

## Inquiry letter

No. 序号	Item name 项目名称	Content provisions 内容规定
1	Inquiry company information 询价公司信息	Company name:EMBA Elektrik Uretim A.S.(Hunutlu Power Plant) 公司名称: EMBA Elektrik Uretim A.S.(Hunutlu Power Plant)
		Address:Şefik Sokak No.5 34330 Levent-Beşiktaş İstanbul 地址: Şefik Sokak No.5 34330 Levent-Beşiktaş İstanbul
		Hunutlu Power Plant Address: Akyuva district, EMBA Cluster House No.1, Yumurtalik, Adana, Turkey 胡努特鲁发电厂地址: Akyuva district, EMBA Cluster House No.1, Yumurtalik, Adana, Turkey
		Phone:0538 553 9503 (Mr.Ali KUTLUKTEKİN) alikutlutekin@hunutulupowerplant.com 联系电话: 0538 553 9503【Mr.Ali KUTLUKTEKİN】 alikutlutekin@hunutulupowerplant.com
2	Inquiry subject 询价主题	For ball mill steel ball purchase inquiry, please see Appendix 1 "Ball Mill Steel Ball List" for details. 球磨机钢球采购询价, 明细详见附件1《球磨机钢球清单》
		The quality of steel balls must meet the requirements in Technical specifications. Suppliers participating in the quotation should provide steel ball quality certification documents and supplier performance statements 钢球的质量必须满足技术规范书中的要求, 参与报价的供应商应提供钢球质量证明文件以及供应商业绩表
3	Planned delivery period 计划供货期限	February 25, 2024 to March 25, 2024 2024年02月25日到2024年3月25日
4	Place of delivery 交货地点	Turkey Hunutlu Thermal Power Plant(Sugözü District, Yumurtalik City, Adana Province, Turkey);
5	Quotation requirements 报价要求	The quotation currency is turkish lira, and the price is fixed during the delivery period 报价货币为土耳其里拉, 在供货期限内价格固定不变
		The price should include the cost of each batch of steel ball inspection reports; 价格应包含每批次钢球检测报告费用;
		The price shall include the stamp tax required to be paid by both parties to the purchase contract (which shall be borne by the supplier and paid by the supplier to the relevant tax authorities); 价格应包含采购合同双方需要缴纳的印花税(均由供应商承担, 并由供应商负责去相关税务部门缴纳);
		The price shall include the cost of materials for the supply of the Products, freight costs, labor costs (including the wages of the Supplier's relevant staff, holiday and Sunday overtime wages, bonuses, allowances, social insurance and personal income tax, board and lodging expenses, etc.), on-site unloading costs, living expenses and insurance costs, and all related expenses paid by the Seller to the Turkish Government or the relevant industry associations. All taxes except Turkish VAT, reasonable profit and other expenses incurred in the execution of the Contract. 价格应包含产品供应材料费用, 货运费用, 人工费用(包括供应商的相关工作人员的工资、假期和周日加班工资、奖金、津贴、社会保险和个人所得税、食宿费用等)现场卸货费用, 生活费用和保险费用, 卖方向土耳其政府或相关行业协会支付的所有相关费用, 除土耳其增值税外所有税费, 合理的利润和合同执行过程中产生的其他费用。
5	Quotation time and requirements 报价时间和要求	<b>The bid opening meeting is planned to be held at 10 a.m. on February 20, 2024 (if the time changes, we will be notified in advance). Suppliers need to go to Hunutlu Power Plant - EBMA Office Area - 2nd Floor - Conference Room (Room No. 2108) to provide Signed and stamped paper quotation document (sealed in a document bag or encrypted compressed file sent to the designated email address)</b> <b>计划在2024年02月20日上午10点举行开标会议(如时间发生变动, 另行提前通知), 供应商需到胡努特鲁电厂-EBMA办公区-2楼-会议室(房间号2108)提供签字盖章版的纸质报价文件(使用文件袋进行密封或者加密的压缩文件发送到指定邮箱)</b>
7	Quotation method 报价方式	First round of quotation: <b>(1) The companies participating in the quotation provide quotations;</b> (2) EMBA will rank the companies participating in the quotation and announce the top <b>two companies</b> (only the names of the companies will be announced); (3) Rules for ranking: the lower the price, the higher the ranking; 第一轮报价: <b>(1) 参与报价的公司提供报价;</b> (2) EMBA将对参与报价的公司进行排名, 并公布排名靠前的 <b>两家公司</b> (仅公布公司名称); (3) 排名的规则: 价格越低, 排名越靠前;
		Second round quotes: (1) After the ranking of the second round of quotations is announced, the companies participating in the quotations will continue to make the second round of quotations; (2) EMBA will rank the companies participating in the second round of quotations and announce the top-ranked company (only the company name will be announced); (3) The company with the highest ranking in this round of quotations will be the winning bidder for this steel ball procurement (the intended winning bidder); 第二轮报价: (1) 第二轮报价公布排名后, 参与报价的公司继续进行第二轮报价; (2) EMBA将对参与第二轮报价的公司进行排名, 并公布排名最靠前的 <b>一家公司</b> (仅公布公司名称); (3) 本轮报价中排名最靠前的这家公司, 将是本次钢球采购的中标公司(意向中标公司);

