Tender Document for Manufacture & Supply of CycleBeads

Under Rate Contract for 12 months

IFB No. HLL/MKTG/SD/2013-14/07 DT. 17.08.2013

HLL Lifecare Limited

(A Govt. of India Enterprise)
HLL Bhavan, Poojappura,
Thiruvananthapuram -695012
Kerala, India
Tel: +0471 2354949, 2350959, 2350961, 2356352.
Website – www.lifecarehll.com

HLL LIFECARE LIMITED

(A Govt. of India Enterprise)
HLL Bhavan, Poojappura,
Thiruvananthapuram - 695012, Kerala, India
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Tender for Manufacture & Supply of CycleBeads
Under Rate Contract for 12 Months

BID REFERENCE	:	HLL/MKTG/SD/2013-14/07 dt.17.08.2013
DATE OF COMMENCEMENT OF SALE OF BIDDING DOCUMENT	:	17.08.2013, 11.00 HRS
LAST DATE FOR SALE OF BIDDING DOCUMENT	:	26.08.2013, 11.30 HRS
LAST DATE AND TIME FOR RECEIPT OF BIDS	:	26.08.2013, 14.30 HRS
TIME AND DATE OF OPENING OF BIDS	:	26.08.2013, 15.00 HRS
PLACE OF OPENING OF BIDS	:	HLL Lifecare Limited HLL Bhavan, Poojappura, Thiruvananthapuram -695012 Kerala, India
ADDRESS FOR COMMUNICATION	:	HLL Lifecare Limited HLL Bhavan, Poojappura, Thiruvananthapuram -695012 Kerala, India Email – vgpillai@lifecarehll.com / hllsd@lifecarehll.com

ABSTRACT

SECTION I

INVITATION FOR BIDS (IFB)

INVITATION FOR BIDS (IFB)

IFB No: **HLL/MKTG/SD/2013-14/07 DT. 17.08.2013**

HLL Lifecare Ltd hereby invites sealed technical cum commercial bids from reputed and eligible bidders for the Manufacture & Supply of CycleBeads on rate contract for 12 months.

Sealed Tenders in duplicate will be accepted till 14.30 Hrs on 26.08.2013 by the ASSOCIATE VICE PRESIDENT (SD & CTD) i/c, HLL Lifecare Limited, HLL Bhavan, Poojappura, Thiruvananthapuram - 695012 Kerala, India Tel: +91 471 2354949, 2350959, 2350961, 2356352. Website – www.lifecarehll.com

1. Interested eligible Bidders may obtain further information from the office of the ASSOCIATE VICE PRESIDENT (SD & CTD) i/c, HLL Lifecare Limited, HLL Bhavan, Poojappura, Thiruvananthapuram -695012 Kerala, India Tel: +0471 2354949, 2350959, 2350961, 2356352. Website – www.lifecarehll.com, email – vgpillai@lifecarehll.com, hllsd@lifecarehll.com

2. A complete set of bidding documents may be purchased by any interested eligible bidder from the above office from 09.30 Hrs to 17.30 Hrs on any working day on submission of a written application to the above office and remitting a non-refundable fee of Rs.1500/- (including taxes) in the form of DD drawn in favour of HLL Lifecare Limited, payable at Thiruvananthapuram.

3. The Tender Documents can also be downloaded from our Website www.lifecarehll.com and cost of the Tender Documents as mentioned above should be furnished along with Bid documents.

4. Interested eligible bidders may submit their bidding documents at the office of the ASSOCIATE VICE PRESIDENT (SD & CTD) i/c, HLL Lifecare Limited, HLL Bhavan, Poojappura, Thiruvananthapuram -695012 Kerala, India Tel: +0471 2354949, 2350959, 2350961, 2356352. Website – www.lifecarehll.com.

5. All bids must be accompanied by the items/documents specified herein and must be delivered to the ASSOCIATE VICE PRESIDENT (SD & CTD) i/c's Office on or before 26.08.2013, 14.30 Hrs. The bids will be opened on 26.08.2013 at 15.00 Hrs, in the presence of the bidders or their duly authorized representatives who wish to attend the bid opening on the specified date and time at HLL's office mentioned above. In the event of the date being declared is a closed holiday for HLL, the due date for submission of bids and opening of bids will be the following working day at the appointed time.

6. Central Public Sector Enterprises/SSI Units registered with NSIC (certified copy required) shall be exempted from payment of the Tender document cost.

7. The quantity mentioned above is only anticipated approximate quantity. The Purchaser reserves the right at the time of award of contract to increase or decrease the quantity of goods and services originally specified in the bid document without any change in unit price or other terms and conditions

SECTION II
INSTRUCTION TO BIDDERS (ITB)

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INSTRUCTION TO BIDDERS (ITB)

A.INTRODUCTION

1. Eligible Bidders

1.1 Primary manufacturers are eligible to participate in this tender.

1.2 The bidder should have experience in the field of manufacture and supply of the product or products similar in nature.

2. Cost of Bidding

2.1 The Bidder shall bear all costs associated with the preparation and submission of its bid and HLL Lifecare Limited, Thiruvananthapuram, hereinafter referred to as "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

B. THE BIDDING DOCUMENTS

3. Contents of Bidding Documents

3.1 The goods required, bidding procedures and contract terms are prescribed in the Bidding documents. In addition to the Invitation for Bids, the Bidding documents include:

a. Instruction to Bidders (ITB);
b. General Conditions of Contract (GCC);
c. Technical Specifications
d. Price Schedules;

3.2 The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding Documents. Failure to furnish all information required by the Bidding Documents or submission of a bid not substantially responsive to the Bidding Documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

4. Clarification of Bidding Documents

4.1 A prospective Bidder requiring any clarification of the Bidding Documents may notify the Purchaser in writing at the Purchaser's mailing address indicated in the Invitation for Bids. The Purchaser will respond in writing to any request for clarification of the Bidding Documents which it receives not later than 5 days prior to the deadline for submission of bids prescribed by the Purchaser. Written copies of the Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective Bidders who have sought clarification against the bidding documents.

