

Footwear Chronicle

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**A Quarterly Journal By Central Footwear Training Institute
(A pioneer Training Institute in Footwear Technology)**



Release of Souvenir on the occasion of CFTI, Chennai Alumni Meet - CAM 2016

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PMKVY Training Certificate Distribution Ceremony at Annamalai University, Chidambaram





FOREWORD

I am happy to learn that CFTI, Chennai is bringing out a quarterly magazine named “Footwear Chronicle” to portray their activities. I hereby place my appreciation for the innovative approach of the Institute.

CFTI, Chennai is one of the Premier Training Institutes in the field of Footwear sector and is one of the leading training partners of Leather Sector Skill Council. The Institute is successfully conducting “Pradhan Mantri Kaushal Vikas Yojana” (PMKVY) and is also rendering technical / consultancy services to Footwear & allied industries. I am also happy to learn that CFTI, Chennai has conducted training for 2000 candidates in the job roles of stitchers, cutters, pasting, attachers, folders, skiver, splitters and table helpers and also extremely happy to learn that the Institute has achieved a remarkable feat by arranging placements for 1887 candidates out of 2000, thus achieving a phenomenal 94.35% of placements.

I hope the magazine will go a long way to portray the developmental activities of the Institute and would bridge the gap for more public participation.

I wish CFTI, Chennai all the success.

(Surendra Nath Tripathi)

**Hon'ble Minister of State for Micro, Small & Medium Enterprises,
Shri. Giriraj Singh with Director, CFTI, Chennai**



**Visit of Shri. Vijay Kumar, G.Srkr, IAS, Vice Chairman & MD,
A.P. SC Co-op. Finance Corporation Ltd. to CFTI, Chennai along with
Officials from CLRI, Dr. Swarna V. Kanth, Principal Scientist,
& Shri. Mathivanan, Sr. Principal Scientist, SPDC**



Visit of Shri. M. Asad, From Ms. Unity Engineers





Shri. K. MURALI
Director, CFTI

From the Director's Desk

It gives me great pleasure to speak to you through this magazine. As you all may know that though the magazine may not be voluminous, it speaks many volumes about the day to day achievements and activities of the Institute.

I am proud to say that CFTI, Chennai has all the required infrastructure, including highly qualified faculty members and state of the art workshop and laboratory. I am also happy to inform that students are exposed to the most modern and advanced curriculum and contemporary developments in various disciplines of footwear technology.

Also, I am happy and delighted to inform that CFTI is one of the premier Institutions in the country to effectively and successfully implement Prime Minister's initiative "Pradhan Mantri Kaushal Vikas Yojana" (PMKVY). Under phase I of this scheme, 5166 candidates were trained and it is heartening to share with you that 30% of the trained candidates were placed in different companies. Though placement was not mandatory under the scheme, the Institute strived its best to ensure that unless placements are done, simply making them skilled, does not serve the purpose. Similarly, for the long term and short term courses being conducted by the Institute, it is ensured that the successful students go out of the Institute, duly placed at a good company with decent salary. An exclusive placement cell has been created in this Institute to ensure this aspect.

Also, I am indeed very much happy to inform you that the first ever "Alumni Meet" was organized on the 14th of August, 2016 in the CFTI Campus and the Institute created a platform for the Alumni to share their success story and to interact with the present students as to how CFTI, Chennai was one of their milestones and stepping stones in their path of success. There were about thirty five members of the alumni who came and shared their experience with CFTI, Chennai. The event was also a platform to the present students to showcase their skill and talents by demonstrating and presenting catchy sketches and their dream and innovative footwear. Overall, the event was very successful. The country's 70th Independence Day Celebration was also clubbed with the Alumni Meet. On this occasion, the Institute was illuminated with tri-color.

I feel pride and happy to inform that the first batch of students of newly commenced long term course "Post Graduate Higher Diploma in Footwear Technology and Management studies (PGHD) have left for UK during second week of September, 2016 for 45 days internship as part of their curriculum.

There will be lot more interesting developments to be shared with you in the forthcoming issues.

SIGNIFICANT ACHIEVEMENTS OF CFTI, CHENNAI

during JULY - SEPTEMBER 2016

1. The Institute celebrated the Azadi 70 / 70th Independence Day with color and pamper.
 - ⇒ Sports events were conducted for Students & Staffs of the Institute and various cultural programmes were also organised to mark the occasion of Alumni Meet and 70th Independence Day celebration as well.
 - ⇒ The Institute Building was illuminated with tri colour.
2. First Alumni Meet (CAM – 2016) of CFTI, Chennai was conducted on 14th August 2016, Dr. Chandrasekaran, Director, CLRI was the Chief Guest.
 - ⇒ Shri. Prempal, Former Director, CFTI, Chennai & Shri. Venkatesan, Former President, M/s Sara Suole Pvt Ltd were the distinguished guests on the occasion.
 - ⇒ 35 members of the Alumni participated in the First Alumni Meet (CAM – 2016).
3. This Institute has conducted a Consultative Committee to improve the service delivery to the footwear industry.
4. This Institute has commenced 19th Batch of CFT - a 1 year Certificate Course in Footwear Technology, 25th batch of DFDP - a 2 year International Diploma in Footwear Design and Production & 17th batch of PGDFT / PDFT - a 1 year Post Graduate Diploma in Footwear Technology during the month of August 2016.
5. This Institute participated in the India International Footwear Fair (IIFF-2016), New Delhi on 6th August 2016.
6. Prominent personalities like Dr. Ghosh, FDDI, A team of members Shri. Shanmugasundaram, Superintendent of Prison & Shri. Baskar Technical officer (Boot) from Central Prison Vellore and Shri. Santosh Das, Asst. Director, O/o DC(MSME), New Delhi visited the Institute.
7. An outreach programme on Leather Goods Making course for SC/ST with 12 batches of about 402 were completed in the month August 2016.
8. Course Material for 2 year International Diploma in Footwear Design and Production (DFDP) was newly developed with 4 volumes by CFTI, Chennai.
9. Moderation conducted for the 16th Batch of 1 year Post Graduate Diploma in Footwear Technology course (PGDFT).
10. Training of Trainers (TOT) programme conducted for 10 trainers as per the guidelines of Leather Sector Skill Council (LSSC).
11. Winners of various Skill Competition like “Innovative Shoes”, “Catching Sketch” & “Dream Shoes” which were held in connection with Alumni Meet CAM 2016 were awarded by the Director.
12. For the first time in the history of CFTI, Chennai “Teacher’s Day” was celebrated by the students of the Institute in a grand manner.
13. A function was organised at Annamalai University, Chidambaram to distribute Certificate to about 500 candidates who were trained under PMKVY scheme in and around Chidambaram, Shri K.A.Pandian MLA, Chidambaram, was the chief guest and Shri Ashokan, Union Chairman, Parangipettai, Shri Ananth raman, Industrialist, Ranipet and Shri Vimalathithan, Manager LSSC were guests of honour.

ABOUT THE INSTITUTE



CENTRAL FOOTWEAR TRAINING INSTITUTE (CFTI), Chennai an autonomous Institution under Ministry of Micro Small & Medium Enterprises, Government of India, has been working for development of Human Resources for Footwear & Allied Industries since 1957. The institute was modernized through UNDP in 1993 and equipped with complete set of modern infrastructure. It conducts various Long term, Short term and Part time techno managerial courses in Footwear, Leather Goods and allied subjects. Its premier courses are the Two year Diploma course in "Footwear Design and Production" and 1½ years Post Graduate Higher Diploma course in Footwear technology & Management studies is accredited with Textile Institute, London and Leicester College of Footwear, UK.

AIM OF THE INSTITUTE

- (a) To provide training and related inputs to develop and augment a class of trained personnel in Footwear Technology and Allied Industry in the country.
- (b) To develop human resources in Footwear and Allied Industry by introduction of advanced training methods and courses, appropriate knowledge and skills to promote

rapid growth of footwear and allied industry in the country.

- (c) To promote in general and particular, the Indian Footwear Industry to attain international standards of production.

INFRASTRUCTURE

- ◁ The Institute is endowed with complete infrastructure for conducting training programmes.
- ◁ Land & Building at prime location in Chennai.
- ◁ Equipped with complete set of modern machinery, tools & equipments.
- ◁ Important Footwear Manufacturing & Material testing machines.
- ◁ Well equipped library with text books, periodicals, journals design magazine, SATRA bulletins & handouts related to footwear technology, industry management and trade.
- ◁ Teaching aids including OHP, Slide & LCD Projector, Audio, Video System & Computer, with shoe CAD facilities.
- ◁ Qualified, trained and Experienced Faculty.

OPPORTUNITY FOR STUDENTS

- ◁ Highly prospective career to suit the need of Footwear and Allied Industry in appropriate levels.
- ◁ Self-Employment by establishing own Industry of the Trade.
- ◁ 100% placement record till date.
- ◁ Suitable base for higher studies in Footwear field.
- ◁ Study at Leicester college of Footwear, UK.

OPPORTUNITY FOR ENTREPRENEURS & INDUSTRY

- ◁ Providing Techno-Managers to Footwear Industries.
- ◁ Technical Consultancy Services to existing and prospective Industries.
- ◁ Common Facility Services with Modern machinery including Shoe CAD.
- ◁ Process cum Product oriented EDP on Footwear, Leather Goods and Allied Industries.
- ◁ Availability of relevant information of Footwear Industry.
- ◁ Services of Die - Less Cutting System, PU Pouring Machine & Physical Testing Lab.

PRODUCT RESEARCH AND DEVELOPMENT & SHOE CAD

The Institute through PRD Cell, undertakes:

- ◁ Responsibility of New Product development as per the given specification and concept.
- ◁ Development of Master Patterns and Grading of the components to different sizes through latest shoe CAD.
- ◁ Conversion of Different pattern files and cutting the patterns there of through Universal Converter system.
- ◁ Training on Shoe CAD.

OTHER ACTIVITIES

- ◁ Skill Upgradation Courses for Rural Artisans.

- ◁ Exclusive courses for SC/ST, BC/MBC and Women candidates.
- ◁ Courses for International Participants.
- ◁ Linkage with Footwear related Industry, Trade, Association and Organisations.
- ◁ Need Based Training Program for Industry, sponsored candidates.
- ◁ Specialized training programs on Productivity & Quality improvements.
- ◁ Patronized with "The Textile Institute, London, UK".
- ◁ Member of SATRA, UK
- ◁ 2 years Diploma Course approved by TI / Leicester College of Footwear Technology, London and Leicester College of Footwear, UK
- ◁ 1.5 Years Post Graduate Higher Diploma course (PGHD) extended with six weeks of International training exposure at Leicester College of Footwear, London, UK
- ◁ 100% Placement record

SERVICE TO THE FOOTWEAR INDUSTRY

CFTI through its State of the art machinery provides common facility services to the footwear industries. With the latest machines the Die-Less Cutting System, Sole mould making plant and PU Pouring machine expects to expand the service network to the industry. Further to this the Ambur Sub-Centre of CFTI caters the service needs of the Footwear Industries of Ambur, Ranipet & Vellore.



