



Globally the 1st training & research
institute for the raffia industry



Spread across 10 acres
with residential facilities



Equipped with plant and machinery
to provide hands-on training





Raj Kumar Lohia
Chairman
Lohia Group, Kanpur

The raffia sector or plastics woven fabric based industry has been one of the major segments contributed in the growth of plastics consumption in India in the last two decades.

However, since the manufacturing process to produce such woven products involves concepts and engineering of both, plastics processing as well as textile technology, globally no institution was available which has the facility to teach and train people in all facets of raffia product manufacturing under one roof.

It was envisioned by me in 2008 that Lohia Corp Ltd. as a leading global machinery manufacturer should take stride in this direction and support the industry by creating an institution of learning and skill training, exclusively for the plastics woven based manufacturing industry.

While recalling the day of 17th October, 2011, when the foundation stone of Technical Training & Research Centre (TTRC) was laid with blessings from Respected Shri Hargovind Bajaj at a dedicated campus and progress made thereafter to fulfill my commitment of patronising a full-fledged training institute, it is an honour and sense of contentment that TTRC has evolved as a complete training institution to support the raffia industry by providing trained and skilled manpower at different levels – Operators, Supervisors, Engineers, Managers etc.

TTRC's ultimate mission is to create a pool of skilled manpower as per the requirements of diverse manufacturing operations in the raffia sector and scale up its activities in years to come, considering the enormous shortage of trained manpower.

TTRC's contribution in creating National Occupational Standards (NOS) for the raffia sector in association with the Textile Sector Skill Council is an effort for formalising the raffia sector skill training courses like any other technical training course in India.

TTRC is indeed a unique endeavour of Lohia Corp Ltd. to support and strengthen the raffia sector by providing skilled manpower - a vital ingredient for the success and efficient operation of an industry.



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About TTRC

Technical Training & Research Centre (TTRC) was established by Lohia Corp Ltd. at Kanpur, India in 2012 as an independent division of the group with objectives blended with CSR commitment to impart skills to unemployed youth as well as to support the growing raffia industry.

Since its operation in 2012, TTRC has emerged as the global destination for training requirements in all disciplines of the raffia industry from Operator Level to Executive Development programmes. Perhaps, TTRC is the first of its kind technical training and research centre of international repute dedicated for the woven sack industry.

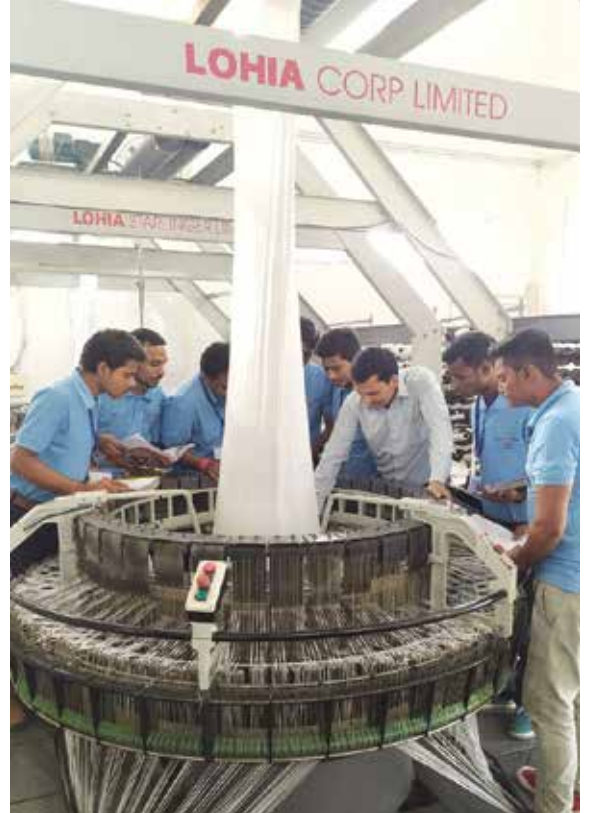
TTRC campus is spread across 10 acres of land with residential facilities within the campus and state-of-the-art infrastructure including testing laboratory and workshop equipped with tapeline, looms, BCS, valvomatic etc.

