	108.25	7540.08	SA-179	34	6.32	214.88
5	86.60	7472.06	SA-179	33	6.27	206.91
4	64.95	7404.05	SA-179	34	6.21	211.14
3	43.30	7336.03	SA-179	35	6.15	215.25
2	43.30	7286.03	SA-179	8	6.21	49.68
1	43.30	7236.03	SA-179	8	6.07	48.56
ITEM NO. 序号	R	LENGTH OF U TUBE U形管长度	MATERIAL 材料	QTY. 数量	UNIT 单件	TOTAL 合计 重量 (kg)

GENERAL NOTES 技术要求

- U-TYPE SHOULD BE BENT WHOLY, NOT SPICED
U形换热管整根弯制, 不得拼接
- U-BENDS SHOULD BE INDIVIDUALLY FORMING ONE BY ONE, TEST PRESSURE BE 11.21 MPa.
U形换热管成形后应逐根进行水压试验, 试验压力为11.21 MPa.
- U-BENDS SHOULD BE COLD FORMED, U-BENDS AND 150mm LENGTH STRAIGHT TUBE SHOULD BE STRESS RELIEF HEAT TREATED AFTER FORMING.
U形换热管应冷弯成形, 弯制后, 弯管及至少150mm的直管段应进行消除应力热处理;


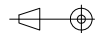
NOTE: 1. FOR No.1, L=3550mm, FOR No.2, L=3575mm, FOR OTHERS, L=3600mm.
注: 1. 序号1 则 L=3550mm; 序号2 则 L=3575mm; 其余序号则 L=3600mm.

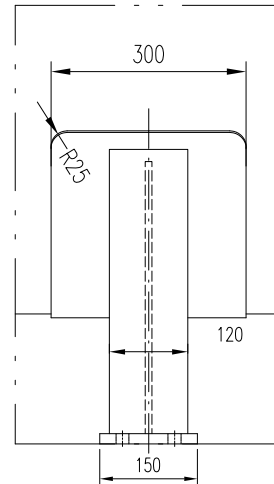
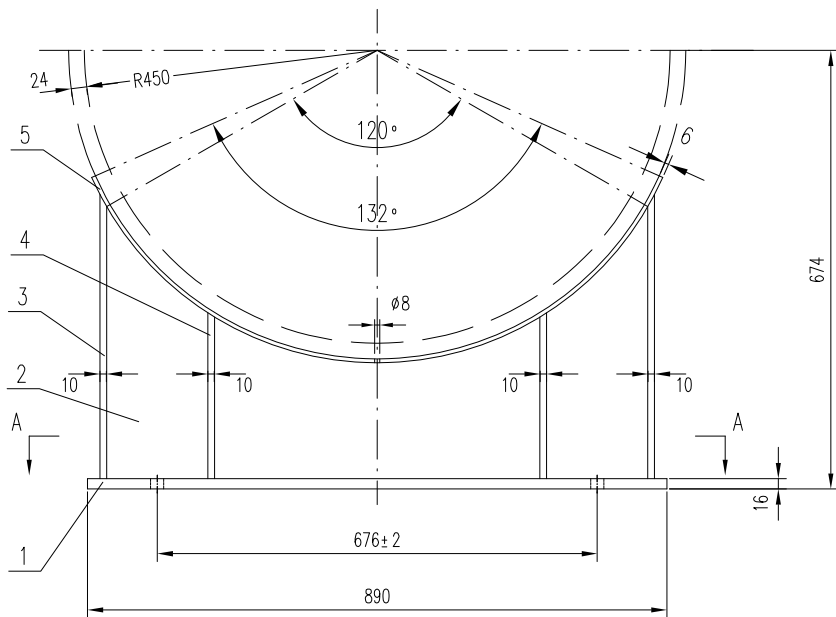
Prepared 设计		2016.07.20		图名 DWG NAME		Project 项目		OED2016-13							
Approved 批准		2016.07.20		TUBE 换热管组		Client 用户									
Job No. 工号		BU16-16				Scale 比例		1:5		Weight 重量		2920kg			
Draw 画法				Material		SA-179		DWG NO: 图号		U-16-16-10-13					
						Phase 设计阶段		Construction 施工图		Page 1 of 1 第 1 页 共 1 页		Rev. 版次		0	



GENERAL NOTES 技术要求

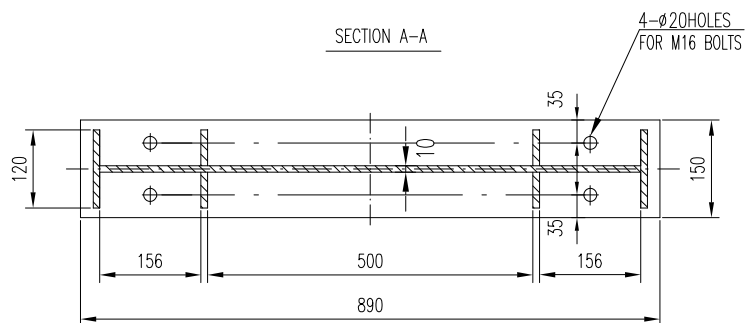
1. THE MATERIAL SHALL BE NO BEND AND DEFORM AFTER FABRICATION, AND EDGES SHALL BE ROUNDED.
材料须校平,尖角倒钝.