A. Ragunathan,
PA Footwear Pvt. Ltd.,
Chennai



A. Venkatesan
Tata International,
Chennai



Abhishek Kumar,
PA Footwear Pvt. Ltd.,
Chennai



Adeep Chauhan
Irbaz Shoe Co. Pvt. Ltd,
Ambur



Akshay Arjun Majgaonkar,
PA Footwear Pvt. Ltd.,
Chennai



B. Vasanthakumar,
Sara B Unit Pvt. Ltd.,
Walajah



D. Thiyagaraj,
Feng Tay Group,
Cheyyar



Devendra kumar,
Irbaz Shoe Co. Pvt. Ltd,
Ambur



Dhiraj Kumar,
Footprints,VKC Group,
Coimbatore



E. Murali,
Irbaz Shoe Co. Pvt. Ltd,
Ambur



K. Amirthalingam,
BBK Shoes Pvt. Ltd.,
Ranipet



Kamlesh Kumar,
Irbaz Shoe Co. Pvt. Ltd,
Ambur



Kuldeep Singh,
PA Footwear Pvt. Ltd.,
Chennai



Naresh Kumar,
PA Footwear Pvt. Ltd.,
Chennai



P. Venkatesan,
Viari Exports Pvt. Ltd.,
Chennai



Pramod Homkumar Marsinge,
PA Footwear Pvt. Ltd.,
Chennai



R. Alexandar,
Feng Tay Group,
Cheyyar



R. Dhinakaran,
Feng Tay Group,
Cheyyar



R. Poonam,
BBK Shoes Pvt. Ltd.
Ranipet



S. Anandhakumar,
Feng Tay Group,
Cheyyar



S. Pandiyan,
KAS Industries Pvt. Ltd. Sportage Footcare & Exporters Pvt. Ltd.,
Ranipet



Shaik Amir Habib,
Sportage Footcare & Exporters Pvt. Ltd.,
Calicut



D. Thiyagaraj,
Feng Tay Group,
Cheyyar



V.N. Akilesh,
KAS Industries Pvt. Ltd.,
Ranipet



Yashpal Yadav,
Irbaz Shoe Co. Pvt. Ltd.,
Ambur



A. Dhanasekaran,
KH Shoes Pvt. Ltd.,
Ranipet



A. Yugesh Kumar,
BBK Shoes Pvt. Ltd.,
Ranipet



Dhiraj Kumar,
Footcare, VKC Group,
Coimbatore



I. Hashim,
K.H. Leather
Industries Pvt. Ltd., Ranipet Industries Pvt. Ltd., Ranipet



I. Hashim,
K.H. Leather
Industries Pvt. Ltd., Ranipet



J. Dinesh Kumar,
BBK Shoes Pvt. Ltd.,
Ranipet



J. Kiran Kumar,
India Shoe Pvt. Ltd.,
Chennai



J. Praveen Kumar,
India Shoes Pvt. Ltd.,
Chennai



J. Venkatesan,
Feng Tay Group,
Cheyyar



J. Vinoth Kumar,
K.H. Leather
Industries Pvt. Ltd., Ranipet



Jitendra Kumar Tripathi,
Sarub Industries Pvt. Ltd.,
UNA, HP



K. Hariharasuthan,
India Shoes Pvt. Ltd.,
Chennai



K. Sudarsana Mukunthan,
India Shoes Pvt. Ltd.,
Chennai



Kuldeep Singh,
Kanshi Industries Pvt. Ltd
(footwear unit), Dehradun



M. Gowtham,
PTM Footwear Co. Pvt. Ltd.,
Thodupuzha, Kerala



M. Jenifer,
PA Footwear Pvt. Ltd.,
Chennai



M. Lakshmanan
Sara 'B' Unit Pvt. Ltd.,
Ranipet



M. Maruthupandi,
Viari Exports Pvt. Ltd.,
Chennai



M. Mohan Babu,
Vaduganthangal Shoes Pvt. Ltd.,
Kattipadi



M. Naresh,
PA Footwear Pvt. Ltd.,
Chennai



M. Niranjan,
India Shoes Pvt. Ltd.,
Chennai



M. Satheesh,
India Shoes Pvt. Ltd.,
Chennai



M. Shamir,
Vaduganthangal Shoes
Pvt. Ltd., Kattipadi



M. Sowndarajan,
K.H. Leather Industries
Pvt. Ltd., Ranipet



N. Mohammed Thouseef,
BBK Shoes Pvt. Ltd.,
Ranipet



P. Aathi Maheshwaran,
KH Shoes Pvt. Ltd.,
Ranipet



P. Mohammed Idrees,
K.H. Leather Industries
Pvt. Ltd., Ranipet



P. Naveen Kumar,
BBK Shoes Pvt. Ltd.,
Ranipet



P. Vasantharani,
BBK Shoes Pvt. Ltd.,
Ranipet



Rishikesh Kumar,
Footcare, VKC Group,
Coimbatore



S. Avinash,
Empories Design Studio
Pvt. Ltd., Chennai



S. Banupriya,
BBK Shoes Pvt. Ltd.,
Ranipet



S. Karan,
K.H. Leather Industries
Pvt. Ltd., Ranipet



S. Parathiarasu
PA Footwear Pvt. Ltd.,
Chennai



S. Subash,
BBK Shoes Pvt. Ltd.,
Ranipet



S. Subash,
PA Footwear Pvt. Ltd.,
Chennai



S. Vignesh,
Feng Tay Group,
Cheyyar



Sachin,
Kanshi Industries Pvt. Ltd.
(footwear unit), Dehradun



Saurabh Singh,
BBK Shoes Pvt. Ltd.,
Ranipet



Shivank Mishra,
Tata International,
Chennai



Sukamal Bhowmik,
Footcare, VKC Group,
Coimbatore



T. Krishna,
Viari Exports Pvt. Ltd.,
Chennai



Uppathi Mahendra Reddy,
BBK Shoes Pvt. Ltd.,
Ranipet



V. Ram Kumar,
K.H. Leather Industries
Pvt. Ltd., Ranipet



V. Venkatesh,
Footprints, VKC Group,
Nellore



Vijay Shankar Mishra,
Gusto Footwear Pvt. Ltd.,
Chennai



Yug Pratap Singh,
Gusto Footwear Pvt. Ltd.,
Chennai



Ambuj Tiwari,
Footcare, VKC Group,
Coimbatore



Anil Singh Choudhary,
Footsteps, VKC Group,
Vapi, Gujarat



Arun Prakash,
Footsteps VKC Group,
Vapi, Gujarat



C.M. Jeya Subha,
India Shoes Pvt. Ltd.,
Chennai



D. Prakash,
PA Footwear Pvt. Ltd.,
Chennai



Lokesh Kumar,
Alpine Industries Pvt. Ltd.,
HP



M. Seenivasan,
Tata International,
Chennai



Mohd. Rumman,
Footcare VKC Group,
Coimbatore



N.Subhash,
Sportage Footcare &
Exports Pvt. Ltd.,
Calicut



Naqi Askari,
Ashok Footwear and
Tanneries Pvt. Ltd.,
Kanpur



P.Dhinakaran,
Sportage Footcare &
Exports Pvt. Ltd.,
Calicut



R. Rajasekaran,
Tata International,
Chennai



Rajesh Kumar,
Sportage Footcare Pvt. Ltd.,
Calicut



Ruwab Ali,
Footsteps VKC Group,
Vapi, Gujarat



S. Balachandar,
BBK Shoes Pvt. Ltd.,
Ranipet



S. Kiran Kumar,
Saalim Shoe & Co. Pvt. Ltd.,
Ranipet



S. Parthiban,
Tata International,
Chennai



Sathiya Jaya Ruban,
Tata International,
Chennai



Shubham Agnihotri,
Footsteps, VKC Group,
Vapi, Gujarat



Soham Chatterjee,
Footprints, VKC Group,
Coimbatore



V. Gunasekaran,
PA Footwear, Pvt. Ltd.,
Chennai



V. Karthi,
India Shoes Pvt. Ltd.,
Chennai



Vipin Chauhan,
Footprints, VKC Group,
Coimbatore

PRESENT TRAINING ACTIVITIES OF CFTI, CHENNAI

◁ CFTI conducts Skill Development Training Programmes for rural Footwear, Leather Goods artisans of Tamil Nadu in their locality. The objective of this programme is to develop the Footwear , Leather Goods making skill to the rural artisans at their door step. These programmes have good response among the artisans as they acquire technical knowledge on material management, cost effective programme etc.

Placement Linked entry level training programme

Placement Linked Entry Level Training Programme (TNSDC)

CFTI , Chennai completed “Placement Linked Entry Level Training Programme” funded by Tamilnadu Skill Development Corporation (TNSDC), Government of Tamilnadu through Leather Sector Skill Council (LSSC) for 2,300 candidates on job roles like Stitcher (1,250 Nos.), Cutter (250 Nos.), Paster, Attacher, Folder (250 Nos.), Skiver, Splitter & Table Helper (250 Nos.), Leather Weaving (300 Nos.) during the year 2015-2016.

Pradhan Mantri Kaushal Vikas Yojna (PMKVY)

This Institute conducts training on “Pradhan Mantri Kaushal Vikas Yojna (PMKVY)’ (a Phase II of the STAR Scheme) which aims to skill unemployed youth by the New Ministry of Skill Development & Entrepreneurship (MSDE) on the approved National Occupational Standards of NSDC. CFTI, Chennai conduct & completed training for **5,166 candidates** on various job roles till September 2016.

Recognition of Prior Learning (RPL)

Recognition of Prior Learning (RPL) is a platform to provide recognition to the informal learning through work to get equal acceptance as the formal levels of education. RPL is a process of assessment of an individual’s prior learning to give due importance to learning as an outcome rather than learning as process.

Under PMKVY, special focus is given by this Institute to RPL by recognizing prior competencies of the assessed candidates and provides a certificate and monetary reward on successful completion of assessments.

FOOTWEAR TOP 3 QUALITY CONTROL ON-SITE TESTS FOR SHOES

Quality control on-site tests for shoes are utilized to detect design and production defects. Inspectors perform dozens of on-site tests for footwear: some serve to simulate usage and product degradation with time, others to make comparisons. Here are the on-site tests often lead to the rejection of a shipment:

Footwear: Top 3 quality control on-site tests for shoes

- **Press it - Bonding**

Poor bonding is a major issue for shoemakers. In many cases pressing into the bonding line can reveal poor gluing.

- **Rub the fabric - Color fastness**

Fabric that bleeds color, either to mix into another color or to fade quickly is a major issue for buyers of branded shoes. The rub test can detect such issues on the spot.

- **Rub the logo - Printing**

Logos are important, especially for brands and in the high-fashion industry. Simulating wear and tear using dry and wet cloths and even alcohol as well as the adhesive test can detect poor printing.

Top major quality problem with shoes: Poor bonding

The "press" test during a pre-shipment inspection can detect unnoticed poor bonding. Additional tests are performed on a smaller sample size:

- **Performance test**

Trying out the shoe to simulate its intended use: walk, run, jump, etc. to

feel the shoe for comfort and usability. This test is obviously subjective but so are the final consumers.

- **Abuse test**

Check how much the shoe can take - by tearing, squeezing, pulling... basically the QC inspector simulates an angry customer.

Other essential quality control on-site tests for shoes

- **Metal detection test**

Broken needles, clamps and tacks are common in shoes. It is considered to be a critical defect because it may harm the user.

- **Bend and flex test**

Shoes, especially sneakers and sports shoes, need to support the foot but stay flexible. Flexing and bending the shoe repeatedly can detect weak spots such as insufficient glue or weak threads.

- **Pinch it for curing test**

Whether the out-sole has been cured properly can be tested by pushing a fingernail into it. If the material rebounds, it's a good indicator for proper curing.

PRASANNA S. RAO,
Faculty/Technical Expert,
Bangalore - Karnataka



प्रधानमंत्री कौशल विकास योजना

By Archana Dutta

Source:- Internet.

किसी भी देश के आर्थिक और सामाजिक विकास के लिए कौशल और ज्ञान दो प्रेरक बल हैं। वर्तमान वैश्विक माहौल में उभरती अर्थव्यवस्थाओं की मुख्य चुनौती से निपटने में वे देश आगे हैं जिन्होंने कौशल का उच्च स्तर प्राप्त कर लिया है।

किसी भी देश में कौशल विकास कार्यक्रम के लिए मुख्य रूप से युवाओं पर ही जोर होता है। इस मामले में हमारा देश अच्छी स्थिति में है। जनसंख्या का एक बड़ा हिस्सा उत्पासदक आयु समूह में है। यह भारत को सुनहरा अवसर प्रदान करता है, परंतु एक बड़ी चुनौती भी पेश करता है। हमारी अर्थव्यवस्था को इसका लाभ तभी मिलेगा जब हमारी जनसंख्या विशेषकर युवा स्वीस्थेशिक्षित और कुशल होगी।

भारत के पास एक अतुलनीय युवा जनसंख्या है जिससे आने वाले समय में सामाजिक-आर्थिक विकास को जोरदार बढ़ावा मिलना तय है। हमारे पास 60.5 करोड़ लोग 25 वर्ष से कम आयु के हैं। रोजगार के लिए उपयुक्त कौशल प्राप्त करके ये युवा परिवर्तन के प्रतिनिधि हो सकते हैं। वे न केवल अपने जीवन को प्रभावित करने के काबिल होंगे बल्कि दूसरों के जीवन में भी बदलाव ला सकेंगे।

हाल में ही मंजूर की गई प्रधानमंत्री कौशल विकास योजना (पीएमकेवीवाई) युवाओं के कौशल प्रशिक्षण के लिए एक प्रमुख योजना है। इसके तहत पाठ्यक्रमों में सुधार, बेहतर शिक्षण और प्रशिक्षित शिक्षकों पर विशेष जोर दिया गया है। प्रशिक्षण में अन्यथा पहलुओं के साथ व्यवहार कुशलता और व्यवहार में परिवर्तन भी शामिल है।

नवगठित कौशल विकास और उद्यम मंत्रालय राष्ट्रीय कौशल विकास निगम (एनएसडीसी) के माध्यम से इस कार्यक्रम को क्रियान्वित कर रहा है। इसके तहत 24 लाख युवाओं को प्रशिक्षण के दायरे में लाया जाएगा है। कौशल प्रशिक्षण नेशनल स्किल क्वालिफिकेशन फ्रेमवर्क (एनएसक्यूएफ) और उद्योग द्वारा तय मानदंडों पर आधारित होगा। कार्यक्रम के तहत तृतीय पक्ष आकलन संस्थाओं द्वारा मूल्यांकन और प्रमाण पत्र के आधार पर प्रशिक्षुओं को नकद पारितोषिक दी जाएगी। नकद पारितोषिक औसतन 8,000 रूपए प्रति प्रशिक्षु होगी।

कौशल प्रशिक्षण एनएसडीसी द्वारा हाल ही में संचालित कौशल अंतर अध्ययनों के जरिए मांग के आकलन के आधार पर दिया जाएगा।

केन्द्र और राज्य सरकारों, उद्योग और व्यावसायिक घरानों से विचार विमर्श कर भविष्य की मांग का आकलन किया जाएगा। इसके लिए एक मांग समूहक मंच भी शुरू किया जा रहा है।

कौशल विकास के लक्ष्य निर्धारित करते समय हाल में ही लागू किये गए प्रमुख कार्यक्रम जैसे कि 'मेक इन इंडिया, डिजिटल इंडिया, राष्ट्रीय सौर ऊर्जा मिशन और स्वच्छ भारत अभियान के मांगों को भी ध्यान में रखा जाएगा।

प्रधानमंत्री कौशल विकास योजना के तहत मुख्या रूप से श्रम बाजार में पहली बार प्रवेश कर रहे लोगों पर जोर होगा और विशेषकर कक्षा 10 व 12 के दौरान स्कूल छोड़ गये छात्रों पर ध्यान केंद्रित किया जाएगा। योजना का क्रियान्वयन एनएसडीसी के प्रशिक्षण साझेदारों द्वारा किया जाएगा। वर्तमान में लगभग 2,300 केंद्रों के एनएसडीसी के 187 प्रशिक्षण साझेदार हैं। इनके अलावा केंद्र व राज्य सरकारों से संबंधित प्रशिक्षण प्रदाता संस्थाओं को भी इस योजना के तहत प्रशिक्षण के लिए जोड़ा जाएगा। सभी प्रशिक्षण प्रदाताओं को इस योजना के लिए योग्य होने के लिए एक जांच प्रक्रिया से गुजरना होगा। पीएमकेवीआई के तहत सेक्टर कौशल परिषद व राज्य सरकारें भी कौशल प्रशिक्षण कार्यक्रमों की निगरानी करेंगे।

योजना के तहत एक कौशल विकास प्रबंधन प्रणाली (एसडीएमएस) भी तैयार की जाएगी जो सभी प्रशिक्षण केंद्रों के विवरणों और प्रशिक्षण व पाठ्यक्रम की गुणवत्ता की जांच करेगी और उन्हें दर्ज भी करेगी। जहां तक संभव होगा प्रशिक्षण प्रक्रिया में बायोमिट्रिक सिस्टम व वीडियो रिकार्डिंग भी शामिल की जाएगी जो पीएमकेवीआई से जानकारी ली जाएगी जो पीएमकेवीआई की प्रभावशीलता का मूल्यांकन का मुख्य आधार होंगे। शिकायतों के निपटान के लिए एक प्रभावी शिकायत निवारण तंत्र भी शुरू किया जाएगा। इसके अलावा कार्यक्रम के प्रचार-प्रसार के लिए एक ऑनलाइन नागरिक पोर्टल भी शुरू की जाएगी।