5. Amendment of Bidding Documents

5.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Bidding Documents by an amendment.

5.2 Any Amendment to this tender shall be notified in our website www.lifecarehll.com only. Parties are requested to visit the website frequently.

5.3 In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bid, the Purchaser may, at its discretion, extend the deadline for the submission of bids

5.4 In the event of any amendment issued against this tender a copy of amendment duly signed on all pages shall be submitted along with the bids.

C. PREPARATION OF BIDS

6. Language of Bid

6.1 The Bid prepared by the bidder and all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the English language. Supporting documents and printed literature furnished by the Bidder may be written in another language provided they are accompanied by an accurate translation of the relevant passages in the English language in which case, for purposes of interpretation of the Bid, the English translation shall govern

7. Documents Comprising the Bid

The bid shall consist of the following documents.

a) Duly attested copies of factory license/ Industrial license, sales tax registration and documents to prove the legal status, place of registration and principal place of business of the undertaking.

b) Documentary evidence establishing that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted

c) Details of in house quality control laboratory facilities and services and range of test conducted;

d) Authenticated copy of the Memorandum of Association/Articles of Association/Partnership deed etc and certificates of incorporation/ registration of the organization

e) Copy of PAN card

f) Authorisation for the signatory to sign the bids and transact business duly notarized.

g) The bidder is to submit a self declaration stating that the bidder or principal manufacturer is not black listed nor debarred by any Government departments / Agencies / statutory bodies against the supply of the equipments tendered for. In the event of any false declaration the bids submitted by the bidder or principal manufacturer would be rejected.

h) The Bidder shall indicate in the Price Schedule (Section V) the unit prices and total Bid prices of the goods it proposes to supply under the Contract.

i) The total unit costs will the basis for evaluation.

j) Fixed price: Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

8. Bid Currencies

8.1 Prices shall be quoted in Indian Rupees.

9. Period of Validity of Bids

9.1 Bids shall remain valid for one year from the date of bid opening. A bid valid for a shorter period may be rejected by the Purchaser as non-responsive.

9.2 In exceptional circumstances, the Purchaser may solicit the bidders consent to an extension of the period of validity. The request and the responses thereto shall be made in writing.

10. Format and Signing of Bid

10.1 The original bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorised to bind the Bidder to the Contract. The letter of authorisation shall be indicated by written power-of-attorney duly notarized accompanying the bid. All pages of the bid, except for unamended printed literature, shall be initialed by the person or persons signing the bid.

10.3 Any interlineations, erasures or overwriting shall be valid only if they are initialed by the person or persons signing the bid.

D. SUBMISSION OF BIDS

Separate bids shall be submitted for price bid and technical bids.

11.1 The bid documents shall be sealed in an envelope and duly marked as "Technical cum Commercial Bid" addressed to the Purchaser at the following address:

ASSOCIATE VICE PRESIDENT (SD&CTD) i/c,
HLL Lifecare Limited,
HLL Bhavan, Poojappura,
Thiruvananthapuram -695012 Kerala, India
Tel: +0471 2354949, 2350959, 2350961, 2356352.
Website – www.lifecarehll.com

(a) The envelope shall bear the Invitation for bids (IFB) number, and a statement: "DO NOT OPEN BEFORE" 15.00 Hrs. ON 26.08.2013"

(b) If the envelope is not sealed and marked as required the Purchaser will assume no responsibility for the bid's misplacement or premature opening.

(c) Telex, cable or facsimile bids will be rejected

(d) Bids must be received by the Purchaser at the address specified not later than the date and time specified in the Invitation For Bid. In the event of the specified date for the submission of bids, being declared a holiday for the Purchaser, the bids will be received up to the appointed time on the next working day.

(e) The Purchaser may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in which case all rights and obligations of the Purchaser and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

12. LATE BIDS

12.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser, will be rejected and returned unopened to the bidder.

13. MODIFICATION AND WITHDRAWAL OF BIDS

13.1 The bidder may modify or withdraw its bid after the bid submission, provided that written notice of the modification or withdrawal is received by the Purchaser prior to the deadline prescribed for submission of bids.

13.2 The bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched. A withdrawal notice may also be sent by telex or cable or fax, but followed by a signed confirmation copy, post-marked not later than the deadline for submission of bids.

13.3 No bid may be modified subsequent to the deadline for submission of bids.

13.4 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidder in the Bid Document.

E. BID OPENING AND EVALUATION

14. Opening of Bids by Purchaser

14.1 The Purchaser will open all bids, in the presence of bidder's representatives who choose to attend, at 15.00 Hrs on 26.08.2013 at the following location:

HLL Lifecare Limited,
HLL Bhavan, Poojappura,
Thiruvananthapuram -695012 Kerala, India
Tel: +0471 2354949, 2350959, 2350961, 2356352.
Website – www.lifecarehll.com

14.2 The bidder's representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids shall be opened at the appointed time and location on the next working day.

14.3 The bidder's names, modifications, bid withdrawals and the presence or absence of the requisite documents and such other details as the Purchaser, at its discretion, may consider appropriate will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the bidder.

14.4 The Purchaser will prepare minutes of the bid opening.

14.5 The purchaser will scrutinize the bid for compliance to the specifications and documentation requirement as per the bid document. Purchaser will depute its competent officers to the premises of the bidder qualified on the basis of technical scrutiny, for on-site evaluation of the claims made in the bid, if deemed appropriate on purchaser's sole discretion. The bidders will be short-listed on the basis of responsiveness of bid as well as report of on-site technical evaluation. The on-site evaluation may include the inspection of the specimen sample of the goods. The successful bidder shall be identified on the basis of lowest evaluated substantially responsive bid.

15. CLARIFICATION OF BIDS

15.1 During evaluation of bids, the Purchaser may, at its discretion, ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted.

16 PRELIMINARY EXAMINATIONS

16.1 The Purchaser will examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed, and whether the bids are generally in order.