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8	Price form 价格形式	fixed total price 固定总价
9	Settlement method 结算方式	After all goods are accepted and accepted, they will be settled uniformly. 所有货物验收合格后，统一结算。
10	Method of payment 支付方式	No advance payment 无预付款 The Seller shall provide the same amount of VAT invoice according to the settlement amount confirmed by both parties, and the Buyer shall pay 100% within 15 working days after receiving the invoice. 卖方根据双方确认后的结算金额提供等额的增值税发票，买方收到发票后15个工作日内100%支付
11	Language 语言	English is the official language of this inquiry, and the companies participating in the quotation declare that they fully understand the contents expressed in English in this inquiry announcement. 英语作为本次询价的正式语言，参与报价的公司声明充分理解本询价公告中英语所表达的内容
12	Documents to be sent when quoting 报价时需要发送的文件	<ul style="list-style-type: none"><li>*The Qualification documents issued by the Turkish government for for carrying out such supply. *由土耳其政府颁发的进行此类供应的资格文件。</li><li>*Business license of enterprise legal person; *企业法人的营业执照;</li><li>*Valid and up-to-date Trade Registry Gazette; *有效的和最新的贸易登记公报;</li><li>*Valid and updated Signature Circular; *有效的和更新的签署通知;</li><li>*Valid and up-to-date Tax Certificate; *有效的和最新的税务证书;</li><li>*Product quality inspection report; *产品质量检验报告;</li><li>*Business performance report; *企业的业绩报表;</li><li>*Other documents if necessary. *如有必要，还有其他文件。</li><li>*Annex 1 Ball Mill Steel Ball List (Signature and seal) . *附件1 球磨机钢球清单 (签名和盖章) 。</li><li>*Annex 2 Technical specifications (Signature and seal) . *附件2 技术规范书 (签名和盖章) 。</li></ul>

**Thank you for your cooperation, looking forward to your quotation!**

## Inquiry List

From:EMBA ELEKTRİK ÜRETİM A.Ş.

No.	System code	ITEM	Brand	ITEM DESCRIPTION	UOM	Estimate Qty.	UNIT PRICE			TOTAL PRICE			Currency Type	REMARKS
							Excluding VAT	Tax Rate	Including VAT	Excluding VAT	VAT TAX	Including VAT		
1	1001299	球磨机钢球 Bilyeli değirmen bilyeleri	/	见技术协议Technical specifications	Ton	70.00		20.00%	0.000000	0.00	0.000000	0.000000	TRY	
TOTAL (Excluding VAT)										0.00	0.00	0.00	TRY	
VAT TAX										0.00			TRY	
TOTAL(Including VAT)										0.00			TRY	

Signature and Stamp:

Date :

# 球磨机钢球采购技术规范书

## 1 现状介绍

胡努特鲁发电厂 2\*600WM 脱硫系统共用两台湿式球磨机，设备为济南重工生产的 FGDM2970 湿式球磨机，用于烟气脱硫工程，石灰石浆液磨制系统中石灰石的粉磨。

### 1.1 磨机技术参数

筒体内径 3220mm

筒体工作长度 7160mm

筒体工作转速 19.3r/min

筒体慢传转速 0.2r/min

磨机形式 溢流、右旋一台、左旋一台

生产能力 15t/h

主电机型号功率 630Kw

电机转速 980r/min

## 2 工作内容、范围

钢球主要适用于脱硫湿式球磨机，用于石灰石的粉磨。

## 3 技术要求

### 3.1 项目进行所依据的标准和规范

3.1.1 本协议提出的是钢球所能达到的最低限度的技术要求，并未对所有技术细节作出规定，也未充分引述各相关标准和规范的具体条文，乙方应提供符合本招标文件和最新工业标准的优质产品。

### 3.2 技术要求

#### 3.2.1 磨煤机钢球化学成分：

C: 2.3-2.8 Mo: 0-0.8 Cu: 0-0.5 Si: ≤2.0 P: ≤0.10 Mn: 0.5—1.0 S:  
≤0.10 Cr: 15-17