कुल 1120 करोड़ रुपए के परिव्यय से 14 लाख युवाओं को प्रशिक्षित किया जाएगा और इसमें पूर्व शिक्षा-प्रशिक्षण को चिह्नित करने पर विशेष जोर दिया जा रहा है। इस मद में 220 करोड़ रुपए का प्रावधान किया गया है। युवाओं को जुटाने तथा जागरूकता फैलाने के लिए 67 करोड़ रुपए का प्रावधान किया गया है। युवाओं को कौशल मेलों के जरिए जुटाया जाएगा और इसके लिए स्थानीय स्तर पर राज्य सरकारों, स्थानीय निकायों, पंचायती राज संस्थाओं और समुदाय आधारित संस्थाओं का सहयोग लिया जाएगा।

कौशल व उद्यम विकास वर्तमान सरकार की उच्च प्राथमिकताओं में शामिल है। नवगठित कौशल व उद्यम विकास मंत्रालय की "मेक इन इंडिया" अभियान के लक्ष्यों को पूरा करने में महत्वपूर्ण भूमिका है। यह अभियान भारत को एक विनिर्माण केन्द्र के रूप में परिवर्तित करने के लिए अहम पहल है। विकासशील अर्थव्यवस्था के विनिर्माण क्षेत्र समेत सभी क्षेत्रों की मांग के अनुसार प्रशिक्षित कार्यबल तैयार करने में इस मंत्रालय की अहम भूमिका है।

इस दिशा में उठाये गए सभी उपायों को शामिल करने के लिए एक नयी राष्ट्रीय कौशल व उद्यम विकास नीति भी तैयार की गयी है। इस नीति के जरिए उच्च गुणवत्ता वाले कार्यबल के साथ विकास को बढ़ावा देने की रूपरेखा तैयार की जा रही है। वर्ष 2022 तक 50 करोड़ लोगों को प्रशिक्षित करने का लक्ष्य रखा गया है।

इस दिशा में प्रयास मिशन के तौर पर किया जा रहा है। राष्ट्रीय कौशल विकास मिशन के तहत तीन संस्थान कार्य कर रहे हैं। राष्ट्रीय कौशल विकास परिषद प्रधानमंत्री की अध्यक्षता में कौशल विकास प्रयासों को नीतिगत दिशा दे रही है और इनकी समीक्षा भी कर रही है। नीति आयोग के उपाध्यक्ष की अध्यक्षता में राष्ट्रीय कौशल विकास समन्वय प्रधानमंत्री की परिषद के नियमों को लागू करने के लिए रणनीतियों पर कार्य कर रहा है। एनएसडीसी एक गैर-लाभ कंपनी है और गैर संगठित क्षेत्र समेत श्रम बाजार के लिए कौशल प्रशिक्षण की जरूरतों को पूरा कर रही है।

भारत ने विश्व में सबसे तेजी से विकास कर रही अर्थव्यवस्था के रूप में अपनी पहचान बना ली है। उम्मीद है कि भारत शीघ्र ही विश्व की तीन सबसे बड़े अर्थव्यवस्थाओं में शामिल हो जाएगा। वर्ष 2020 तक भारत विश्व का तीसरा सबसे बड़ा विनिर्माण केन्द्र भी बन जाएगा। जनसंख्या के सकारात्मक कारकों और उच्च गुणवत्ता वाले कार्यबल की सतत उपलब्धता की मदद से हमारा देश विश्व अर्थव्यवस्था में विशेष छाप छोड़ सकता है।

PUNCTURE RESISTANT FOOTWEAR

Whether you work in construction, demolition, mining, rescue, law enforcement, or in a junkyard, the last thing you want to do is step on a sharp object and know it without seeing it. Other than singing the old tune, "we hate when that happens," Working Person's Store offers you a slew of safety boots and shoes to ward off this evil. Let us explain ...

That old standby, the American Society for Testing and Materials, in their valiant effort to help keep you safe, has spelled out what you can expect from puncture-resistant shoes and boots in their classic "F2413-05 Standard Requirements for Protective Footwear."

In order to pass these standards, the puncture resistant footwear has to have a special plate between the sole and insole. This piece must be installed as an integral part of the manufacturing process for that Work Shoe or Boot. Mining boots are great examples of puncture resistance because the tasks that the jobs entail. These hazardous environments require the bottoms of your feet to stay protected to lessen the likeliness of injury. They may also have insulation and an internal met guard, so make sure you look at all the features before you purchase a pair.

Secondly, that piece has to resist corrosion, as we don't want rain or puddles disintegrating your protection until you're walking on rust. So to test

this, the guys and gals in the white smocks stick the boots in a special fog chamber. Then they spray them (100% humidity) with a 5% salt solution for 24 hours. And if that's not enough, the temperature inside the chamber is about 95 degrees! (No, you can't buy one to get those incredible creases out of your old shirts because you didn't iron them.) They must show no signs of corrosion after this.

Thirdly, the footwear has to show no signs of cracking after being flexed 1.5 million times. (And you thought your job was boring.)

Finally, the sole must resist a puncture of at least 270 pounds of pressure.

If your work takes you both in and out of an office, you can find use in



adding puncture resistant insoles. Although they will not offer the same protection as footwear that is made specifically for puncture resistance, they will put a barrier in between a hazardous object and the bottom of your foot. Look around. When it comes to safety workwear, Working Person's Store has what you need.

D.V.R. PRASAD, JTO

CFTI, Chennai

FOOTWEAR EVENTS IN THIRD QUARTER FY 2016-17

**OCT 12-14, 2016, Pragati Maidan,
New Delhi**

BRICS 1st TRADE FAIR – Organized by
FICCI

**Oct 16-Oct 19, 2016 Huntington Beach,
United States**

Footwear Trade and Distribution
Conference (FTDC)

Oct 19-Oct 22, 2016 Izmir, Turkey

Shoexpo Izmir Footwear and Bags Fair

Nov 1-Nov 3, 2016 Guangzhou, China
Guangzhou China Shoes Fair

Nov 3-Nov 5, 2016 Dhaka, Bangladesh
Leathertech Bangladesh

Nov 7-Nov 9, 2016 Tokyo, Japan
Fashion World Tokyo

Nov 7-Nov 9, 2016 Paris, France
Expo Protection The Exhibition for
Risk Prevention and Management

**Nov 8-Nov 10, 2016 Cape Town,
South Africa**
ATF International Apparel, Textile,
Footwear & Machinery Trade Exhibition

Nov 12-Nov 14, 2016 Agra, India
Meet at Agra Leather Footwear
Components & Technology Fair

Nov 15-Nov 15, 2016 Poznan, Poland
Polshoes - Poznan

Nov 17-Nov 17, 2016 Warsaw, Poland
Polshoes - Warsaw

Nov 21-Nov 22, 2016 Krakow, Poland
Mat-Eco-Shoes

Nov 21-Nov 23, 2016 Gramado, Brazil
Zero Grau Hall of trends in
footwear and accessories

Nov 21-Nov 22, 2016 Lodz, Poland
MAT-ECO-SHOES 2016

Nov 23-Nov 26, 2016 Istanbul, Turkey
AYSAT Istanbul International Footwear
Industry Suppliers Fair

Nov 23-Nov 24, 2016 Cracow, Poland
Polshoes - Cracow

**Nov 29-Dec 1, 2016 New York,
United States**
FFANY - Shoe Show

**Nov 30-Dec 2, 2016 New York,
United States**
FFANY - Shoe Show

Dec 7-Dec 8, 2016 Atlanta, United States
Atlanta Fashion Shoe Market

Dec 7-Dec 8, 2016 Atlanta, United States
The Atlanta Shoe Market

PMKVY Certificate Distribution Ceremony for 500 trainees at Annamalai University Auditorium, Chidambaram



News Item appeared in Dinamani on 11.09.2016





Alumni Meet 2016

Chief Guest Dr. B. Chandrasekaran, Director, CLRI and other Guests of Honour, Shri. Prempal, Former Director, CFTI and Shri. C.M. Venkatesan, Former President, Sara Soule Pvt Ltd. arriving at the venue along with Shri. K. Murali, Director, CFTI, Chennai



Director, CFTI, Chennai, Lighting the Kuthuvilakku



FIRST EVER ALUMNI MEET OF CFTI, CHENNAI

The first ever Alumni meet was held on the 14th of August, 2016 at CFTI Campus, Chennai in a very grand manner. Dr. B.Chandrasekaran, Director, CSIR-CLRI was the Chief Guest for the function and Shri K.M.Venkatesan, one of the eminent personalities in the Footwear Industry and Shri Prem Pal, former Director of CFTI, Chennai were the guests of honour at the function.

In order to tap the potentials and innovative ideas and skills of present students, competitions under the topic "Innovative shoes", "Catching sketch" and "Dream Shoes" were conducted. Sports for the students and staff of CFTI were organized in connection with the Alumni meet.

The function was a grand gala event and was spread over for the full day. It was attended by 35 alumni and about 200 students and staff of CFTI. The morning session was started with lighting of "Kuthuvilakku" followed by welcome address by the Director, CFTI, Chennai. The Chief Guest and other guests of honour conveyed their appreciation and their experience with CFTI. This was followed by demonstration and presentation of short listed entries of competition on topics "Innovative shoes", "Catching sketch" and "Dream Shoes" by the students. Eminent personalities from the Footwear Industry and Alumni of CFTI, Chennai were the judges of the event. The morning session ended with Lunch.

The post-lunch session started with presentation of their success story by the CFTI Alumni. They interacted with the present students and shared their experience as to how CFTI, Chennai was an important milestone and stepping stone in their career. This was followed by cultural programmes by the students and prize distribution.

Incidentally since 70th Independence Day falls on 15th of August, 2016, the same was celebrated alongwith Alumni Meet. The event was very successful and ended with vote of thanks and National Anthem.

Director, CFTI, Chennai felicitating Dr. B.Chandrasekar, Director, CLRI



Director, CFTI, Chennai delivering the Welcome Address



CENTRAL FOOTWEAR TRAINING INSTITUTE
65/1 GST ROAD, GUINDY, CHENNAI.

DIRECTOR, STUDENTS AND ALUMNI

CORDIALLY INVITE YOU
FOR THE **FIRST ALUMNI MEET CAM 2016**
TO BE HELD ON THE **14TH OF AUGUST, 2016** AT 10.00 A.M.
AT THE **MSME DI AUDITORIUM, GUINDY, CHENNAI.**

CHIEF GUEST

Dr. B. Chandrasekaran,
Director, CSIR-CLRI, Chennai

DISTINGUISHED GUESTS

Shri K.M.VENKATESAN, B.E., P.G.I.E
[Former President, M/s. SARA GROUP (Shoes & Soles Division)
Former Vice President, M/s. FLORIND SHOES PVT. LTD.
Former General Manager, FARIDA SHOES PVT. LTD.]

Shri PREM PAL, Former Director, CFTI, Chennai
Shri PANIKKASSERY, Director, MSME-DI, Chennai

CFTI, Chennai, Alumni Meet - CAM 2016

Release of Souvenir



Presentation of Memento



PRESENTATION OF INNOVATIVE SKILLS BY STUDENTS, CFTI, CHENNAI



CFTI, Chennai, Alumni Meet - CAM 2016

A view of audience



Cultural and Sports Events



Prize Distribution



CFTI, Chennai, Alumni Meet - CAM 2016

**Distribution of Awards for the Winners of Competition on
Innovative Shoes, Catching Sketch and Dream Shoes**



Staff and Faculty of CFTI, Chennai



Distribution of Certificates to participants of Sports & Cultural Events



Footwear Chronicle

Director's visit to CMC Hospital, Vellore for technology initiative sharing on Diabetes and Orthopaedic Footwear



Commencement of 19th CFT Batch in the presence of Mr. Santhosh Das, Assistant Director, O/o. DC, MSME



Visit of Sunil Taneja, Director, M/s. Fengtay Group for placement tieup with CFTI, Chennai



Footwear Chronicle

Visit of Shri. Prempal, Former Director of CFTI, Chennai



Visit of Dr. Ghosh, Chief Technologist, FDDI Testing Centre, Chennai



Visit of Shri. Valasai Ravichandran



MSME-DI meeting held at CFTI, Chennai



Commencement of 25th Batch of DFDP course for the year 2016-17



Moderation of 16th PGDFT Students



Footwear Chronicle

Inspection of various SC/ST, SHG Programmes by Director, CFTI, Chennai



Visit of the officials from Tamilnadu Government Prison Department for Consultancy



Footwear Chronicle

Up Skill Training Certificate Distribution Ceremony at M/s. Florence Shoes, Vellore



Visit of Mr. Thameem, HR Manager of M/s. K.H. Shoes, Ranipet



Participation of Director at ITTF, Delhi Fair, 2016



Footwear Chronicle

Training of PMKVY Trainers (TOT) at CFTI Campus, Chennai



Teacher's Day Celebration by Students of CFTI, Chennai



Footwear Chronicle

Commencement of 1st CFT Batch at CFTI Ambur Sub-centre for the FY 2016-17



Our 1st batch of PGHD students at Leicester College & SATRA, London, UK for 45 days exposure during August - September 2016, on Art, Fashion & Design