Lohia's TTRC has also been engaged by woven sack manufacturing units from different countries of SAARC, Africa, Middle East, South East Asia and GCC as their 'Training Partner'.

TTRC's onsite training programmes at factory premises are becoming popular which enable companies to improve productivity and quality in their operation. The USP of TTRC programmes is that they are customised as per the requirements of companies. TTRC's skill training programme has been shortlisted by NSDA (an apex body of the Government of India for skill development) as an innovative initiative in the area of skill development. TTRC is also registered as the Vocational Training Provider (VTP) under the Skill Development Scheme of the Government of India.

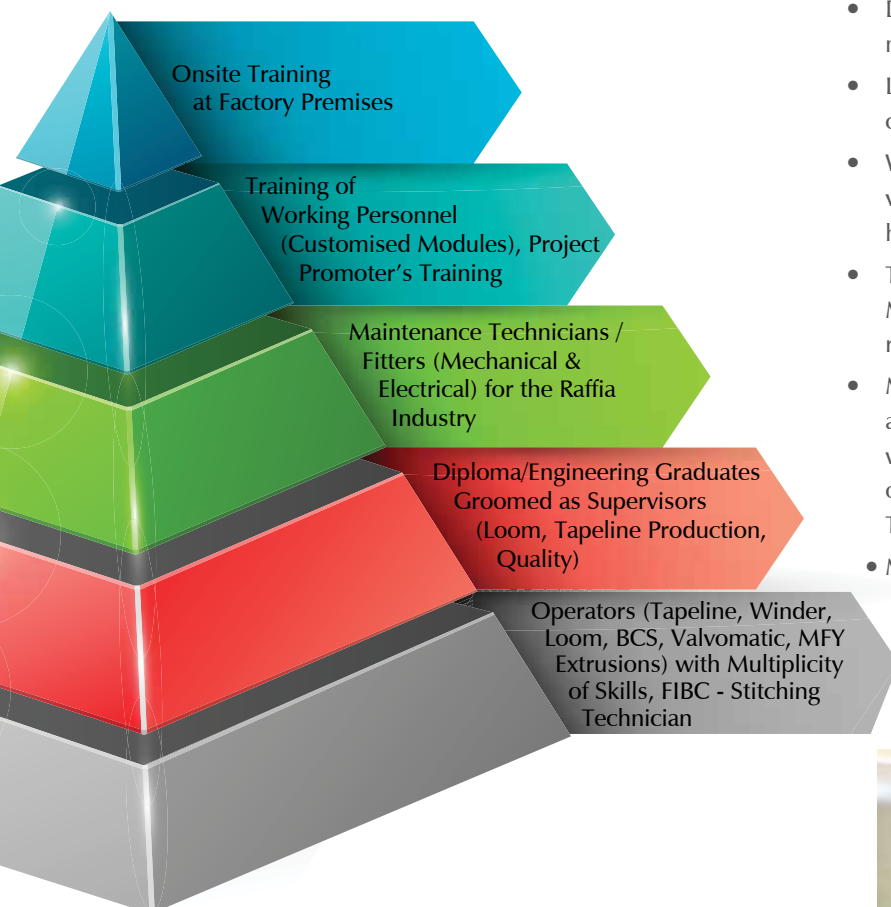
TTRC has worked with the Textile Sector Council under NSDC's skill training framework in developing Qualification Packs (QPs) for the raffia sector, which has been approved by NSQC and 3 QPs (Tape Plant Operator, Winder Operator and Circular Loom Operator) have been approved as National Occupational Standards (NOS).