16.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the bidder does not accept the correction of the errors, its bid will be rejected.

16.3 The Purchaser may waive any minor informality or non-conformity or irregularity in a bid, which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any bidder.

17. EVALUATION AND COMPARISON OF BIDS

17.1 Price comparison during evaluation will be done on the net unit rate inclusive of all taxes, levies, freight & insurance will only be considered.

18. CONTACTING THE PURCHASER

18.1 No bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of the purchaser it should do so in writing.

18.2 Any effort by a bidder to influence the purchaser in its decisions on bid evaluation, bid comparison, or selection may result in the rejection of the bidders bid.

F. AWARD OF CONTRACT

19. AWARD CRITERIA

19.1 The Purchaser will place order with the successful bidder whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid, provided further that the bidder is determined to be qualified to perform the contract satisfactorily.

20. PURCHASER'S RIGHT TO VARY QUANTITIES AT TIME OF AWARD

20.1 The Purchaser reserves the right at the time of award of purchase order to increase or decrease the quantity of goods and services originally specified in the bid document without any change in unit price or other terms and conditions

21. PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

21.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award Contract award, without thereby incurring any liability to the affected bidder or bidders.

22. NOTIFICATION OF AWARD

22.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the successful bidder in writing by registered letter or by cable or telex, to be confirmed, that its bid had been accepted.

22.2 The notification of award will constitute the formation of the contract

23. SIGNING OF SUPPLY AGREEMENT

23.1 The successful bidder has to sign a supply agreement, the draft of which will be send to the lowest bidder only with the letter informing the acceptance of bid. Within 20 days of receipt of the information regarding acceptance of the bid, the successful bidder shall sign the supply agreement and return it to the Purchaser.

24. DELAYS IN DELIVERY OF GOODS

24.1 A delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to agreement, unless an extension of time is agreed upon pursuant to agreement without the application of liquidated damages.

24.2 If the Supplier fails to deliver any or all of the Goods or perform the Services within the time period(s) specified in the Purchase Order, the purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to the percentage specified in the purchase order.

30. PAYMENT TERMS

30.1 The Price of the Goods quoted shall be inclusive of Cost, insurance, freight unless otherwise specified in the purchase order, – FOR any where in India.

30.2 Payment shall be made by the Purchaser but in no case later than thirty (30) days after submission of the invoice/claim by the Supplier.

30.3 Acceptance of the payment terms without any qualification shall form part of the technical bid. In case the payment terms are not accepted the bid is likely to be rejected.

SECTION IV
TECHNICAL SPECIFICATIONS

Product Specifications

CycleBeads are composed of four components

1. Thirty-two teardrop-shaped beads (in red, white, light brown, and dark brown)
2. Two-part clasp (one "male" part and one "female" part)
3. String
4. Two o-rings

General Component Requirements

1. Components must meet specifications as outlined in this document.
2. Components should meet design and manufacturing tolerances as described. Adherence to tolerances helps to ensure a properly functioning product, consistent both within one region and among multiple regions.
3. Components should be designed to comply with an intended product life of five years. Component materials should be chosen and tested to meet this requirement.

Critical Component Features

The following are general descriptions of critical features of the CycleBeads assembly. Specific part dimensions and tolerances are shown in the part drawings in Appendix I.

Teardrop Beads

CycleBeads consist of teardrop beads that enable the user to move the o-ring easily in one direction only. The teardrop shape also ensures that the ring sits securely on each bead and is unlikely to slip off.

1. Outer dimension of bead—The outer dimension of the bead needs to be closely controlled and matched to integrate properly with the inner diameter of the o-ring for proper function. Beads that are too large can lead to difficulty of operation for the user, while beads that are too small can lead to undesired slippage of the ring over the bead. Either problem can lead to inaccurate counting and lowered effectiveness of the product.
2. Concentricity—Because of the outer dimension requirements, manufacturers must also maintain part concentricity.
3. Bead molding flash—Excessive flash can create a cutting surface that can quickly damage the o-ring with daily use. Flash must be kept to an absolute minimum, requiring proper mold design, alignment, and molding pressure.
4. Inner hole diameter—Diameter must be of appropriate and consistent size to pass a doubled string through during assembly.
5. Color shade and consistency—Beads must be of the correct, consistent color (see color requirements under the section Specific Component Requirements below). The colors of the two different shades of brown beads are critical so that users can easily distinguish between the two colors of beads. The white beads are phosphorescent to facilitate use in low light conditions. If regrind plastic is used to lower costs, special attention should be placed on color accuracy and consistency. Colorant (dye) should be molded throughout each bead, not painted on, in order to prevent chipping and loss or change of color.

Clasp

The clasp on CycleBeads is a screw clasp that allows the user to replace the o-ring if necessary (i.e., if the original o-ring breaks or is difficult to move). This is an important feature as the o-ring tends to be the most delicate part of CycleBeads, and the clasp ensures that the product can still be used even if the o-ring needs to be replaced, thus extending the product life.

1. Thread interface—The two halves of the clasp must interface correctly without cross threading or excessive user effort. Additionally, they must fit tightly enough to prevent unwinding during use.
2. Inner hole diameter—Diameter must be of appropriate and consistent size to pass a doubled string through but not pass a knot on the doubled string. This is to ensure that the CycleBeads can be assembled but will prevent the beads from inadvertently slipping off the string after assembly.
3. Printing—The CycleBeads logo must be legible and the arrow must clearly indicate the direction of travel for the o-ring. Appropriate durable ink and printing technique must be used to ensure legibility after an extended period of use.

String

The string acts as the backbone of the CycleBeads and holds the beads together in the correct order.

1. Diameter—String diameter must be of appropriate and consistent size to pass (as a doubled string) through the inner diameter of the beads and clasp (the current thread used is approximately 0.75 mm in diameter).
2. Strength—Since the string is responsible for maintaining the integrity of the CycleBeads product, the strength must be adequate to withstand the use period of five years. The currently used string has a breaking strength of approximately 22 kg.
3. Durability—String durability is enhanced by appropriate material selection (e.g., synthetic braided nylon) and maximizing the string diameter (while ensuring passage through the beads). Nylon monofilament (such as fishing line) is not recommended because of its tendency to stretch under load.