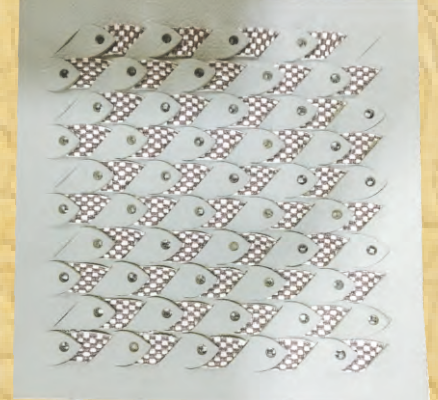
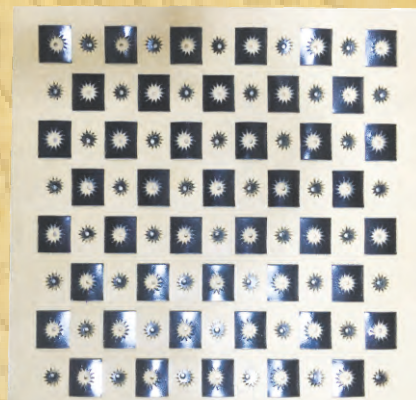
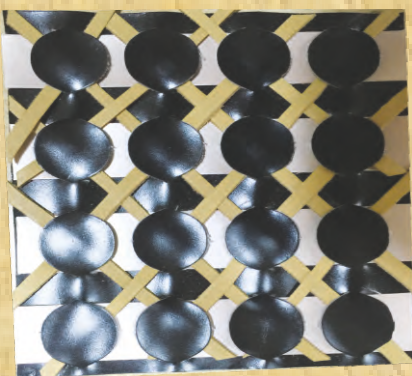
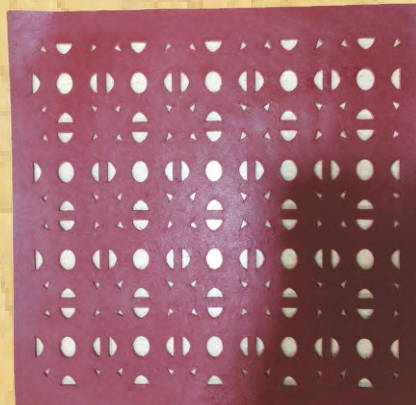
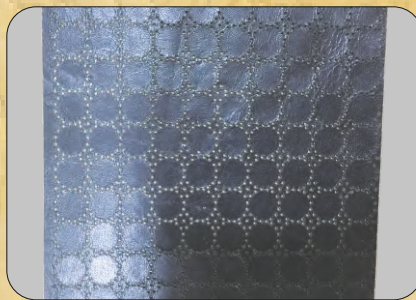
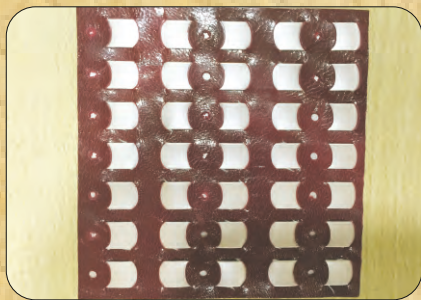
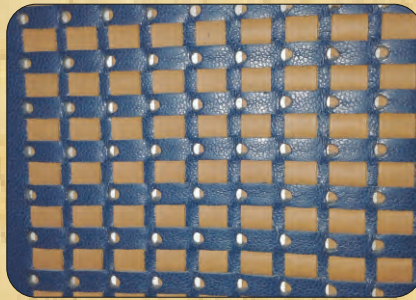
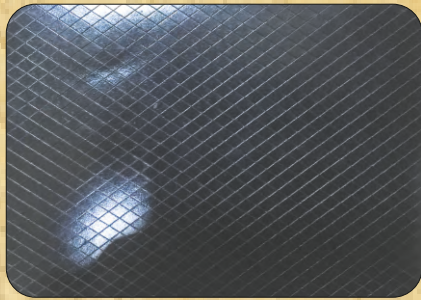
First Consultative Committee Meeting of CFTI, Chennai

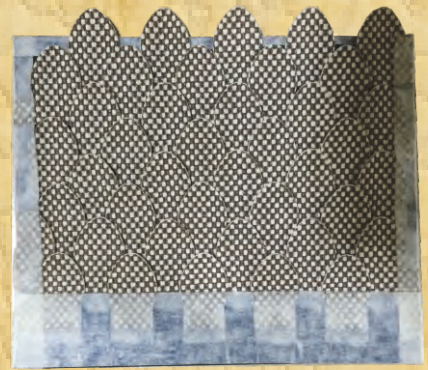
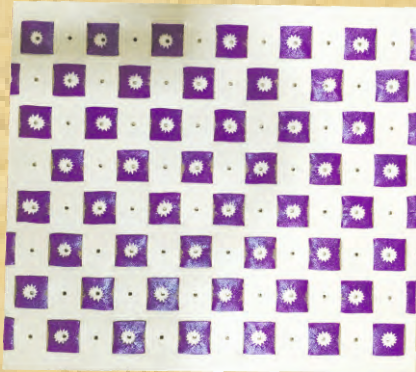


EMINENT PERSONS LIKE

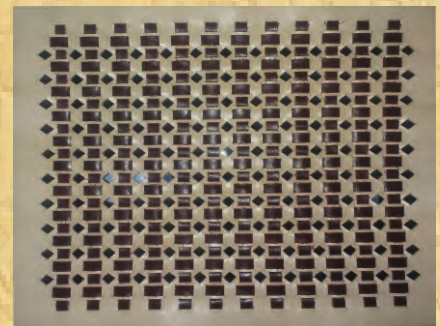
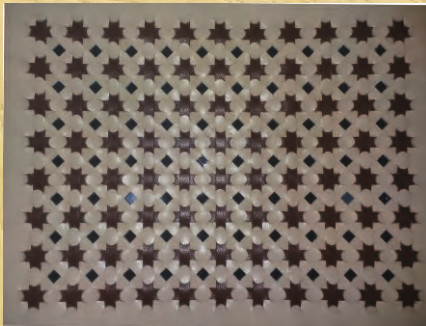
Shri. S. Panikkassery, Director, MSME-DI, Chennai
Shri. Abdul Razak, Chairman, M/s. VKC Group, Calicut
Shri. Atul Kumar Nagrath, Head - Footwear, M/s. Tata International
Shri. Aeja Ahmed, MD, Irbaz Shoe Co.,
Shri. Iqbal Modi, President, AFCAMMI
Shri. Sridharan Ganapathy, MD, M/s. Happy Feet India Pvt. Ltd.
Shri. Venkatesan, Footwear Consultant
Shri. Prasanna S. Rao, Footwear Expert, TUV SUD South Asia Pvt. Ltd.
Shri. Suhail Ahmed, Manager, Irbz Shoe Co.,
Shri. Shankar Ganesh, MD, M/s. Giri Shoe Leathers
Shri. Anand Ram, Director, MD, M/s. Aggu Soles Pvt. Ltd.







New Arrivals



Designs conceived by **Mr. Jaikumar**
Designer, CFTI, Chennai



Special Design by **Mr. Rakesh Sharma**
DMO, CFTI, Chennai



Special Design by **Mr. M. Mohamed Zubair**
CFTI, Chennai

Award Winning Presentation

By

Akshay Arjun Majgaonkar & Pramod Homkumar Marsinge,
students of 16th PGDFT batch, CFTI, Chennai

WAVE SHOES

Think !

- ⇒ What if you can switch on your television with a single tap of your feet?
- ⇒ What if you can control the temperature of your air conditioner by just sliding your feet ?
- ⇒ What if you could control the volume of your music system with you feet ?

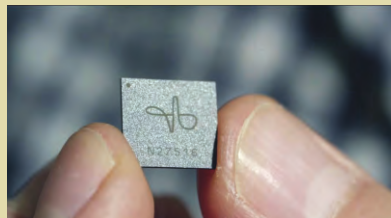
Listen carefully...

- ⇒ We are talking about a shoe that control electronic devices with small gestures.
- ⇒ A shoe that can make your daily activities as easy as tap.
- ⇒ We are talking about **"WAVE SHOE"**.

Concept

- ⇒ Wave shoe uses the invisible radar emanating waves from a microchip inside it to recognize FOOT gestures.
- ⇒ In particular, it uses broad beam radar to recognize movement, velocity and distance.
- ⇒ It works using the 60Ghz radar spectrum at up to 10,000 frames per seconds.

Soli Chip



Introduction to SOLI

- ⇒ Soli is a sensing technology that uses miniature radar to detect touch gesture interactions.
- ⇒ Soli is a purpose- built interaction sensor that uses radar for motion tracking of the gestures created by human.
- ⇒ Soli can create gesture interaction language that will allow people to control devices with a universal set of gestures

Specifications of SOLI chip

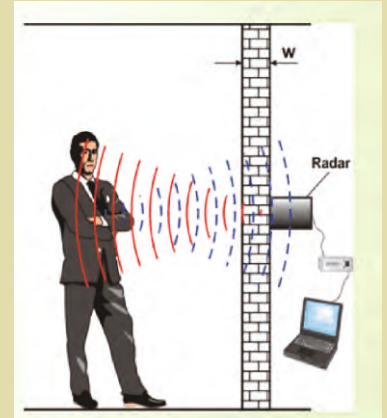
- ⇒ Silo works by using the 60Ghz radar spectrum at up to 10,000 frames perseconds.
- ⇒ Soli chip is a 9x9 mm device using pulse radar of 11x11 mm chip using contentious signal radar
- ⇒ Soli does not require large bandwidth and high spatial resolution.
- ⇒ Soli can distinguish complex foot movements and deforming foot positions.

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Wave Strength of Radar

- ⇒ This radar system uses unmodulated continuous-wave signals.
- ⇒ It records plan-view subsurface holograms.
- ⇒ Depth penetration of this type of radar is at the range of 20-30 metres.
- ⇒ Lateral resolution is enough to discriminate different types of soil, debugging devices or hidden objects in the wall.



Installation of Soli chip

- ⇒ The chips developed will be small enough to be embedded into the WAVE SHOE. The circuit component is arranged as :



Working

- ⇒ Design detects if the user's foot is making a motion that resembles foot movement – as if it is switching the button on/off.
- ⇒ Users simply place their foot to perform the action of sliding from one point to another.
- ⇒ And when you stop 'moving', so does the Soli.

Signal Generation: Tapping



Signal Generation: Sliding



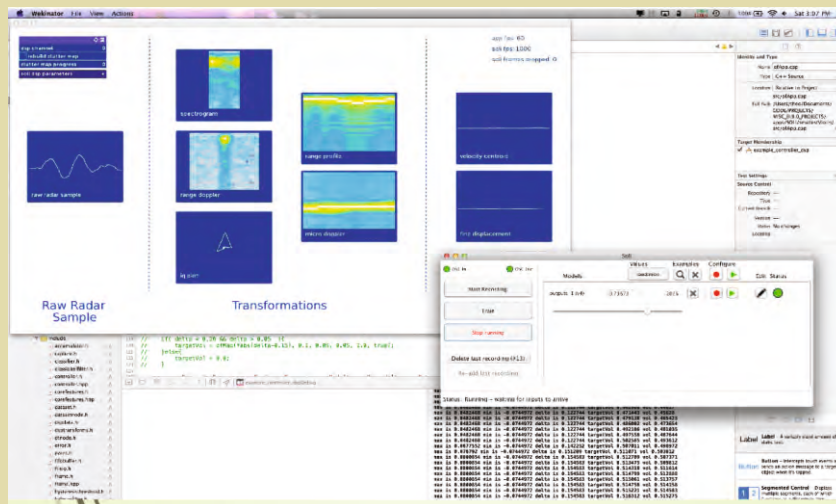
Signal Generation: Gliding



Software Implementation

- ⇒ To build this shoe, the team first taught the Wekinator different foot movements that represent the movement of tapping, sliding of a foot and which ones are not acceptable.
- ⇒ Using the software, the team recorded different movements and assigned an output value of 1.0 on the Wekinator slider.
- ⇒ Then we set the slider to 0.0 to record gestures the system should reject.
- ⇒ Resultant values: Correct=1 and Incorrect=0

Wekinator Slider



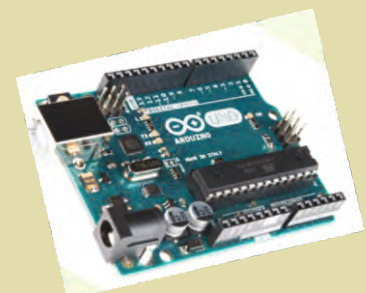
Signal Input & Output

Input :-

- ⇒ The movement of the foot generates an input signal & then transfer to IR emitter chip
- ⇒ This chip acts as a sender as it provides the remote input signal to the T.V or any other electronic devices.

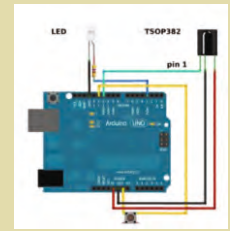
Output :-

- ⇒ The IR receiver in the electronic devices acts as a receiver, as it collects the input signals from the sender.
- ⇒ This chip id used to transmit IR codes to all kind of electronic devices



Positioning of IR emitter

- ⇒ This emitter will be placed on the topmost portion of the shoe so that the led light can be easily visible from the outside of the shoe.
- ⇒ The IR emitter works when it is in the direction of electronic devices.
- ⇒ A gesture can be programmed to on & off the shoe.



Basic Application

- ⇒ The purpose of making this shoe is to use the surrounding electrical applications with ease.
- ⇒ The shoe is design with the compact technology so that most of the electronics devices can be easily controlled easily at by using one single device.
- ⇒ The shoe is able to control the devices like AC, SOUND SYSTEM, TELEVISION, etc.

Application for handicapped people

- ⇒ Can be used physically handicapped people who do not have hands.
- ⇒ Handicapped people can control all the devices just with the help of their shoes

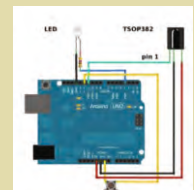


Application at Mines

- ⇒ The penetrating radar produces the strong enough signals which are directed through the Highly thick walls which can detect what's the other side of the wall ?
- ⇒ By knowing the other side of the wall,we can find, what kind of precautions should we ?
- ⇒ During the digging in the coal mines this radar shoe can avoid the loss of human life

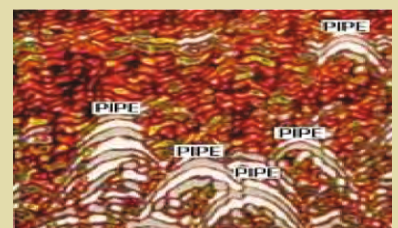
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- ⇒ A gesture can be programmed to on & off the shoe.



Pipe Penetration

- ⇒ Pipe penetrating radar is one of the application of wave shoes in which signals are directed through pipe & conduit walls to detect pipe wall thickness & voids behind the pipe walls.
- ⇒ It can be used to detect the problems in the gas pipes & the leakage in the petroleum pipe connections.