TTRC: Unique Propositions

- Well-developed academic facilities for conducting theory and practical sessions on technical facets of plastic woven sack / raffia industry.
- Dedicated residential campus with professional management set up.
- Library with rich collection of text / reference books and computer based training (CBT).
- Workshop comprising of tapeline, circular looms, BCS, valvomatic Multi Filament Yarn (MFY) extrusion for hands-on practical training.
- Testing laboratory approved by NABL equipped with MFI, ash content tester, tensile testing, wrap reel, UV retention test etc.
- Management and team of experts at TTRC are drawn from an experienced pool of professionals and technocrats whose experience and knowledge, under the mentorship of the Group's Chairman, Shri Raj Kumar Lohia is taking TTRC to newer heights.
- Maintenance laboratory (Mechanical and Electrical) comprising of conventional machines, PLC, pneumatic and hydraulic kit etc.
 - FIBC / Bulk bag conversion training workshop.



NABL Accreditation (TC 8241) Lohia's TTRC augmented its training & technical support activities by commencing testing & quality control services for plastics raffia/woven sack sector. Plastics woven bag test laboratory has been granted NABL Accreditation as per ISO/IEC 17025:2005 to assess the quality of all kinds of woven bags as per BIS specification.

TRAINING PROGRAMMES

Operator Proficiency

TTRC conducts 16-week operator proficiency course to address the needs of trained manpower for the raffia industry. The objective of this programme is to produce well trained /skilled operators for the raffia industry, which is important for machine productivity and quality of the end-product.

Course Title

Operator Proficiency (Tapeline, Winder, Loom, BCS, Valvomatic, MFY Extrusions)

Duration

16 weeks

Entry Qualification

X / XII / ITI in any discipline

Course Coverage (Operator Programme)

- Technical know-how about plastic materials – properties, grades and additives.
- Extrusion process principle - screw and barrel details, output/diameter/L-D ratio/compression ratio, drive motors, speed control etc.
- Tape extrusion line - quenching, heating and orientation by stretching, annealing, winding, significance of tape terminology-tenacity, denier, tex etc.
- Technical know-how about extrusion die, specific reference to T-die.
- Practical on die setting and parameter setting on tape extrusion lines.
- Basics of weaving technology, terminology and woven fabric related calculations.

- Practice on start-up and shut-down operation of tape line / circular looms / conversion / secondary processes.
- Exposure to basics of maintenance.
- Industry orientation training and evaluation – 1 month.

Note: Candidates will have to appear for a test followed by an interview.

Supervisor Development Programme

Lohia's TTRC offers 12-week supervisor development programme (SDP) for diploma and engineering graduates who are trained in all disciplines of plastic woven sack manufacturing.

Supervisors trained from the programme can work in any department such as tape plant production, loom, quality etc.

Course Title

Supervisor Development Programme (SDP)

Duration

12 weeks

Entry Qualification

Graduate in Science / Engineering or Diploma (Mechanical, Electrical, Plastics, Textile or Equivalent)

Course Coverage (SDP)

- Plastic Materials and Additives: Basic polymer science and chemistry of polymers, plastics, structure- property relationship with specific reference to polyolefin (PP, PE) additives significance vis-à-vis raffia woven sack industry.
- Plastic Processing Techniques: Specific reference to extrusion and cast film extrusion, T-die for tapes - tapeline, significance of parameters in tape extrusion (feeder to winder).



- **Weaving Technology:** Principle of weaving, history and classification of weaving machinery, types of looms, single phase v/s multiple weaving machines and circular loom for the raffia industry.
- **Testing and Quality Control:** Significance of raw material and product testing, exposure to different test methods for material tapes and fabrics as per BIS / ASTM / ISO.
- **Production Management for the Raffia Industry:** Basic aspect of production and manpower planning, product costing / calculations, inventory control etc.

Note: Candidates will have to appear for a test followed by an interview.

Maintenance Technicians

The efficiency of any manufacturing machine or equipment depends upon its upkeep and good preventive maintenance practices. In order to meet the growing needs of the mechanical and electrical maintenance technician for the raffia industry, TTRC commenced an exclusive training programme to produce skilled technician for both, mechanical and electrical disciplines.

Course Title

Maintenance Technician (Mechanical / Electrical)

Duration

12 - 16 weeks

Entry Qualification

XII / ITI (Fitter) / Electrician or any technical trade qualification. Experience in maintenance department is added advantage / Diploma in Mechanical or Electrical.