O-ring

The o-ring acts as a marker on CycleBeads and allows a woman to easily track which day of her cycle she is on. It is also the most delicate component of CycleBeads and must be manufactured so that it is strong, sits securely on each bead, but is relatively easy to move.

1. Inner diameter—The interface between the o-ring and the outer diameter of the teardrop beads is critical, as noted above.
2. Durability and flexibility—The o-ring must be of such material and cross section to permit passage over the beads for a use period of five years. The current manufacturers have found that some commercially available orings are too stiff and/or large in cross-section. This has created excess difficulty during use or premature o-ring breakage. Because of the o-ring wear inherent in the use of the CycleBeads, appropriate o-ring materials may not include materials that are easily damaged while under tension (such as silicone) or orings that are made by joining ends rather than molding.

Specific Component Requirements

Beads and Clasp

Material Requirements

Specific material requirements do not exist for CycleBeads except conformance with other performance and longevity requirements. Current manufacturers are using polystyrene for the teardrop beads and polypropylene for the clasp beads.

Dimensional Requirements

Refer to part drawings (Appendix-I). Note: Drawings were developed with dimensions and tolerances based on currently produced CycleBeads and standard industry tolerances. Minor deviations from these dimensions may be acceptable.

Manufacturing Methods

At current manufacturing facilities, the teardrop beads and the "male" portion (exposed threads) of the clasp are injection molded in a multicavity mold. Depending on the facility, the "female" portion (internal threads) of the clasp is either:

1. Injection molded using an automated mold to create the internal threads or
2. The clasp portion is injection molded without threads, and the threads are tapped as a secondary production step. Extra care may need to be taken with this method to ensure quality threads that do not cross-thread or loosen when assembled.

Color Requirements

Table 1. Color requirements

Component	Color*
White bead	Pantone 7485U with added phosphorescent dye
Light brown bead	Pantone 769C
Dark brown bead	Pantone 440C
Red bead	Pantone 1795C
Clasp (male and female) beads	Black with printing

*As designated by the primary manufacturer.

Fit, Finish, and Cosmetic Requirements

Table 2. Fit, finish, and cosmetic requirements

Consideration	Requirement
Molded surface finish	Matte
Flash	Per part drawings–maximum permissible flash is 0.05 mm
Gate remnant	Minimization on outside surfaces per inspection requirements
Surface sink	None allowed (due to modification of outer bead dimensions)
Screw function (clasp)	Male and female threads matched
Cosmetic blemishes (scratches, marking)	Minimization per inspection requirements

O-ring

Dimensional Requirements

Refer to part drawings (Appendix-I). Standard nitrile AS568B-109 o-rings can be used if they meet the performance requirements.

Performance Requirements

O-rings, whether externally sourced or produced internally, should conform to the following physical standard tests. These tests assume the use of automated tensile testing equipment.

Table 3 . O-ring performance requirements

Test	Conditions	Standard
Simulated use	20oC; 65% relative humidity	60 revolutions of o-ring around the CycleBeads without breakage or excessive distention (causing the o-ring to slip easily over the bead).
Interaction with bead	20oC; 65% relative humidity	Bead must remain firmly on ring without slippage for a 24-hour testing period.
Breaking strength	1. 20oC; 65% relative humidity 2. Crosshead speed: 500 mm/min 3. Grip dimension: minimum 2 mm	9 kg.

	cross section	
Fatigue	1. 20oC; 65% relative humidity 2. 2 kg load 3. Grip dimension: minimum 2 mm cross section	No damage after 2,000 cycles.
Distortion	1. 20oC; 65% relative humidity 2. 2 kg load 3. Grip dimension: minimum 2 mm cross section	Diameter increase ≤ 8% after 2,000 cycles.

String

Dimensional Requirements

The critical dimension of the string is the outer diameter which must pass doubled through the beads during assembly. The string currently used in production is a three-strand nylon string with an outer diameter of approximately 0.75 mm.

Performance Requirements

This test for breaking strength assumes the use of automated tensile testing equipment.

Test	Conditions	Standard
Breaking strength	1. 20oC; 65% relative humidity 2. Crosshead speed: 75 mm/min	20 kg.

Instructional Insert and Calendar

Instructional insert and calendar format shall be given at the time of placement of purchase order

CycleBeads Assembly

CycleBeads are composed of individual components (e.g., beads, string, o-ring) that need to be assembled accurately and efficiently in order to ensure a high-quality product at the lowest production cost. Each of the manufacturing sites currently producing CycleBeads uses a hand assembly process. While this process is labor intensive, the initial cost of automating assembly may outweigh the potential long-term cost savings. The following is a basic assembly method that references in-line QC measures.

Assembly

A simple assembly fixture can be made from a piece of L-shaped metal (angle iron) which can then be painted to represent the correct colors in an assembled, strung set of CycleBeads (shown in Figures 9 and 10).

Figure 9. Assembly fixture with beads

Figure 10. Assembly fixture without beads

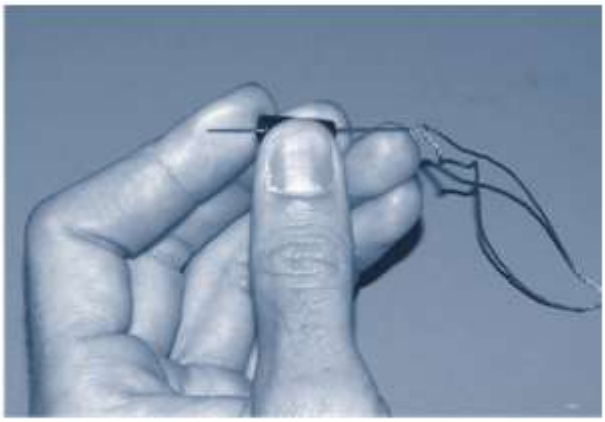
Two modified needles are used to thread a doubled string through the beads (Figure 11). The small needle (approximately 5 cm [length] x 0.85 mm [outer diameter]) is used to thread the string through the small holes in the clasp.