INTRODUCTION

Diabetes mellitus is a chronic metabolic disorder, predominantly of carbohydrates, which has hereditary and environmental factors. In the years between 1958 and 1993, the number of people diagnosed with diabetes multiplied five-fold. In 1995, 135 million patients world-wide were living with diabetes mellitus. By the year 2025 it is estimated that this figure will have increased to more than 300 million. It is estimated that the cost of diabetes and its chronic complications range from 4.6 to 13.7 billion U.S. dollars annually. There are two major classifications of diabetes viz Type - 1 and Type - 2.

Regardless of the type of diabetes classification, over time, failure to achieve optimal glycemic control can cause damage to the body's small and large blood vessels and nerves. Damage to these vessels and nerves can affect all organs in the body; however, the eyes, heart, kidneys, and skin are most commonly affected in patients with diabetes. Early manifestations of diabetes may present initially in the foot. Neuropathy, lesions, ulceration and amputation are common complications of diabetes involving foot.

The diabetic foot is the hardest foot to manage because it has all of the biomechanical challenges that non-diabetic feet have, coupled with the soft tissue challenges related to diabetes. Prevention is considered a key element in avoiding ulcer recidivism and diabetic lower extremity amputation. Once ulcerated, the areas heal with scar tissue that is less vascular and less elastic than the native tissue, and therefore prevention

of ulcerations is essential. This is best accomplished with a multidisciplinary approach consisting of a team of professionals committed to this ideal. Therapeutic shoes with pressure-relieving insoles and high toe box which protect the high-risk foot are an essential element of the prevention program and have been associated with significant reductions in ulcer development. Therapeutic footwear is designed primarily for the prevention of ulcer occurrence.

Approximately 15% of all patients with diabetes will have foot ulcers during their lifetimes. Reiber et al, in their review of diabetic foot ulcers in several populations, found a prevalence of 4.4% to 10.5%. The majority of patients who enter the hospital system because of diabetic foot lesions are due to ulceration secondary to painless trauma. In cases of peripheral neuropathy a small inconspicuous break in the skin can become a portal of entry for bacteria. Because of the loss of sensation, injuries may go unnoticed. If ulcers or foot injuries are not treated in time, the infection may involve the bone and require amputation.

Therapeutic footwear is helpful both in treatment and prevention of diabetic foot ulceration. Footwear constructed with Silicone Gel Insole is specially recommended frequently for the diabetic patient.

HOW CAN DIABETES AFFECT OUR FEET?

Too much glucose, also called sugar, in your blood from diabetes can cause nerve damage and poor blood flow, which can lead to serious foot problems.

Nerve Damage

Damaged nerves may stop sending signals, or they may send signals too slowly or at the wrong times. Nerve damage can cause you to lose feeling in your feet. You may not feel pain, heat, or cold in your legs and feet. You may not feel a pebble inside your sock that is causing a sore. You may not feel a blister caused by poorly fitting shoes.

Sores on your feet can become infected. If your blood glucose is high, the extra glucose feeds the infection in those sores and the infection gets worse. Nerve damage can also cause pain and lead to foot deformities, or changes in the muscles, bones, and shape of your feet.

Poor Blood Flow

Poor blood flow means not enough blood flows to your legs and feet through your blood vessels. Poor blood flow makes it hard for a sore or an infection to heal. This problem is called peripheral artery disease, also called PAD.

Sometimes, a bad infection never heals. The infection might cause gangrene. If you have gangrene, the skin and tissue around the sore die. The area becomes black and smelly.

Prompt attention to any sore or infection on your toe or foot can prevent gangrene. Your doctor may decide to cut away the infected tissue or give you antibiotics. Your doctor also may perform tests to see how well blood is reaching your legs and feet. Sometimes, your doctor may be able to clear blocked blood



vessels to improve the blood flow.

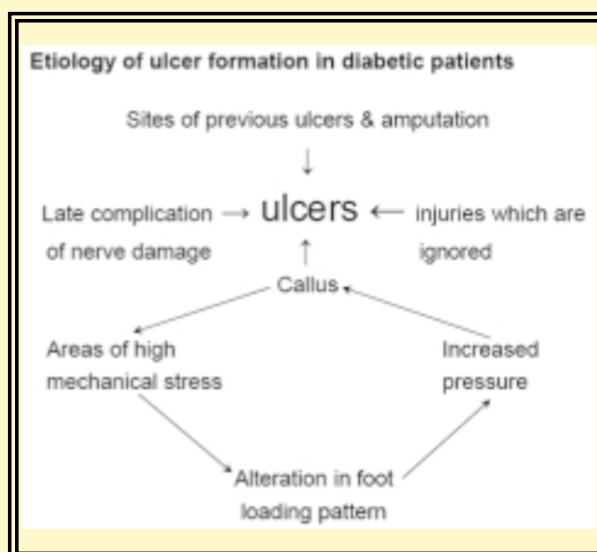
If these treatments don't work, or if you have severe pain or infection, a doctor may have to perform an amputation-surgery to cut off a body part-of your toe, foot, or part of your leg.

FOOT PROBLEMS THAT BENEFIT FROM PEDORTHIC INTERVENTION

Diabetic Foot Ulcers



PATHWAY TO DIABETIC FOOT ULCERS



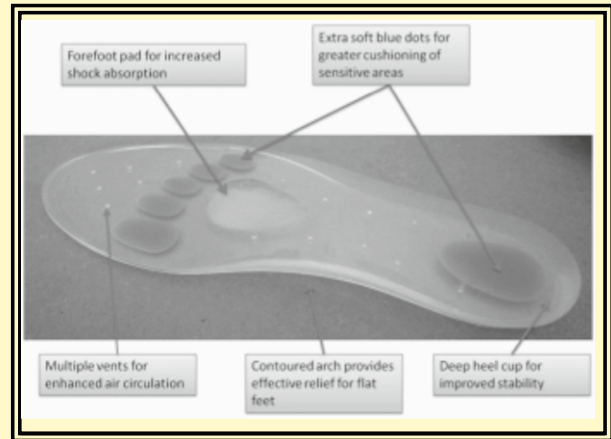
SILICON GEL INSOLE AS A MOST PERFECT SOLUTION

Silicone gel insoles are a soft elastomer made by non-toxic, human friendly compounds and is absolutely an innovative product. In general, it has been a traditional art to provide a cushion, which achieves comfort by eliminating peak pressure areas and by evenly distributing the cushioning force over a broad surface area. Some of these attempts include foam cushions, fluid cushions, spring mattress and others. It is similar to human flesh in its consistency, touch and reaction to pressure. One of its great qualities in seating application is that it conforms exactly to the body shape of the sitter, achieving a high degree of equal weight distribution and having good shock absorbing properties.

The principle however, is always the same. The Gel's ability to flow ensures effective distribution of pressure. Silicone Gel can be more than 1500% expandable and offers a correspondingly high level of comfort. Even after prolonged exposure to high pressure, Gel returns to its original shape with virtually no changes. Another important factor is the good skin compatibility, especially when used in the medical sector and especially in the event of direct skin contact. These comfortable insoles provide maximum shock absorption and cushioning to the feet. These prevent ankle and knee pains and can be worn with any shoe type.

As a result of its visco-elastic nature and closed cell molecular structure, Silicone Gel provides an attractive property:

- Extremely soft on touch and highly flexible under pressure,
- Excellent pressure distribution



eliminates pressure points which can cause discomfort,

- Will not freeze, melt, harden or crack in normal conditions,
- Will not flow out even if punctured as it is not a liquid encased in outer coverage,
- Completely non-toxic and non-allergenic material; safe for all even ones with sensitive allergies,
- Never absorbs any odor or liquid,
- No permanent deformation even after bearing thousands of full crushing cycle,
- Contains mineral oil and vitamin E which always soothes skin on direct contact.

SILICONE GEL MECHANICAL PROPERTIES

In Gel's the coils remain fixed in space, not exchanging places as they do in concentrated solutions, the gel will not flow out. That is an important property.

Each Gel molecule could be considered as dilute solution, unlike solid molecules. This is a considerable advantage. It means that the coil segments can move freely, depending on the segment chemical structure, the concentration, coil density and obviously the cross linking degree. Therefore, under the influence of any deforming force, can

react with an elastic retractive force. We can say Gel's have elasticity.

Like solids, the strength of the Gel's increases with the cross linking degree i.e., hardness and toughness turn higher. Therefore more cross linked is the material sufficient elastic and stronger is it. A mattress made up of Gel makes you feel comfortable due to its 3 dimensional flowing property and strong enough so that it can stand your own weight without losing its memory (shape) on removal of load applied.

GEL CHARACTERIZATION

The different property showed by Gel, depending on there cross linking degree, leads us to measuring its properties like:

- *Tensile Strength*: Upto 1600 psi
- *Bulk Specific Gravity*: Can vary from 0.3 g/cc to 0.9 g/cc
- *Elastic Deflection (Extension)*: Upto 2000% of (20 times) relaxed length at failure.
- *Color*: Water clear, so it can be reliably colored from translucent to pastel to fluorescent.
- *Manufacturing Methods*: Extrusion, casting, and injection molding.
- *Allergic reaction*: Hypoallergenic, Can pass human latex sensitivity test with zero reaction.
- *Toxicity*: Nontoxic. Can pass Human Cell Cytotoxicity score 0, Human Cell Hemolysis score 0.

HOW DOES THE SILICONE GEL WORK?

When pressure is exerted on the Gel, the elastopolymer deforms with the oil droplet helping disperse the load. As more pressure is applied, the resistance to

deformation increases, thus slowing the shock in a controlled manner and eliminating it entirely over time. This all occurs over fraction of a second. When the pressure is released, the Gel rapidly returns to its original shape and is ready for next action.

BETTER THAN FOAM

Gel removes the shock and disperses the load better than foams because the highly mobile oil droplets in the gel are non-compressible and deform with the elastopolymer as a load is applied, but the pad never "bottoms out." There is always more shock absorption available with almost any level of load. Foam pads (closed or open cell foams) are often stiff and will always "bottom out" since there is only highly compressible air in the foam.

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Gel acts as a conductor to heat. It will absorb heat conduct it away. Foams, on the other hand, are excellent insulators and will trap the heat, causing sweating and potential sores. Gel pads may be heated in warm water or a microwave or cooled in cold water or a refrigerator to warm or cool cushioning comfort.

BETTER THAN RUBBER

- Rubber deshapes over a short period of time.

- Rubber becomes hard/brittle and loses its softness.
- Gives bad odor and smells awful on deterioration.
- Bad conductor, therefore heat accumulated is retained and can become harmful causing sweating and potential sores.

PREVENTION OF BED SORE

Bedsore, technically known as decubitus ulcers, are areas of the body where the skin, and sometimes the deeper tissue, is damaged by compression caused by the weight of the body pressing on a place of contact between a prominent point on the body and the surface on which it is resting. Bedsore can advance rapidly and may become very large. The ulceration may progress to complete.

Pressure sores are caused by prolonged pressure and contributed by a number of other factors such as shear, friction and poor positioning. Maximum pressure ulcers occur in the Operation Theatre when a person is in one position for too long without shifting their body weight. The constant pressure against the skin causes a decreased blood supply to that area. Without a blood supply, the area cannot survive and the affected tissues die. Aside from causing serious discomfort to the sufferer and distress to the carer, the cost of treatment can be debilitating to the healthcare industry. In recent years research has concluded that the operating theatre table is one of the major causes of pressure sores in surgical areas.

HOW DO SILICONE GEL WORKS IN PREVENTION OF BEDSORES

When pressure is exerted on the Gel, the elastopolymer deforms with the oil droplet helping disperse the load. As more pressure is applied, the resistance to deformation increases, thus slowing the shock in a controlled manner and eliminating it entirely over time. This all occurs over a fraction of a second. When the pressure is released, the Gel rapidly returns to its original shape and is ready for next action. As per different formulations and cross linking degree, results a gel with properties like: high tensile and shear strength, specific gravity ranging 0.3g/cc to 0.9 g/cc, elastic deflection upto 2000%, hypoallergenic and non-toxic. Gel sets in to form desired shape and size. Basically they are blend of different grade of polymers along with additives that gives gel like softness with tolerance to deformation and changing temperature, providing stability to the product. The Gel is a cross-linked elastopolymer with micro dispersions of naturally occurring liquid oil placed in the polymer's matrix which remains fixed in place by their shape.

Due to the properties of gel, it prevents to develop pressure points as it re-distributes weight and provides excellent pressure relief at all risk levels, hence decreasing the possibilities of bed sore development.

K. SRINIVASAN, M.Tech (Footwear
Science & Engg)

Faculty, CFTI, Chennai

FOOTWEAR FOR POLICE PERSONNEL

1. INTRODUCTION

1.1. Essential of Better Shoe Profile for Police:

Being physically fit is essential for police officers, who may find themselves having to chase down a crime suspect or face other unpredictable situations. Many police departments encourage physical fitness by providing exercise equipment and sponsoring exercise-related activities.

Police officers are wearing shoes and boots for more than 15 hours per day. Due to difficult activities like running and jumping, they observe severe foot pain starting from the ankle joint and ending with knee at the end of the working day. The users are used to walk and run around 12 - 15 km during duty hours. Even during training period also people used to run continuously more than 10 km.

Police officers are also appear to be at increased risk of low back pain, musculoskeletal injuries, cardiovascular disease, and obesity. It is not clear whether achieving a certain level of fitness has an effect on injury prevention and job performance.

So for this above reason, police officers are getting tired after certain hours of wearing the shoes. It is necessary to reduce the fatigue discomfort of healthy officers in terms of improve cushioning. This study will examine the effect of cushioning insole in relieving post work discomfort in healthy individuals whose jobs require long periods of standing and walking

In a study of New York police officers who walked an average of 3 miles a day, 20% of them experienced foot pain at the end of their workday. Insoles can relieve

much of this pain. No studies, however, have scientifically distinguished between injuries due to work versus those due to regular use. This is an important issue because of its potential impact on disability claims.