FIBC - Stitching / Sewing Technician

FIBC or bulk bags are one of the fastest growing segment of the raffia sector for imparting practical training to stitchers / tailors, an exclusive "FIBC Training Workshop" has been created to train as well as demonstrate the conversion of various types of FIBC.

Duration

8 weeks

Customised Training Programmes

As per the requirements of individuals, working personnel and new entrepreneurs, TTRC customises a variety of short duration

training programmes (ranging from 1 week - 8 weeks) for all level of working personnel Operator → Supervisor → Executive → Project Promoter / Owner etc.

Presently, TTRC's training products cover or meet the requirements of all job roles of the raffia industry from 'O' (Operator) to 'O' (Owner) Level.

Onsite Training Programme

TTRC initiative of onsite training programme at the factory premises is aimed at imparting training to the working personnel of the industry which facilitates





in improving processes on tape plants, looms, quality control in manufacturing operation etc. The duration of the onsite training programmes typically varies from 1 week - 3 weeks depending upon the size and operation of the unit / industry.

The typical course coverage during onsite training is as follows:

- Material formulation / recipe for producing tape for different denier (low denier to high denier tapes).
- Process parameter optimisation on tape plant for increasing productivity and quality improvement during tape plant production.
- Die setting, cleaning procedure – basic maintenance aspect related to die.
- Wastage control during changeover / start-up or shut down of tape plant.
- Process log sheet recording, online quality control checks, recording etc.
- Laboratory practical on MFI, ash content tester (if available in the company), tape and fabric testing.
- Threading methodology on looms.
- Parameter setting on looms as per specification of fabrics.
- Calculation related to weaving on looms.
- Terminologies used in loom section - GSM, GPM, Mesh etc.
- Know-how on loom setting for different types of fabrics to achieve quality, higher production and reduced wastage.

- Basic maintenance aspects of looms.
- BCS / Valvomatic operation and settings (if available).

TECHNICAL SERVICES

As per the requirement of the industry, TTRC undertakes technical services related to testing and analysis of different grades of raw material and additives, optimisation of formulation of materials and additives for different types of raffia products.

Typical Scope of Technical Services include:

- Trial of different grades of materials, masterbatches and additives.
- Developmental work on producing fabric from new generation or grade of polymeric materials with additives / masterbatches.
- Laboratory services for material identification and composition analysis of woven fabrics.
- Testing of materials and tape-grades verification through MFI testing.
- Mechanical properties testing of tape / fabric / bags etc.
- Filler / Calcium carbonate content analysis of materials and woven fabrics.
- UV resistance testing of yarn, tapes and woven fabrics.



Training & Technical Support Network of TTRC



Placement

TTRC provides trained / skilled manpower in the following areas of woven sack manufacturing:

- Tapeline and Winder Operation
- Circular Loom Operation
- BCS and Valvomatic Operation
- MFY Extrusion Operation
- Mechanical and Electrical Fitter / Technican
- Production Supervisor (Tapeline, Loom)
- Quality Control Supervisor
- FIBC Stitcher / Sewing Technican

Interested industries willing to employ TTRC trained manpower may contact: Head (Training and Placement) - TTRC at ttc@lohiagroup.com



Alumni

Since inception in 2012 TTRC has created a pool of trained technical personnel for the raffia industry at all levels from operators to managers. During the 1st TTRC alumni meet on 2nd April, 2016, the TTRC Alumni Association was formally created under the aegis of the training and placement department. Registration to the TTRC Alumni can be done online through the website www.lohiatttrc.com

TTRC-Alumni comprises of pass-out trainees from all courses i.e. operator, supervisor, maintenance technician and executive development programme.



TECHNICAL TRAINING & RESEARCH CENTRE (TTRC)

(A division of **LOHIA CORP LIMITED**)

TTRC Complex, Amliha, Chaubepur, Kanpur - 209 217, INDIA

Tel.: +91-512-3045100; Fax: +91-512-308299; Cell: +91-99358 02229, 94256 17826, 99350 94562

E-mail: ttc@lohiagroup.com, contact@lohiatttrc.com; Web: www.lohiatttrc.com