The large needle (approximately 64 cm [length] x 1.5 mm [outer diameter] is made from a rod and is used to thread the string through all the teardrop beads. Both needles have open-sided holes to permit the user to slip in a doubled string.

Figure 11. Needles

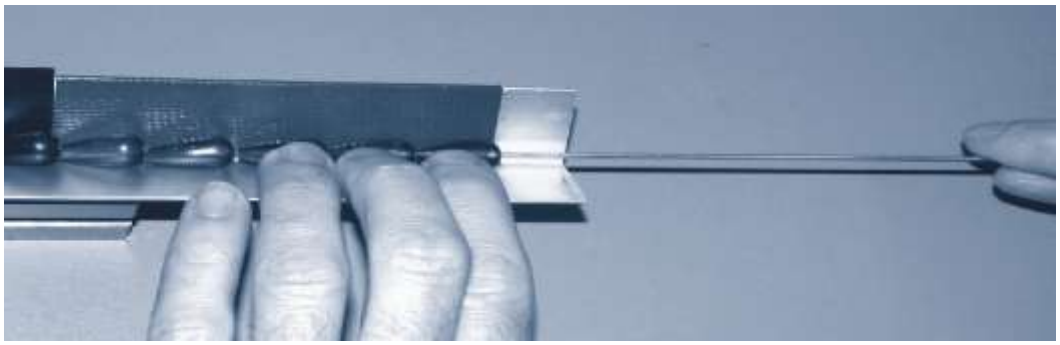
1. Arrange the beads on the assembly fixture, matching fixture color to bead color.
2. Using a string slightly longer than the length of a CycleBeads necklace, knot the two open ends of the string, and melt the ends (if synthetic string is used) to prevent unraveling.
3. Place the doubled string in the hole of the small needle and thread it through the female half of the clasp, resting the knot inside the clasp (Figure 12).

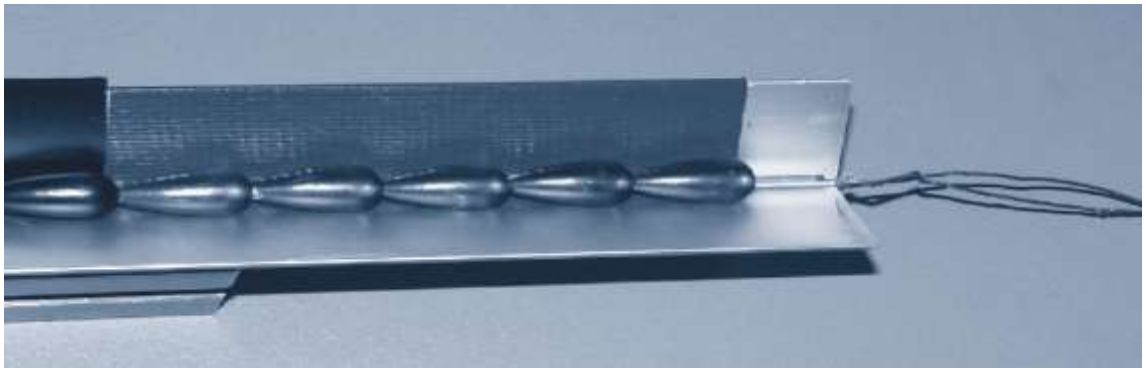
Figure 12. Threading the clasp



4. Remove the string from the small needle and place the string in the large needle.
5. Insert the large needle through all of the teardrop beads in the fixture. The assembler may need to hold several beads at a time while pushing the large needle through the beads (Figure 13).

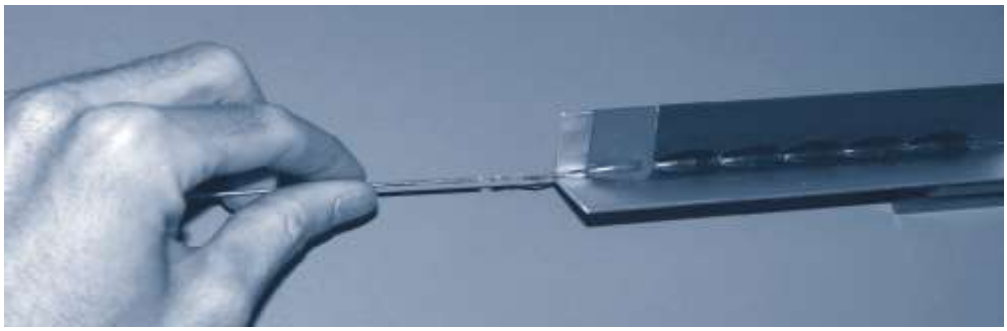
Figure 13. Threading beads





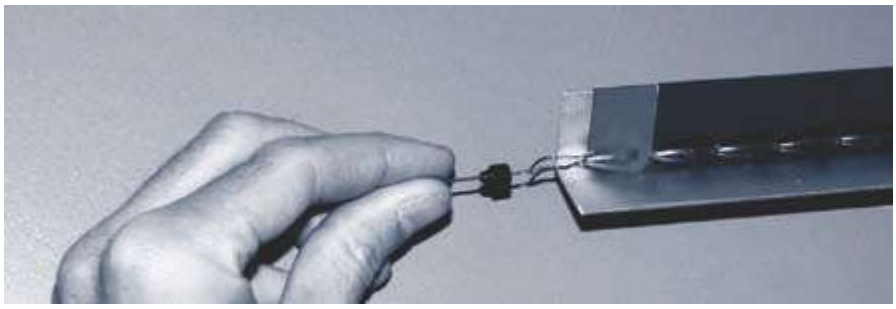
6. Once the large needle is inserted in all the beads, pull the needle through, which pulls the string through the beads (Figure 14).