1.2. F-Scan System

The F-ScanSystem captures dynamic in-shoe pressure and force information and reveals interaction between foot and footwear. Unlike traditional visual observation of foot function and gait, F-Scan quantifies force, contact pressure distribution, and timing. The system includes sensors, scanning electronics, and software as well as a protocol for analysis, diagnosis, and confirmation of the effectiveness of interventions. The extremely thin, high resolution F-Scan sensor ensures the most accurate data is captured.

Applications

1. Analyze patho mechanics related to foot dysfunctions and gait disorders
2. Assess effect of orthotics on foot and gait biomechanics
3. Screen for disorders secondary to diabetes and other neuropathic issues
4. Identify areas of potential ulceration
5. Observe foot function and gait abnormality
6. Regulate weight bearing after surgery
7. Compare pre- and post-surgery conditions
8. Monitor degenerative foot disorders
9. Assess high pressures due to ray hypomobility
10. Isolate regions of the foot for segmented analysis

11. Improve orthotic footwear performance
12. Manage treatment of foot inside the shoe
13. Reduce costs by minimizing the need for follow-up and orthotic adjustments
14. Increase patient satisfaction and generate more referrals
15. Provide supporting documentation for fee-for-service approach and/or insurance claims

Measurements using F-Scan Clinical Software

1. Force
2. Contact area
3. Contact pressure
4. Peak force
5. Peak contact pressure

1.3. Biomechanics of Foot:

Definition of Bio Mechanics:

Webster defines biomechanics as "the application of the principles and techniques of mechanics to the structure, functions, and capabilities of living organisms". The biomechanics of running is the "technique" or "how to" component of the sport of running. Having good biomechanics (good running form) is an equally important factor for running well, as to having a sound physiological foundation (high VO₂ Max, high lactate threshold, high aerobic capacity, etc). It is important to note that many running injuries are caused by faulty biomechanics.

The study of the structure and functions of biological systems by means of the methods of mechanics; in short we describe biomechanics as the "physics of human movement" The foot bio-

mechanics are the concept where the laws of mechanics are applied in order to gain a greater understanding of performance of movement and reduce injuries as well. Elements of mechanical engineering (e.g., strain gauges), electrical engineering (e.g., digital filtering), computer science (e.g., numerical methods), gait analysis, and clinical neurophysiology (e.g., surface EMG) are common methods used in foot biomechanics.

Motion study

1. Kinematics: describing movements with respect to time and space
2. Kinetics: examines the forces that produce the movement and result from the movement

Factors that can be measured for foot movement

1. Speed: distance / time (m/s)
2. Velocity: displacement / time (m/s)
3. Acceleration: velocity / time (m/s²)

1.4. The Mechanics of the Ankle Joint

Lever actions in the foot

During ambulation the foot functions alternately as a two armed and single armed lever with smooth transition from one to the other. During the swing phase, for example it should be regarded as two armed lever: the foot moves into dorsiflexion from plantar flexion mainly as a result of the force exerted by the pretibial muscles and in concert with the yielding force of the calf muscles and in concert with the yielding force.

Biomechanics during the toe off phase

During the toe off phase the foot functions almost exclusively as a single armed lever. At heel contact the apex of the plantar surface of the calcaneus becomes the axis. This axis then moves forward

very slightly and the entire foot rotates around it. At heel rise the axis is then transferred to the ball of the foot. In the interim during the brief period of the foot flat, it would again be legitimate to speak of the foot as a two armed lever whose anterior arm tends between the ankle joint and the ball of the foot and whose posterior arm reaches from the ankle joint to the apex of the plantar surface of the calcaneus. Here too the resultant of the applied moments are briefly on opposite sides of the fulcrum point.

Certain authorities sometimes betray a measure of illogicality in this area. On a theoretical level, with regards to the provision of the orthopedic footwear, they consider the foot as a single armed lever because this is more correct physics, but they persist simultaneously in referring to an anterior and a posterior lever because this is more consistent with practical requirements.

Alternation between the single and two armed lever walking occurs rapidly and continuously throughout the gait cycle. Footwear can never take full account of these theoretical considerations because in physics mechanical terms, many orthopedic shoes elements tend to function rather rigidly and without continuity in the individual phases of the gait cycle. This also applies with regards to their influence on anterior or posterior lever action.

1.5. Plantar Cushioning

During walking, the ground reaction force is approximately 1.25 times the body weight and during running, the ground reaction force can reach levels of 2 to 3 times the body weight. The ability of a shoe is to absorb the impact of foot strike. It is achieved by a soft or resilient material

used to fill or give shape or protect or add comfort. Thus, cushioning is supposed to attenuate or dampen the impact forces acting on the body during usage. Shoe designs attempt to concentrate on stability and cushioning in addition to weight and durability. Good support (that is, stability) may feel uncomfortable to a person while too much cushioning will make activities such as walking and running quite difficult. Most research has concentrated on comparing different shoes or materials rather than comparing the basic physical characteristics of the materials that are used.

A great variety of cushioning materials have been incorporated into the cushioning systems of modern shoes. These include foamed polymers, viscoelastic materials, air, gases, gels and moulded springs. Materials are generally selected on the basis of their shock attenuation, energy absorption, weight and durability. Although cushioning materials vary considerably, the principles of cushioning are common to all of them.

1.6. Need of Plantar Cushioning for Police Shoes

- To attenuate overall shock absorbency
- To reduce peak plantar pressure
- To relieve foot pain
- To reduce the incidence of stress fractures in military recruits
- To enrich softness and smoothness
- To support the body weight in case of obesity
- To improve flexibility while running
- To provide the energy return to the body when cushioning foam is compressed

1.7. *Cushioning Insoles*

Shoe insoles or footbeds are subjected to substantial compressive loads. Particularly in sports shoes, there are ground reaction forces resulting when the shoe contacts the ground with the heel and during push-off at the end of the step cycle exceed the body weight. Accordingly, a shoe insole provide a sufficient cushioning comfort to avoid premature fatigue or even injuries of the muscles or the bones. On the other hand, it must be capable to withstand these forces over an acceptable lifetime.

Insoles are flat cushioned inserts that are placed inside the shoe. They are designed to reduce shock, provide support for heels and arches, and absorb moisture and odor. The inserts need to be changed at least every six months because the shocks wear out. Not only feet will be happier, entire body will be happier with some well-cushioned shoes.

Polyurethane (PU)

Polyurethanes is produced in flexible, semi rigid and rigid forms with an open cell structure. It is primarily flexible and semi rigid grades of polyurethane which are used in shoe insoles and outsoles. The shock absorbing properties of PU foams increase with foam hardness, while recovery and elasticity decline. Especially on repeated exposure to identical stresses, this characteristic may cause problems with an excessively rigid grade of foam as there is a continual decline in recovery. Polyurethane foams are produced as relatively large moldings, generally by direct foaming around the item to be packaged. PU is a stronger, heavier version of EVA. It behaves similarly to EVA, except that it takes significantly longer for it to feel flat, or take a "compression set."

2. LITERATURE REVIEW

2.1. *The influence of footwear on foot motion during walking and running*

There are evidences to suggest that wearing footwear constrains the natural barefoot motion during locomotion. Unlike prior studies that deduced foot motions from shoe sole displacement parameters, the aim of this study was to examine the effect of footwear motion on forefoot to rearfoot relative motion during walking and running. The use of a multi-segment foot model allowed accurate both shoe sole and foot motions (barefoot and shod) to be quantified. Two pairs of identical sandals with different midsole hardness were used. Ten healthy male subjects walked and ran in each of the shod condition.

The results showed that for barefoot locomotion there was more eversion of the forefoot and it occurred faster than for shod locomotion. In this later condition, the range of eversion was reduced by 20% and the rate of eversion in late stance by 60% in comparison to the barefoot condition. The sole constrained both the torsional (eversion/inversion) and adduction range of motion of the foot. Interestingly, during the push-off phase of barefoot locomotion the rate and direction of forefoot torsion varied between individuals. However, most subjects displayed a forefoot inversion direction of motion while shod. Therefore, this experiment showed that the shoes not only restricted the natural motion of the barefoot but also appeared to impose a specific foot motion pattern on individuals during the push-off phase. These findings have implications for the matching of footwear design characteristics to individual natural foot function.

2.2 Kinematics correlates of walking cadence in the foot.

Evidence has frequently been reported of modifications in gait patterns within the lower limb related to the cadence of walking. Most reports have concerned relationships between cadence and kinematic and the kinetic charges occurring in the main joints and muscles of the lower limb as a whole. The aim of the present study was to assess whether significant changes are also measurable in the kinematics of the foot segments. An existing 15 marker set protocol allowed a four segment foot and shank model to be defined for relative rotations between the segments to be calculated. Stereo photogrammetry was employed to record marker position data from ten subjects walking at three cadences. The slow and normal cadence datasets showed similar profiles of joint rotation in three anatomical planes but significant difference are found between these and fast cadence. At all joints frame by frame statistical analysis revealed increased dorsiflexion from heel strike to midstance and increased plantar flexion from midstance to toe off with increasing cadence. From foot flat to heel rise, the fast cadence kinematics data showed a decreased range of motion in the sagittal plane between forefoot and rearfoot. The cadence imposed and the multi segment protocol revealed significant kinematics changes in the joints of the foot during barefoot walking.

Three different and consistent mean patterns of walking were obtained. The values of stance phase duration across the 100 trials per cadence group are plotted for each trial.

Effect of cadence on sagittal plane motion: For all joints , increased cadence appeared to modify the pattern of rotation in the sagittal plane in two contrasting

ways at different stance phrases, by increasing dorsiflexion from around heel strike to mid stance and by increasing plantar flexion from around midstance to toe off.

Effect of cadence on frontal plane: With increase in the cadence, the calcaneus was found to be more inverted with respect to the shank from around the mid stance to push off. But more everted just before toe off.

Effect of cadence on transverse plane motion: The calcaneus was more adducted with reference to the shank during late stance. The mid foot was more abducted with reference to the calcaneus up to midstance; but adducted around push off for a shorter period.

Analysis of range of motion: Analysis of the tri planar joint ROM confirmed the inference from visual inspection of the mean temporal profiles of the rotation angles, that it was only the slow versus fast cadence comparison which displayed the evident variation.

3. EXPERIMENTAL METHODS

3.1. Steps Involved in the Study

1. Selection of subjects
2. Testing of new armed police shoes using standard test methods such as tensile strength, stitch tear test, sole abrasion test, flexing resistance, water permeability and thermal stability test.
3. Same physical tests will be performed for shoes after 6 months of usage and 1 year of usage.
4. Infra red spectroscopy method is used to graph the crack formation in the sole.
5. Foot measurement of selected candidates
6. Circulation of Questionnaire on foot problems

7. Collection of foot pressure map of candidates in CLRI Gait laboratory and distribution of insole to them with instructions of using the same.
8. After one month from the date of using PU insole the pressure map of candidates will be collected.
9. After three months from the date of using PU insole the pressure map of candidates will be collected.
10. Circulation of Questionnaire on foot problems after using the PU insole
11. Collection of used PU insole back and analysis of mechanical and cushioning properties
12. Analysis of foot scan data and interpretation of results
13. From the test results of both used and unused shoes, the causes of discomfort in the police shoes will be determined.
14. Better specification of their shoes will be provided.

3.2. Preparation of PU Foam for Police

Sheets of polyurethanes are prepared by blends of polyetherurethane and polyesterurethane. The processing method used to develop PU sheets is phase inversion or coagulation method. Dimethyl formamide was used to prepare PU solution and distilled water was used as nonsolvent or coagulant. PU solution in room temperature was taken in polypropylene tray to a height of 3-6 mm and left for 15-20 minutes to allow evaporation of the solvent to form a microskin layer over the surface. Then the coagulant, water was sprayed uniformly over the surface to a height of 2 mm and left for 15 minutes. Then the tray was filled with water at the rate of 10 to 20 mL per minute and left for overnight. Finally the sheet was prepared and left safely for dry.

3.3. Experimental Procedure

1. Police subjects are about to come for the analysis of cadence of their walk.
2. Collection of foot pressure map of candidates in CLRI Gait laboratory and distribution of insole to them.
3. Infra red spectroscopy test has to be taken for the normal and crack part of used and new issued police shoes
4. Specified physical tests are performed, once new unused shoes are given.
5. After three months from the date of using PU insole the pressure map of candidates will be collected.
6. New specification of shoe for police foot can be suggested using obtained results.

4. EXPECTED OUTCOME

From the experimental analysis, specifications for police personnel shoes will be developed and plantar distribution pattern would be improved by the addition of extra cushioning insole in conventional police shoes.

5. REFERENCES:

1. G.Kumaravel, Study of Bio Mechanics and Design Better Shoe Profile for Armed Police Personnel, M.Tech Thesis Entitled, Anna University-CLRI, 2011
2. Dr. (Mrs). G Saraswathy*, Dr. Gautham Gopalakrishna, Dr. BN Das, Dr. Y Lakshminarayana, Dr. Ganga Radhakrishnan and Dr. AB Mandal, Synthesis and Processing of Polyurethane as Porous Viscoelastic Sheets for Application in Therapeutic Footwear, Central Leather Research Institute, Chennai-600020. INDIA

T. GNANAPAZHANI, M.Tech (Footwear Science & Engg),
Faculty, CFTI, Chennai

3-D பிரிண்டட் காலணிகள்

லேட்டஸ்டாக வந்த அனைத்து காலணி வகைகளும் உபயோகித்து சளைத்துவிடார்களா? அப்படியானால் கூடிய விரைவில் 3-D பிரிண்டட் காலணிகளை அணிய தயாராகுங்கள் பயனர்களே! நைக், பீட்ஸ், யுனைட்டெட் நூட் போன்ற அனைத்து காலணிகள் தயாரிக்கும் நிறுவனங்களும் 3-D பிரிண்டிங் நுட்பத்தை பயன்படுத்தி காலணிகள் தயாரிக்கும் நுட்பத்தை அணுகியுள்ளனர்.