### 3.2.2 技术指标

规格：球形，直径 80mm；硬度：≥620HB；破碎率：≤1%；

甲方选择任何磨衬板材质，球耗≤600 克/吨

3.2.3 磨球的直径规格为Φ80 mm。其直径偏差小于或等于+2.0mm。

3.2.4 磨球在运行时受到冲击与磨损时应不失圆，不变形，表面无裂缝、掉皮、脱落现象发生。磨球的破碎率应小于 1%。

3.2.5 铸造磨球的表面应平整，浇口、冒口、毛刺、多肉、粘砂应清理干净，不允许有裂纹和影响使用性能的夹渣、沙眼、气孔、缩孔、缩松、冷隔等铸造缺陷。锻造磨球表面不允许有裂纹，拆叠和影响使用性能的飞边、毛刺等锻造缺陷。

## 4 其他要求

4.1 钢球供货按照甲方需求批量供给。乙方在得到甲方供货通知后，10 日内将甲方所需钢球送至甲方仓库。

4.2 乙方提供的磨球到货时，都应附有质量证明书，其内容包括：

- a) 制造厂的名称、地址；
- b) 磨球名称、牌号及直径规格；
- c) 磨球的重量；
- d) 磨球的化学成份与力学性能；
- e) 磨球的质量检验结果；
- f) 磨球的生产日期或生产批量号。

4.3 乙方在磨球发生异常或质量问题后，应能保证在接到通知后 24 小时内赶到招标人设备现场。

## 5 质量验收

验收分为二次验收：

第一次验收：磨球到货后由双方共同进行随机抽样化验。

第二次验收：在磨球投入运行后六个月进行。

## Bilyalı değirmen çelik bilyalı standartı

Özellikler: Kullanılan bilyalı öğütülmüş çelik bilyenin çapı  $\Phi 80$  Mm'dir ve bilyalı öğütülmüş çelik bilyenin üretim süreci. Tedarik gereksinimleri: dövme çelik bilyalar

### Dökme çelik bilyaların kimyasal bileşimi ve mekanik özellikleri

#### 1、 Kimyasal Bileşim

kimyasal bileşim							
Tip	C	Si	Mn	P	S	Cr	sertlik (HRC)
Orta kromlu çelik bilya	2.0-3.5	$\leq 1.2$	$\leq 1.8$	$\leq 0.1$	$\leq 0.1$	4.0-9.0	$\geq 48$

#### 2、 Mekanik özellikler Metalografik yapı Kırılma oranı Etki değeri

Tip	Mekanik Özellikleri		Mikroyapı	Kırılma oranı	Darbe Oranı Akj/cm <sup>2</sup>
	HRC	Düşen bilye sayısı			
Orta kromlu çelik bilya	$\geq 48$	12000	P+C	$< 1\%$	$\geq 3$

Metalografik Yapı (M-martensit; A-östenit; B-bainit; P-perlit; C-karbür; F-ferrit)

Çelik bilyenin yüzeyinde veya iç imalatında büzülme boşlukları, çatlaklar, transkristaller vb. gibi kusurlar varsa, bu yalnızca çelik bilyanın performansını düşürmekle kalmayacak, aynı zamanda çelik bilyenin kırılmasına da neden olacaktır. Bu nedenle çelik bilya üretiminde makul dövme ve ısıl işlem proseslerinin geliştirilmesi gerekmektedir. Dikey dökme ve harici soğutma demiri gibi önlemler rasyonel olarak kullanılmalı ve döküm sıcaklığı sıkı bir şekilde kontrol edilmelidir. Bu, döküm sırasında çelik bilyalar için iyi bir katılma sırası ve besleme koşulları sağlayabilir, böylece yoğun bir iç yapı elde edilebilir ve iri taneli durumu azaltılabilir.

Dövme çelik bilyalar: iyi yüzey kalitesi, iyi darbe direnci, güçlü tokluk, iyi aşınma direnci, kırılması ve yuvarlaklığını kaybetmesi kolay değildir. Metalin 700-1300°C sıcaklığa ısıtıldığı ve belirli mekanik özelliklere, belirli şekillere sahip dövme parçalar elde etmek için metalin plastik olarak deforme olmasını sağlamak amacıyla metal iş parçasına basınç uygulamak için bir dövme

makinesinin kullanıldığı bir işleme yöntemidir. Dövmenin iki ana bileşeninden biri (dövme ve damgalama). Dövme, eritme işlemi sırasında üretilen gevşek döküm metali gibi kusurları ortadan kaldırabilir ve mikro yapıyı optimize edebilir. Aynı zamanda, metal akış hatlarının tamamının korunması nedeniyle, dövme parçaların mekanik özellikleri genellikle aynı malzemenin dökümünden daha iyidir.

Signature and Stamp:

Date :