Figure 14. Finishing threading beads



7. Remove the large needle from the string and place the string in the small needle.
8. Thread the string through the male portion of the clasp (Figure 15).

Figure 15. Threading string through male portion of clasp



9. Remove the small needle from the string.
10. Cut the loop of string to form two individual strands.
11. Make an overhand knot (crossing one string over the other) to tighten beads together, and then make another overhand knot in the two strings to make a knot that cannot be pulled through the hole in the clasp.

SECTION V

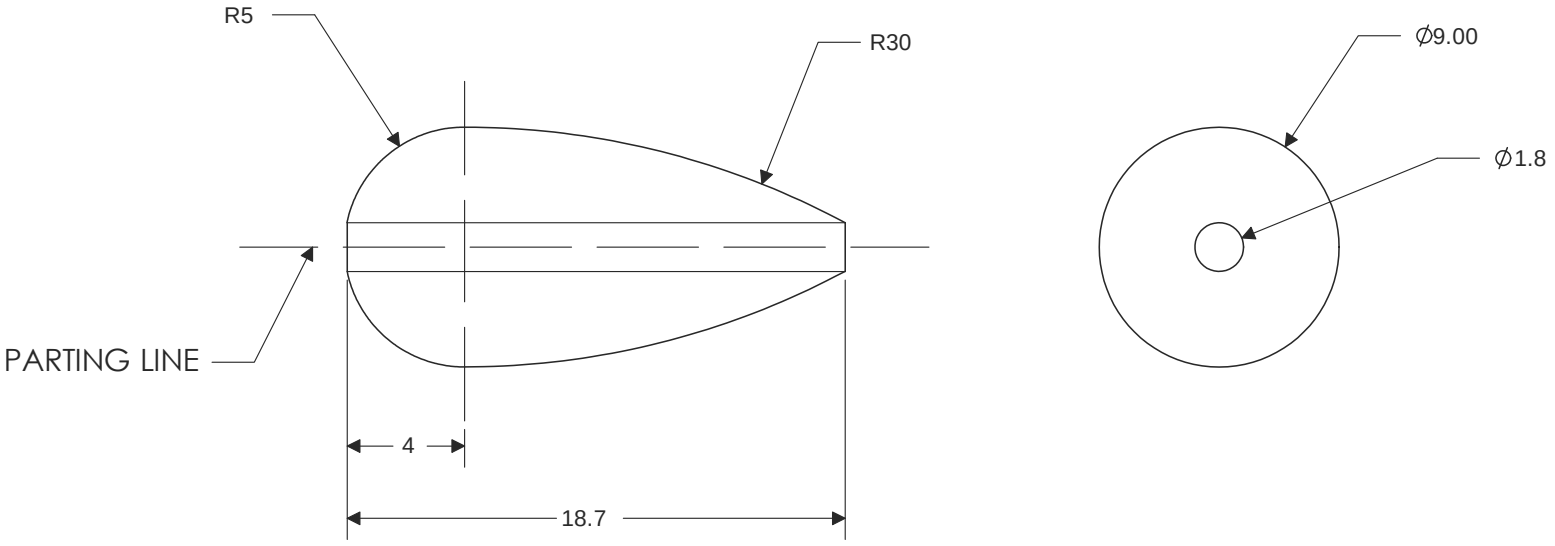
PRICE SCHEDULE

Sl. No.	Item Description	Quantity	Ex-factory price (**Basic Unit Price** exclusive of all levies & charges)	Excise Duty		Sales Tax		Any other		Unit Price inclusive of all levies & charges (Column. No. d+f+h+j) in Rs	Total Price inclusive of all levies & charges (Column No. c x k) In Rs
				%	Amt.	%	Amt.	%	Amt.		
a	b	C	D	e	F	g	h	i	j	K	L
1											
2											
3											
									Grand Total (Rs)		

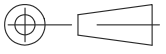
NOTE: The columns may be filled as is applicable in each case.

Seal and Signature of the bidder

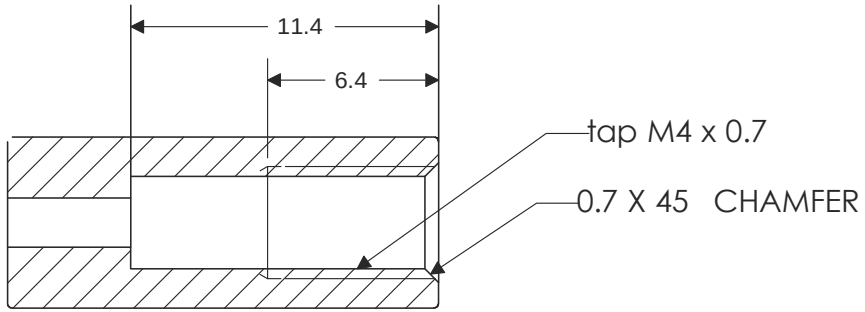
APPENDIX-I



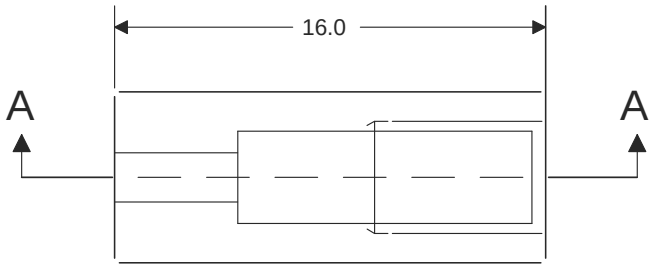
NOTES:
1. DEBURR: BREAK ALL SHARP EDGES LEAVING LESS THAN 0.05 MM FLASH.