 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.				Project 项目		OED2016-13		
Prepared 设计	徐文芳	2016.07.20	图名 DWG NAME	Sub-Title 分类名称	Client 用户			
Approved 批准	江加号	2016.07.20		SLIP PLATE 滑道	Scale 比例	1:5	Weight 重量	17.12Kg
Job No. 工号	BU16-16				DWG NO: 图号 U-16-16-10-14			
Draw 画法			Material	SA-516 Gr.70N	Phase 设计阶段	Construction 施工图	Page 1 of 1 第1张 共1张	Rev. 版次 0





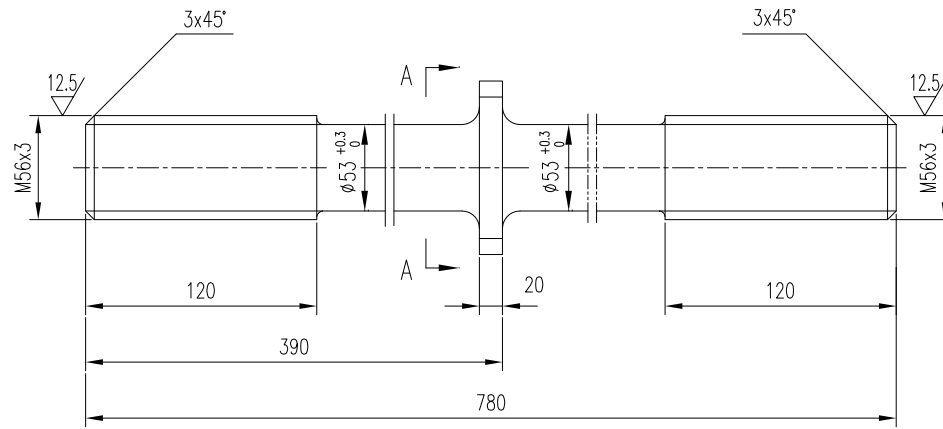
GENERAL NOTES (技术要求)

- CUTTING EDGES OF ALL PARTS SHALL BE SMOOTH, COARSENESS DEGREE IS $\nabla 5$.
下料切边应平整,切边粗糙度为 $\nabla 5$.
- UNLESS OTHERWISE NOTED, THE HEIGHT OF ALL FILLET AND LAP WELDS SHALL BE THE THINNER THICK OF CONNECTING PLATE AND SHALL BE CONTINUOUS.
未注角缝腰高均为较薄板厚,且为连续焊。



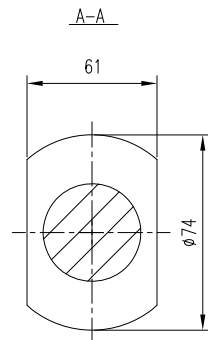
ITEM NO. 序号	DWG NO. OR CODE 图号或标准	DESCRIPTION 名称及规格	MATERIAL 材料	QTY. 数量	UNIT 单件 WEIGHT 重量 (kg)	TOTAL 合计 重量 (kg)	REMARKS 备注
5	U-16-16-11-05	WEAR PLATE 垫板 1092x300 $\delta=6$	SA-516 Gr.70N	1	15.43	15.43	SEE THIS DRAWING 本图
4	U-16-16-11-04	RIB PLATE II 肋板 II 250x55 $\delta=10$	SA-36	4	2.36	4.72	SEE THIS DRAWING 本图
3	U-16-16-11-03	RIB PLATE I 肋板 I 437x120 $\delta=10$	SA-36	2	4.12	8.24	SEE THIS DRAWING 本图
2	U-16-16-11-02	WEB PLATE 腹板 $\delta=10$	SA-36	1	27.86	27.86	SEE THIS DRAWING 本图
1	U-16-16-11-01	BASE PLATE 底板 890x150 $\delta=16$	SA-36	1		16.77	SEE THIS DRAWING 本图



 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.									
Prepared 设计	徐文芳	2016.07.20	图名 DWG NAME FIXED SADDLE 固定鞍座	Project 项目	OED2016-13				
Approved 批准	沈彬	2016.07.20		Sub-Title 分类名称	Client 用户				
Job No. 工号	BU16-16			Scale 比例	1:10	Weight 重量	76.94kg		
Draw 画法			Material	Assembly 组合件	DWG NO: 图号	U-16-16-11-00			
					Phase 设计阶段	Construction 施工图	Page 1 of 1 第 1 页 共 1 页	Rev. 版次	0



GENERAL NOTES 技术要求

1. THE BOLT SHALL BE HOT DIP GALVANIZED
螺栓外部热镀锌。



 上海蓝滨石化设备有限责任公司 Shanghai Lanbin Petrochemical Equipment Co., Ltd.		Project 项目		OED2016-13	
		Sub-Title 分类名称		Client 用户	
Prepared 设计	徐文芳	2016.07.20	Scale 比例		1:1
Approved 批准	江加峰	2016.07.20	Weight 重量		25.46 kg
Job No. 工号	BU16-16		DWG NO: 图号		
Draw 画法		Material	SA-193 Gr.B7		
			Phase 设计阶段	Construction 施工图	Page 1 of 1 第 1 页 共 1 页
			Rev. 版次	0	