3-D நுட்பத்தை பயன்படுத்தி காலணிகளை வாடிக்கையாளர்களுக்கு கடைகளிலேயே தயாரித்து தருகின்றனர். 3-D பிரிண்டிங் தொழில்நுட்பத்தை இதற்கு முன் நகைகள், ஆடை அணிகலன்கள், காரின் பாகங்களான ஜெட் இன்ஜின், இனிப்பு வகைகள் (சாக்லேட்டுகள்), உணவு வகைகள், போன்ற பலவற்றில்



3-D நுட்பத்தை பயன்படுத்தி காலணிகளை வாடிக்கையாளர்களுக்கு கடைகளிலேயே தயாரித்து தருகின்றனர். 3-D பிரிண்டிங் தொழில்நுட்பத்தை இதற்கு முன் நகைகள், ஆடை அணிகலன்கள், காரின் பாகங்களான ஜெட் இன்ஜின், இனிப்பு வகைகள் (சாக்லேட்டுகள்), உணவு வகைகள், போன்ற பலவற்றில் பயன்படுத்தப்பட்டது.

3-D நுட்பம்:

சாதாரணமாக பிரிண்டிங் செய்வதென்றாலே பல சிக்கலான முப்பரிமான வடிவத்தை பல உலோகங்களைக்கொண்டு ஒவ்வொரு அடுக்காக அமைத்து ஒரு பொருளை தயாரிப்பதாகும்.

ஒரு வடிவத்தை பதிவிறக்கம் செய்துவிட்டால் லேசர் அதற்கு தகுந்த உலோகங்களின் உதவி கொண்டு அடுக்குகளை உருவாக்கி பொருளை தயாரித்துவிடும்.

3-D பிரிண்டிங் காலணியில் பயனர்கள் தங்களது காலணிகளை வெவ்வேறு கோணத்தில் புகைப்படம் எடுப்பதனால் கணினியில் 3-D மாதிரிகளைத் தயாரிப்பது எளிதாக இருக்கும். இதனால் வாடிக்கையாளர்களின் உயரம், எடை போன்றவற்றை அறிந்து அதற்கேற்ப காலணிகளை தயார் செய்யலாம். அனைத்து தகவல்களையும் கொடுத்த பின்பு வாடிக்கையாளர்கள் ஒரு ஜோடி காலணியைப் பெறலாம்.

இவ்வளவும் அழகுக்காக மட்டுமா?

காலணி உலகில் இது ஒரு புது அழகிற்காக மட்டுமல்லாமல் ஒரு சிகிச்சைக்காகவும் பயன்படுகிறது. ஆம் எனும்பு மற்றும் மூட்டுவலி போன்றவற்றால் பாதிக்கப்பட்டவர் களுக்கு இது ஒரு வலி நிவாரணியாக இருக்கும்படி செய்யப்பட்டுள்ளது.

இதற்கு முன் வெளிவந்த நைக்கின் பவர் காலணிகள் விளையாட்டு வீரர்களின் கால்களுக்கு ஏற்றவாறு வடிவமைக்கப்பட்டது. இதனால் ஒலிம்பிக் தடகள வீரர்கள் எந்தவித இடையூறும் இல்லாமல் விளையாட ஏதுவாக வடிவமைக்கப்பட்டது. கண்டிப்பாக இந்த நுட்பம் விளையாட்டு வீரர்களுக்கு விளையாட்டை புது விதமாக பார்க்கும் வகையில் அமைந்தது குறிப்பிடத்தக்கதே! தற்போது கடைகளில் கிடைக்கும் சாதாரண காலணிகளைப் போன்றே எதிர் காலத்தில் அனைத்து கடைகளிலும் 3-D பிரிண்டட் காலணிகளைக் காணலாம்.

க. சீனிவாசன் - த. ஞானப்பழனி

எம்.டெக் (காலணி அறிவியல் மற்றும் பொறியியல்)

CFTI, சென்னை

SUCCESS PROFILES OF CFTI, CHENNAI ALUMNI



Name of enterprise : NewShu International
Name of owner : K.S. Jojan
Address : Plot No 54, House No 10, Kannagi Street,
Umayyapuram, Chennai- 600 044
Telephone : 9840777141
Email : jogan@yashoo.co.in
Technology Centre trained at : CFTI, Chennai
Course undertaken : Diploma in Footwear Design & Production
Year of Passing : 1995

K.S. Jojan has completed his Diploma in Footwear Design & Production from the Central Footwear Training Centre (presently Central Footwear Training Institute, Chennai) during the year 1995.

Starting his career as Product Development Executive in Phoenix International Ltd. Noida, moved on to Footwear Technician in VENPOMN SHOES, Chennai and worked as Footwear Technician in ALDANA LEATHER FACTORY, AI Ain U.A.E, then he has worked as Product Engineer in PA. FOOTWEAR PVT LTD, Chennai, Manager Prod Eng & Dev in GKK EXPORTS PVT LTD, Chennai and Later he served as Manager Prod Eng & Dev in GOOD LEATHER SHOES PVT LTD, Chennai, he starting his own venture - New Shu International, Leicester in collaboration with Leicester.



Name of enterprise : Da Footcare
Name of owner : Malkarjun Rao
Address : 681, 18 The Block, 8th, 9th, 10th Apartments, 2nd Phase, New Town
Jyothibabai, Bangalore, Karnataka 560044
Telephone : 9846464710
Email : malkarjun1988@yahoo.com
Technology Centre trained at : CFTI, Chennai
Course undertaken : Advanced Footwear Technology
Year of Passing : 1991

Malkarjun Rao has completed his Advanced Course in Footwear Technology from the Central Footwear Training Centre (presently Central Footwear Training Institute, Chennai) during the year 1991. He has acquired the footwear knowledge in depth and stepped in to his career in specialized footwear making.

During his career growth he has served in many national concerns viz. Unique Shoes (Manager), Chennai, TATA Exports (Technician & QC), Chennai, Marcos Shoes, New Delhi, Gokulas Images & Exports (Factory Manager), Bangalore, and an international company - Ficcato, SPA, Italy, before settling into his own venture Da Footcare, Bangalore.

He designs and makes specialized footwear for diabetes patients and other physically challenged people. He has engineered in the customization of specialized footwear. He also works as a consultant in PODIATRY & PED - Orthotic in various Hospitals in Bangalore.



Name of enterprise : GIRI LEATHER SHOES
Name of owner : J. Shankar Ganesh
Address : No. 1/8, BANARAJAN ROAD,
KAVAYIPAKKAM-622006 YELLOW DIST
Telephone : +919884152225
Email : gshankar@gmail.com
Technology Centre trained at : CFTI, Chennai
Course undertaken : Post Graduate Diploma in Footwear Technology
Year of Passing : 2003

J. Shankar Ganesh completed his Post Graduate Diploma in Footwear Technology from CFTI, Chennai during 2003. Driven by self entrepreneurial skills he started his own footwear unit in Kavayipakkam, Tamilnadu.

Starting his career as Shoe Upper Closing Supervisor in Athral Shoes, Ambur, moved on to Farida Newline Studio to become a Designing and Pattern Maker. Later he served as Product Engineer - Good Leather Shoes, before setting up his own venture - GIRI LEATHER SHOES, KAV GEE FASHIONS.

Has good knowledge about the material science, commercial aspects whereas solved inventory assortment, detailed study about foot anatomy are very few key highlighting aspects came across in my career.

About his training in CFTI, Chennai he states "apart from the technical knowledge, CFTI had molded and pulled out the entrepreneurial skill, gained the self-motivated entrepreneur that lies behind the success. Yet I would like to prove myself where finding new thing never stops".



Name of enterprise : VVC Group, Kerala
Name of Employee : Dabjyoti Das
Address : VVC House, NH 17, Kothamangal, Calicut
Telephone : 9928221100
Email : dabjyoti@vvc30@gmail.com
Technology Centre trained at : Central Footwear Training Institute, Chennai
Course undertaken : Diploma in Footwear Design & Production
Year of Passing : 2007-08

Details of Enterprise :

Name of enterprise : VVC Group, Kerala
History : Since April 2013
Current status : Senior Executive Designer
Products manufactured : Footwear

I had undergone Footwear training in CFTI and received so much knowledge about footwear. It is an institute with excellent faculty with more experience who guided me to this career. A spacious library where we find footwear books from all over the world to improve our knowledge.

C.F.T.I is a complete place to learn Footwear Technology. I am thankful to all my faculty who imparted me with footwear manufacturing knowledge during my course and made me a complete footwear professional.

My expertise include Technical / design knowledge of all Mens & Womens Shoes, Boots, Sandals, and other Footwear components, possessing highly creative ideas, ShoeCAD abilities, excellent communication and interpersonal skills, clarity in thoughts through design, logical and analytical thinking expressed through the Ranges & Collections.



SUCCESS PROFILES OF CFTI, CHENNAI ALUMNI



Name of enterprise : SARA SUOLE PVT. LTD.
Name of Employee : Poojith Joseph
Address : FY62, Site No.13, 6th Cross NS Palaya, BANGALORE
Telephone : 08049072800
Email : poojith.jose@gmail.com
Technology Centre trained at : Central Footwear Training Institute, Chennai
Course undertaken : Diploma in footwear Design & Production
Year Passing : 2015

Details of Enterprise :
Name of enterprise : SARA SUOLE PVT. LTD
History : Since 2015
Current status : PROCESS CONTROLLER
Products manufactured : Footwear Manufacturing

PHOTOS OF THE INDUSTRY & PRODUCT



Central footwear training Institute is the place which is unforgettable through out my life. The Institute which fulfilled my dream and made it true. An awesome centre for learning about footwear science.

I gained so much knowledge about footwear. It is a place which generates an opportunity in life and gives a turning point to live.

An excellent faculty with more experience guided me at this place. A spacious library where we find footwear books from all over the world to improve our knowledge.

C.F.T.I is a complete place to learn. Thank you to all my faculty who guided me during my course and made my life complete and confident.



Name of enterprise : India Shoes exports pvt ltd (Farida Group)
Name of Employee : Sakunda Choudhary
Address : 151 Mount Poonamallee Road, Ramsapuram, Chennai
Telephone : 044 25215115
Email : sr1988@rediffmail.com
Technology Centre trained at : Central Footwear Training Institute, Chennai
Course undertaken : Diploma in footwear Design & Production
Year Passing : 2006-08

Details of Enterprise :
Name of enterprise : India Shoes Pvt.Ltd
History : Since July 2008
Current status : H.O.D. of the Product development and engineering department
Products manufactured : Footwear Manufacturing

PHOTOS OF THE INDUSTRY & PRODUCT



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My expertise include Technical/ design knowledge of Mens & Womens Shoes, Boots, Sandals, and other Footwear components, possessing highly creative ideas, excellent communication and interpersonal skills, clarity in thoughts through design, logical and analytical thinking expressed through the Ranges & Collections.



Name of enterprise : EMPORIES DESIGN STUDIO
Name of owner : S. Prakash
Address : 777, Thiruvannamalai Road, Nagapattinam, Chennai - 64
Telephone : 9884105866
Email : empories@gmail.com
Technology Centre trained at : Central Footwear Training Institute, Chennai
Course undertaken : Diploma in footwear Design & Production
Year Passing : 2001

Details of Enterprise :
Name of enterprise : EMPORIES DESIGN STUDIO
History : Since 2010
Current status : MANAGING DIRECTOR
Products : Designing & Pattern Cutting Services
Customers and industries served : All the Major Shoe Industries

PHOTOGRAPHS OF PRODUCT & ENTERPRISE



My Footwear Training at CFTI, Chennai helped to acquire in depth knowledge in Footwear Technology. An Institute with good infrastructure and dedicated faculty members has been a launching platform for a bright career in Footwear Industry.

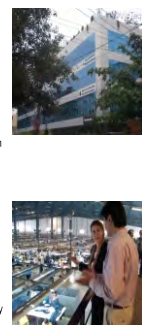
Now I am running my own Design Studio at Chennai after 10 years of working experience in various footwear Industries. I have given employment for 4 persons with annual turnover of 25 lakhs



Name of enterprise : AstorMueller Shoes Pvt. Ltd
Name of Employee : Sanya Manavattira Muthappa
Address : No.2, Ground Floor, S.R Complex, S.G Palaya, Bangalore - 560029
Telephone : 86050532127
Email : sanya23_399@hotmail.com
Technology Centre trained at : Central Footwear Training Institute, Chennai
Course undertaken : Post Graduate Diploma in footwear Technology
Year Passing : 2015

Details of Enterprise :
Name of enterprise : AstorMueller Shoes Pvt. Ltd
History : Since 2015
Current status : Quality Control
Products manufactured : Footwear Manufacturing

PHOTOS OF THE INDUSTRY & PRODUCT



Central footwear training Institute is the place which is unforgettable through out my life. The Institute which fulfilled my dream and made it true. An awesome centre for learning about footwear science.

I gained so much knowledge about footwear. It is a place which generates an opportunity in life and gives a turning point to live.

An excellent faculty with more experience guided me at this place. A spacious library where we find footwear books from all over the world to improve our knowledge.

C.F.T.I is a complete place to learn. Thank you to all my faculty who guided me during my course and made my life complete and confident.

HEAD ACHE STP FOR FOOTWEAR INDUSTRY

Footwear industry falls in the green category of industries in India, where there is no direct pollution from the production activities. At the same time this industry depends on human resources, thus there is a need for sewage treatment facilities. It is common that these sewage treatment plants are not able to handle the treatment when there is increase in staff strength or not able to meet the new regulatory norms. Most commonly when factories are closed on Sundays, without incoming sewage the plants loose the activated sludge.

There is a need for STPs to meet with varying load, increase in water usage due to increase in staff strength, decrease in load and no load coming on a holiday. Above all there is a need for these plants to run with minimum attention, which is a dream come true to maintenance manager.

EcoTec Engineers and Consultants, has developed fully automatic STPs that can be on the ground or even under the ground depending on the regulatory requirement which takes care of all the issues presently faced in treating footwear sewage water. EcoTec Sequencing Batch Reactor STPs are capable of adjusting the treatment cycle in accordance to the incoming load. On a Sunday or a holiday the plant can go into a vacation mode, where the plant operates to only conserve the activated sludge (MLSS).

EcoTec STPs are operational in more than 100 location and running successfully for many years. Above all EcoTec has simple and practical solution for overcoming the issues of sanitary napkins that are the cause of pump problems in many STPs in leather and footwear industries.