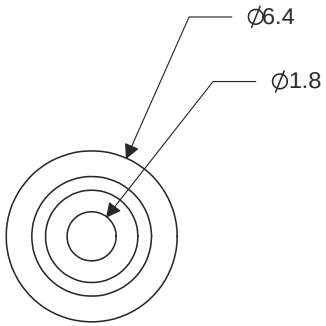


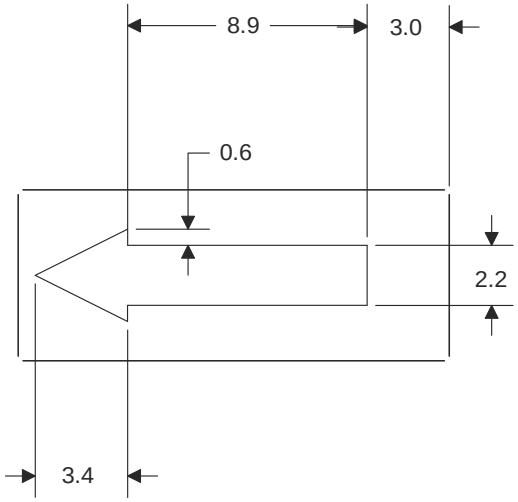
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE GIVEN IN MILLIMETERS. LINEAR TOLERANCE: MM [X]= [.5] [.X]= [.25] [.XX]= [.10] [.XXX]= [.025] ANGLE TOLERANCE: DEGREES 0.5	DO NOT SCALE DRAWING INTERPRET DRAWING PER ASME Y14.5M-1994
MATERIAL: POLYSTYRENE	TITLE: BEAD
FINISH: MATTE	SIZE: A / DOCUMENT NO.: 001 / REV.: 1
CAD FILE: 001 BEAD	OF 1



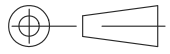
SECTION A-A
SCALE 4 : 1



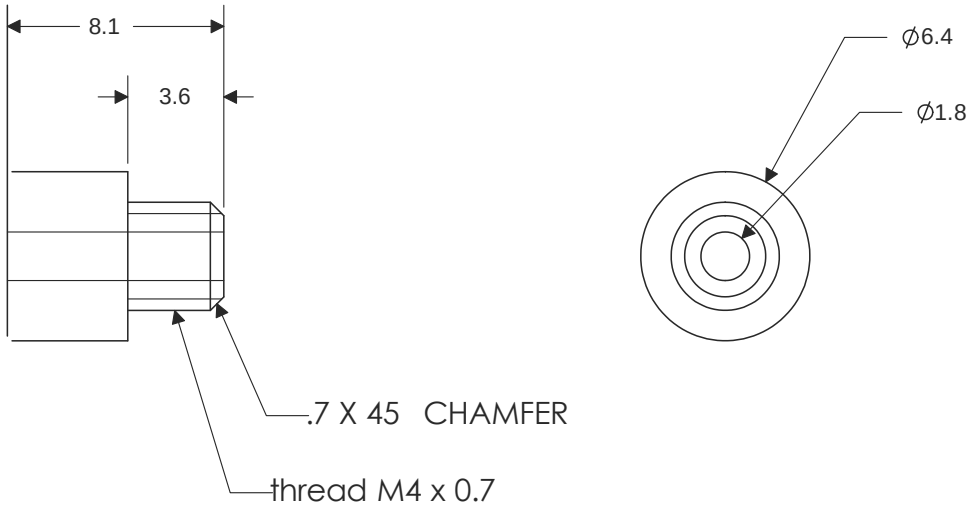




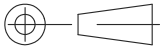
NOTES:
1. DEBURR: BREAK ALL SHARP EDGES LEAVING LESS THAN 0.05 MM FLASH.
2. CLASP IS BLACK WITH SOLID WHITE PRINTED ARROW.



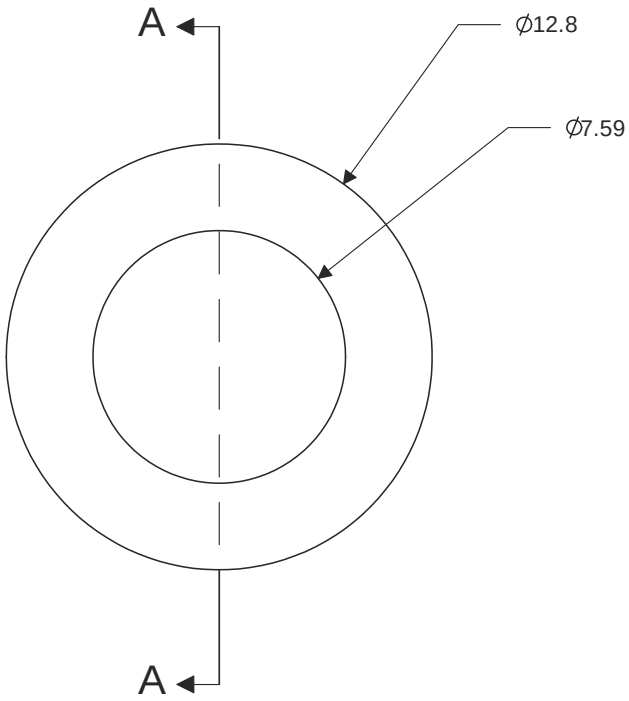
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE GIVEN IN MILLIMETERS. LINEAR TOLERANCE: MM [X]= [.5] [.X]= [.25] [.XX]= [.10] [.XXX]= [.025] ANGLE TOLERANCE: DEGREES 0.5		DO NOT SCALE DRAWING INTERPRET DRAWING PER ASME Y14.5M-1994	
MATERIAL POLYPROPYLENE		TITLE CLASP, FEMALE	
FINISH MATTE		SIZE A	DOCUMENT NO. 004
CAD FILE 004 CLASP, FEMALE	1 OF 1		REV. 1

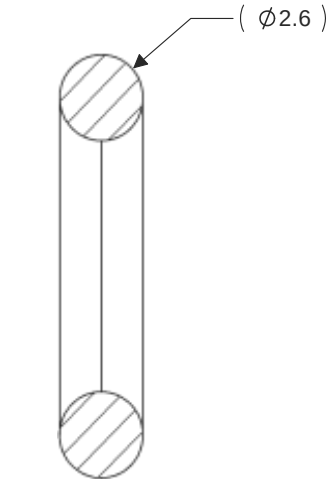


NOTES:
1. DEBURR: BREAK ALL SHARP EDGES LEAVING LESS THAN 0.05 MM FLASH.
2. CLASP IS BLACK.



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE GIVEN IN MILLIMETERS. LINEAR TOLERANCE: MM [X]= [.5] [.X]= [.25] [.XX]= [.10] [.XXX]= [.025] ANGLE TOLERANCE: DEGREES 0.5	DO NOT SCALE DRAWING INTERPRET DRAWING PER ASME Y14.5M-1994
MATERIAL: POLYPROPYLENE	TITLE: CLASP, MALE
FINISH: MATTE	SIZE: A; DOCUMENT NO.: 003; REV.: 1
CAD FILE: 003 CLASP, MALE	1 OF 1

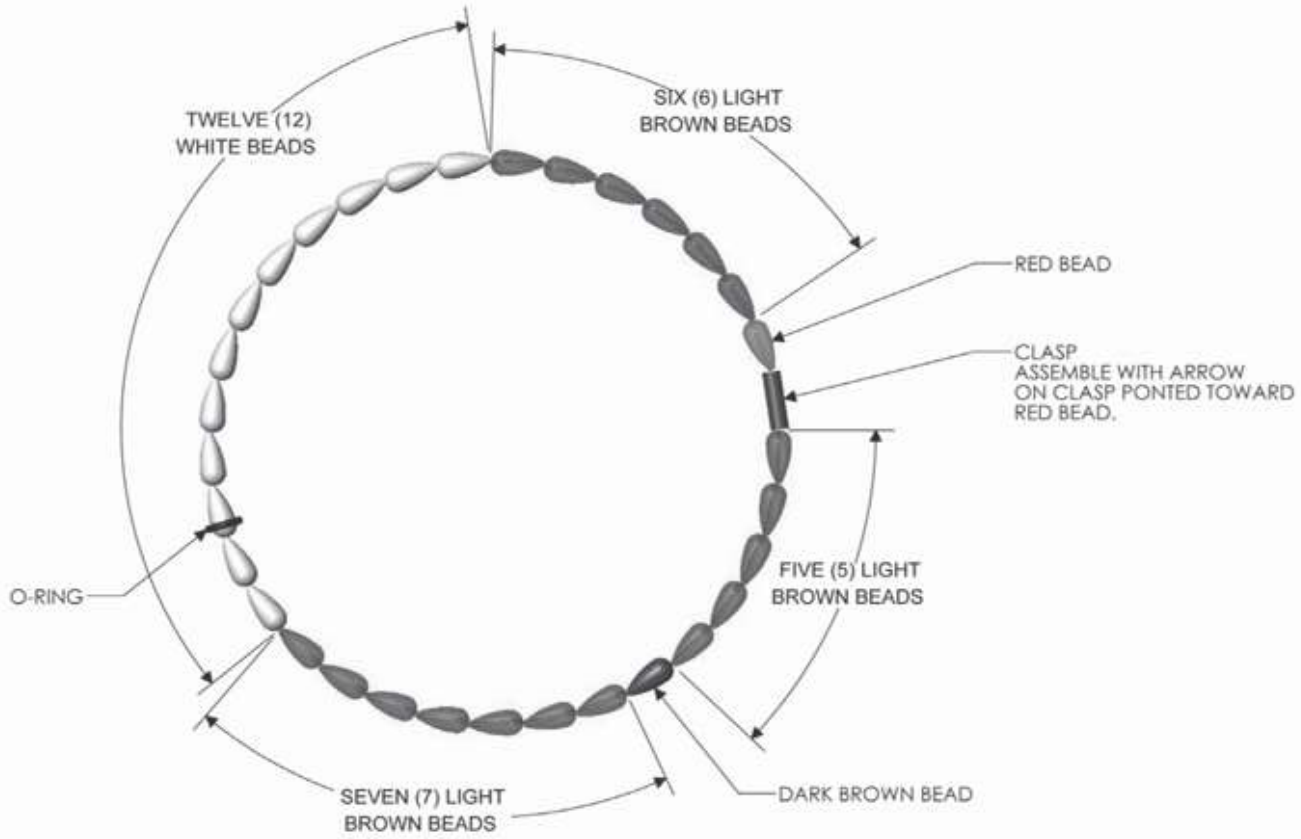




SECTION A-A

NOTES:
1.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE GIVEN IN MILLIMETERS. LINEAR TOLERANCE: MM [X]= [.5] [.X]= [.25] [.XX]= [.10] [.XXX]= [.025] ANGLE TOLERANCE: DEGREES 0.5		DO NOT SCALE DRAWING INTERPRET DRAWING PER ASME Y14.5M-1994
MATERIAL: NITRILE		TITLE: O-RING
FINISH: -		SIZE: A / DOCUMENT NO.: 002 / REV.: 1
CAD FILE: 002 O-RING	1 OF 1	



NOTES:

1. CYCLEBEADS ASSEMBLY REQUIRES:
   - 1 CLASP
   - 1 RED BEAD
   - 1 DARK BROWN BEAD
   - 12 WHITE BEADS
   - 13 LIGHT BROWN BEADS
   - STRING

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE GIVEN IN MILLIMETERS.	DO NOT SCALE DRAWING INTERPRET DRAWING PER ASME Y14.5M-1994
LINEAR TOLERANCE: MM [X]=±[.5] [.X]=±[.25] [.XX]=±[.10] [.XXX]=±[.025] ANGLE TOLERANCE: DEGREES ±0.5°	
MATERIAL: MULTIPLE	TITLE: CYCLEBEADS ASSEMBLY
FINISH: MULTIPLE	
CAD FILE: 005 CYCLEBEADS ASSEMBLY — SHEET: 1 OF 1	SIZE: A — DOCUMENT NO.: 005 — REV.: 1