Please write to info@ecotec.in or call Suresh Kumar +91 9042000713

Advantaged of EcoTec SBR Process

- **Reliable-** Fully Automated Sewage Treatment Plant (STP), error indication facility is available in our display
- **Safe-** No Motors/ No pumps/ No Electrical Parts in sewage water, unless absolutely
- **Eco Friendly** - No chemicals required for our treatment process
- **Aesthetic-** No need large space at the ground level, fully underground plant is possible
- **Adorable-** No Noise and odour issues
- **Efficient-** No need for operator and Electricity cost is 75% lower than other STP'S
- **Sustainable-** Future upgradation is very simple and easy
- **Economical-** Maintenance free system when preventive maintenance is carried out systematically
- **Long Life** - No need revamp periodically
- **Advanced Technology-** Installation and operation is very simple within 1 day possible
- **Future Ready-** Treated water quality surpass statutory (PCB) norm

- Kannan Pasupathiraj
Ecotec Engineers and Consultants

HEALTH AND SAFETY AT WORK (HSW) IN FOOTWEAR INDUSTRY

The sustainable and preventive approach to HSW emphasizes the strategic role of each organization management and employees, when the condition for achieving strategic objectives in HSW, meaning employees injury and health damage prevention, is a systemic approach (connection between the organization requirements and legal requirements), order and complexity. Linking legal requirements for HSW to systemic approach in CR is addressed in the Standard OHSAS 18001: 2008. In the European Union (EU) there is a system of laws, Health and Safety Directives.

Units describe the important issues for sustainability in the shoe industry as one of the interesting topics describes Safety of machinery, production equipment and maintenance equipment and Process risks in the footwear industry: cutting machines, bottom parts warehouse, closing and preparation, lasting, scouring, soles and heels bonding molding, finishing, cleaning. Every employer must seek the risks, assess them and identify the measures to either eliminate or minimize them which is step for sustainable of HSW.

With regards to the level of risk, the molding machines (cutting, punching, riveting, sole pressing) present the highest risk levels. Particularly in the footwear manufacturing, the technology and work practices are not always fully respecting the guidelines given either by machine design (due to their age) or the construction perhaps addresses the general principles to prevent access to dangerous parts of machinery, however their applicability due to the operation effectively is highly questionable. Special attention must also be paid for a ban on

putting the protective covers of machinery and equipment out of operation or blocking functions on protective covers of machinery and equipment.

Two handed control devices should meet the following standard:

- The hand controls should be placed, separated and protected as to prevent spanning with one hand only; being operated with one hand and another part of the body, or being readily bridged.
- It should not be possible to set the dangerous parts in motion unless the controls are operated within approximately 0.5 seconds of each other. Having set the dangerous part in motion, it should not be possible to do so again until both controls have been returned to their off position. This effectively discourages two people operating the machine together by coordinating their actions, and also prevents the operator from locking one control in the start position which would allow him to operate the machine by means of the other control leaving one hand free.
- Movement of the dangerous parts should be arrested immediately or, where appropriate, arrested and reversed if one or both controls are released whilst there is still danger from the movements of these parts.
- The hand controls should be situated at such a distance from the danger point that, on releasing the controls, it is not possible for the operator to reach the danger point before motion of the dangerous parts has been arrested or where appropriate, arrested and reversed.

PRASANNA S. RAO,
Faculty, Bangalore

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Tariff of Common Facility Services

Job work cost under common facility services in CFTI, Chennai while rendering its services to common facility services with its modernized setup and infrastructure to all Micro Small and Medium Enterprises on hourly basis and few on job basis.

The lists of machine for utilization with its charges are listed here under

DESIGN SECTION

* 1 Series = Single Article upto 6 sizes (Max)

Sl.No	Job Description	Code	Qty Available	Description in Details	UOM	Cost in INR
1	Digitizing & Pattern Grading (1.01)	1.011		For any Normal Construction	1 Series *	1200
2		1.012		For Boot & Mocassin	1 Series *	1500
3		1.013		Normal Model in Sandal	1 Series *	750
4		1.014		Punch Model in Sandal	1 Series *	1000
5	Marketing Patterns(1.02)	1.021		Type by Plastic	1 Series *	1500
6		1.022		Type by Insole Board	1 Series *	2500
7		1.023		Type by Shank Board	1 Series *	3500
8	Cut file on Paper patterns	1.03		Type by Chart	1 Series *	1000
9	Insole / Sole Grading	1.04		For Any Type	1 Series *	250
10	Vaccum Shell (1.05)	1.051		Less than 50 Pairs	1 Series *	120
11		1.052		More than 50 Pairs	1 Series *	60
12	Product Development (1.06)	1.061		Shoe	1 Series *	1500
13		1.062		Sandal	1 Series *	1000

CLICKING SECTION

Sl.No	Name of the Machine	Code	Qty Available	Make & Model	UOM	Cost in INR
14	Swinging Arm Clicking M/c	2.01	2	ATOM SE16 (16 T Capacity)	Per hour	100
15	Swinging Arm Clicking M/c	2.02	1	ATOM SE-18 (20 T Capacity)	Per hour	110
16	Travel Head Cutting Machine	2.03	1	ATOM -SP588 25 Tonnes	Per hour	250
17	Die-less cutting Machine	2.04	1	ZUND Model 2400	Per hour	500
18	Splitting Machine with width 400 mm	2.05	1	SEAZEN SZ 400	Per hour	150
19	Strap Cutting Machine (Circular Type)	2.06	1	Indigenous	Per hour	50
20	Strap Cutting Machine (Vertical Type)	2.07	1	Indigenous (TSE)	Per hour	50
21	Stamping Machine	2.08	1	BRUGGI	Per hour	50
22	Stamping Machine	2.09	1	Indigenous(TSE)	Per hour	50

CLOSING & PRECLOSING SECTION

Sl.No	Name of the Machine	Code	Qty Available	Make & Model	UOM	Cost in INR
23	Flat Bed Single Needle Machine	3.01	2	PFAFF -563	Per hour	50
24	Post Bed Single Needle Machine	3.02	5	PFAFF -491	Per hour	50
25	Post Bed Single Needle Machine	3.03	1	PFAFF -1293	Per hour	50
26	Post Bed Single Needle Machine	3.04	1	DURKOPP ADLER - 888	Per hour	60
27	Post Bed Single Needle Machine	3.05	1	DURKOPP ADLER-888 (Classic)	Per hour	60
28	Post Bed Double Needle Machine	3.06	1	DURKOPP ADLER-4280-611	Per hour	70
29	Post Bed Double Needle Machine	3.07	4	DURKOPP ADLER-2260 -211	Per hour	70
30	Cylinder Bed I Needle Machine	3.08	1	PFAFF - 335-H3	Per hour	50
31	Zig Zag Machine with cording	3.09	1	DURKOPP ADLER-527	Per hour	250
32	Skiving Machine	3.1	2	Torielli 11/72.3	Per hour	40
33	Strobel Machine	3.11	1	L-141	Per hour	100
34	Strobel Machine	3.12	1	KL-141-25	Per hour	100
35	Pneumatic Eyeletting Machine	3.13	1	Torrielli - 11/72.3	Per hour	40
36	Seam Rubbing & Tape Attaching Mc	3.14	2	Torielli 17 AS 93	Per hour	40
37	Crimping Machine (Type Hydraulic)	3.15	1	Seazen SZ-571	Per hour	250
38	Fusing & Lamination Machine	3.16	1	Torielli 06/PR 86	Per hour	50
39	Toe Puff attaching Machine	3.17	1	Torielli, Italy	Per hour	50

SOLE/INSOLE MAKING SECTION

Sl.No	Name of the Machine	Code	Qty Available	Make & Model	UOM	Cost in INR
40	Insole Moulding Machine	4.01	1	Torielli 4078/PB	Per hour	75
41	Insole Bevelling Machine	4.02	1	DASUNG	Per hour	60
42	Insole Rivetting Mc	4.03	1	BRUGGI -BRU-112	Per hour	50
43	Sole Buffing Machine	4.04	1		Per hour	70
44	Skiving Machine	4.05	1	Lee Foot	Per hour	50
45	Skiving Machine (Heavy Duty)	4.06	1	Torielli	Per hour	60
46	Skiving Machine (Heavy Duty)	4.07	2	Golden Rhombus	Per hour	50
47	PU - Pouring Machine (4.08)	4.081	1	PUMA James 3 (12 Station - Banana Type)	Per hour	1200
48	PU - Pouring Machine (4.08)	4.082	1	PUMA James 3 (12 Station - Banana Type)	Per pair	12

Tariff of Common Facility Services

FULL SHOE LASTING/BOTTOMING SECTION

Sl.No	Name of the Machine	Code	Qty Available	Make & Model	UOM	Cost in INR
49	Pre Forming (Moccasin) Mc (4 Pairs)	5.01	1	Torielli 1461 Per Hour	Per hour	75
50	Toe Moulding Mc (2 Hot & 2 Cold)	5.02	1	SEAZEN SZ -625	Per hour	150
51	Counter Moulding M/c (2 Hot & 2 Cold)	5.03	1	SABAL PR	Per hour	100
52	Fore part Conditioning (Mulling) Mc	5.04	1	ISMC -UK 11PP 1022	Per hour	65
53	Toe Lasting Machine(Hydraulic Type)	5.05	1	MOLINA -BIANCI Mobi 1	Per hour	300
54	Side & Seat Lasting by Thermoplastic	5.06	1	CERIM 58 E	Per hour	400
55	Seat Lasting Machine by Tacks	5.07	1	ORMAC -750	Per hour	100
56	Back Part Conditioning (Mulling) Mc	5.08	1	Indigenous	Per hour	45
57	Heel Seat Crowning Machine	5.09	1	Alen 211	Per hour	70
58	Pounding & Ironing Machine	5.1	1	Torielli - 17/ACG	Per hour	65
59	Hot Air Blower (Wrinkle Chaser)	5.11	1	Torielli BC	Per hour	60
60	Heat Setting Plant (4 Track)	5.12	1	Indigenous PRE	Per hour	175
61	Roughing & Scouring M/c	5.13	1	Torielli - CF78	Per hour	50
62	Roughing & Scouring M/c	5.14	1	Torielli - CF78 N	Per hour	50
63	Dryer & Reactivator	5.15	1	Indigenous PRE	Per hour	250
64	Sole Attaching Machine (Pneumatic)	5.16	1	Eletro Technica BC	Per hour	50
65	Sole Attaching Pneumatic (Hydraulic)	5.17	1	Sigma 756	Per hour	100
66	Chiller	5.18	1	BDF Chiller "O"	Per hour	200
67	Delasting Machine	5.19	1	Torielli 148/BA	Per hour	40
68	Topline (Collar) Forming Machine	5.2	1	Alen - 102 SR	Per hour	100
69	Brushing & Polishing Machine	5.21	1	Indigenous (TSE)	Per hour	50
70	Spray Booth with Finishing Table	5.22	1	Indigenous	Per hour	100
71	Combined Finishing Machine	5.23	1	Frankling KING	Per hour	100

SPECIAL PURPOSE MACHINES

Sl.No	Name of the Machine	Code	Qty Available	Make & Model	UOM	Cost in INR
72	Sole Stitching Machine	6.01	1	BUSM UK	Per hour	100
73	SideWall/sole stitching Machine	6.02	1	MECVAL CS 82 N	Per hour	250
74	Heel Nailing Pneumatic Machine	6.03	1	TORIELLI 192/SDV Lue Model	Per hour	75

GENERAL PURPOSE MACHINES

Sl.No	Name of the Machine	Code	Qty Available	Make & Model	UOM	Cost in INR
75	Compressor 3 HP	7.01	1	Indigenous 3 HP	Per hour	40
76	Compressor 5 HP	7.02	1	Indigenous 5 HP	Per hour	50
77	Compressor 25 HP	7.03	1	ELGI E 18, Germany	Per hour	120
78	Generator	7.04	1	Kilrloskar 36 L8-4	Per hour	750

For further details please contact:

The Director,
CENTRAL FOOTWEAR TRAINING INSTITUTE
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CENTRAL FOOTWEAR TRAINING INSTITUTE, CHENNAI

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					Tuition Fees	Raw Material Fees	Caution Money Deposit	Moderation Fees	Total Fees	
1	Diploma in Footwear Design & Production	2 Years	12 th Pass	17-25	70,000	30,000	5,000	18,000	1,23,000 for 2 Years	August
2	Post Graduate Higher Diploma in Footwear Technology & Management Studies (PGHD)***	18 Months	Any Graduate	35 Max	2,10,000	25,000	5,000	25,000	4,65,000** for 18 Months	August / January
3	Post Graduate Diploma in Footwear Technology	1 Year	Any Graduate	35 Max	50,000	10,000	2,000	N.A	62,000	September
4	Post Diploma in Footwear Technology	1 Year	Any Diploma	35 Max	50,000	10,000	2,000	N.A	62,000	September
5	Certificate in Footwear Technology	1 Year	10 th	35 Max	32,000	10,000	2,000	N.A	44,000	August
6	Advanced Shoe Styling	3 Months	10 th	18 to 35	18,000	2,500/-	N.A	N.A	20,500/-	Jan, Apr, July & Oct
7	Designing & Pattern Cutting	3 Months	10 th	18 to 35	10,000	1,700/-	N.A	N.A	11,700/-	Jan, Apr, July & Oct
8	Shoe CAD	1 Month	10 th	18 to 35	10,000	1,700/-	N.A	N.A	11,700/-	Jan, Mar, May, July, Sept & Nov
9	Shoe Upper Clicking	1 Month	8 th	18 to 35	10,000	2,000/-	N.A	N.A	12,000/-	Jan, Mar, May, July, Sept & Nov
10	Shoe Upper Closing	3 Months	8 th	18 to 35	12,500	2,000/-	N.A	N.A	14,500/-	Jan, Apr, July & Oct
11	Lasting, Full Shoe Making & Finishing	3 Months	8 th	18 to 35	12,500	2,000/-	N.A	N.A	14,500/-	Jan, Apr, July & Oct
12	Leather Goods Making	1 Month	8 th	18 to 35	10,000	2,000/-	N.A	N.A	12,500/-	Jan, Mar, May, July, Sept & Nov
13	Physical Testing Lab	5 Days	Any Diploma	18 to 35	5,000	1,000/-	N.A	N.A	6,000/-	Jan, Mar, May, July, Sept & Nov

☐ LONG TERM COURSE ☐ SHORT TERM COURSE

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