The Xerafy Guide to RFID Tagging for Textile Inventory

Best Practices and Solutions for Industrial Laundries, Rental Services, Hospitals, Hotels, and Apparel Brands

XERAFY





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Textile Inventory

Managing high volumes of textiles—whether for laundry, rental, or inventory control—requires precision, efficiency, and full visibility. RFID technology is transforming how companies track linens, uniforms, and branded items across demanding environments and complex supply chains.

This guide outlines best practices for RFID tagging across commercial laundry operations, linen and uniform rental services, healthcare and hospitality providers, and fashion brands. From tracking high-turnover items like towels and scrubs to managing branded textiles and reusable transport assets like laundry carts and bins, RFID enables automation, reduces loss, and ensures accountability at every step.

Drawing on proven solutions—including Xerafy's TEX TRAK series of small washable RFID tags and other durable options—this guide helps operators and brand owners implement RFID systems that streamline operations, safeguard inventory, and support scalable growth in textile management.



Hotel Linen Services



Hospital Laundry Service



Uniform Rental

Hotel Linen Services

Linens are essential assets in hotel operations, directly impacting guest satisfaction and operational efficiency. Managing hotel linen inventory—towels, bedsheets, pillowcases, robes—across high-turnover cycles presents a major challenge in terms of cost control, accountability, and service quality.

Traditional manual tracking methods often result in inventory inaccuracies, overstocking or shortages, and increased losses:

- Manual counting leads to errors and inconsistent inventory records.
- Lost or misplaced items go undetected until guest service is impacted.
- Overuse or under-rotation of linens shortens their lifespan and inflates replacement costs.

Xerafy's durable RFID tags are engineered for industrial washing conditions and are discreetly sewn or heat-sealed onto individual items, creating a unique digital identity for each piece of linen. These RFID tags remain readable throughout repeated wash cycles and enable full visibility into hotel linen operations:

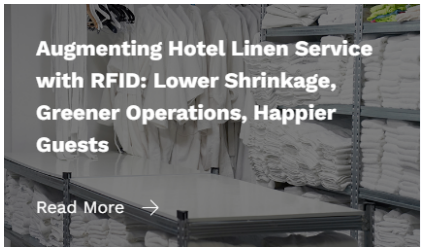
- **Automated Check-In / Check-Out :** RFID tunnels or handheld readers automatically scan linens during delivery and pickup, replacing manual sorting and counting with fast, accurate reconciliation.
- **Linen Lifecycle Tracking:** Each item's wash count, usage history, and age are recorded, helping optimize rotation and replacement strategies.
- **Inventory Optimization:** Real-time stock levels and usage data enable better linen distribution across housekeeping , laundry , and storage, reducing shortages and overstocking.
- **Loss Prevention:** Automatic alerts flag missing items at the room, floor, or batch level, helping recover misplaced inventory and reducing theft or loss.
- **Performance Benchmarking :** Usage patterns and wash data support decision - making around linen quality , vendor performance , and operational planning.

Xerafy's TEX TRAK series is designed to withstand repeated industrial laundering, sterilization, and drying processes, while delivering reliable RFID performance on textiles. Tags can be embedded in a variety of linens with minimal impact on feel or appearance.

By digitizing linen management, RFID brings measurable improvements to efficiency, transparency, and guest service:

- **Improved Inventory Accuracy:** Digital tracking eliminates manual errors and improves linen availability where and when it's needed.
- **Reduced Linen Losses:** Early detection of misplaced or missing items curbs unnecessary replenishment and shrinkage.
- **Extended Linen Lifecycles:** Optimized rotation and timely retirement based on usage data help lower replacement costs.
- **Operational Efficiency :** Streamlined handoffs between laundry and housekeeping reduce labor hours and support faster room turnaround.

CASE STUDIES



More Case Studies

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Hospital Laundry Services

Textile management in healthcare environments is critical to patient care, infection control, and regulatory compliance. Hospitals rely on large volumes of linens, gowns, scrubs, and personal protective equipment (PPE) that must be cleaned, tracked, and returned with precision and traceability.

Traditional manual methods for managing hospital laundry are prone to error and inefficiency, creating risks to both service quality and compliance:

- **Manual sorting and counting result in inventory mismatches and delayed turnaround.**
- **Misplaced or unreturned garments disrupt daily operations and incur replacement costs.**
- **Lack of lifecycle data prevents effective usage tracking and timely replacement of worn or contaminated items.**
- **Compliance efforts are hindered by limited visibility into hygiene cycles and garment usage history.**

Xerafy's washable RFID tags are built for medical-grade textiles and engineered to survive repeated washing, sterilization, and autoclave cycles. By embedding RFID directly into individual items, hospitals can automate and digitize their laundry and textile workflows:

- **Automated Item Tracking :** RFID readers at key points (collection, washing, packing, delivery) identify each item automatically, eliminating manual logging and improving processing speed.
- **Hygiene and Reprocessing Compliance :** RFID records maintain a verifiable log of wash and sterilization cycles, supporting audits and ensuring items meet hygiene standards before reissue.
- **Inventory Visibility:** Real-time data enables better control over in-use, soiled, and clean linen inventory across departments and facilities.
- **Shrinkage and Loss Control:** Missing items are flagged instantly, helping hospitals reduce linen loss across laundry, wards, and central stores.
- **Usage-Based Replacement:** Wash counts and wear tracking inform linen lifecycle planning and help maintain quality and safety standards.

Xerafy's TEX TRAK series meets the hygiene, durability, and traceability requirements of hospital laundry environments, offering seamless integration into existing laundry processes and minimal disruption to handling and logistics.

By digitizing laundry operations with RFID, hospital facilities gain end-to-end visibility and control, supporting safer, more efficient healthcare services:

- **Operational Efficiency:** Faster sorting and turnaround reduce labor costs and support smoother patient room readiness.
- **Compliance Readiness:** Automated tracking provides the documentation needed for audits and infection control standards.
- **Reduced Shrinkage:** Lost item tracking reduces linen replacement costs and improves accountability across hospital departments.
- **Improved Asset Management:** Lifecycle data supports budget planning, quality control, and vendor performance evaluation.

CASE STUDIES



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Uniform Rental

Uniform rental services are built around large-scale logistics, consistent service quality, and efficient inventory management. With garments in constant circulation—pickup, laundering, delivery, and wear—uniform providers face mounting pressure to track every item accurately while reducing losses and operational costs.

Traditional tracking methods depend heavily on manual sorting and paper-based records, which struggle to keep up with the complexity and scale of modern uniform programs:

- Manual check-in / check-out of garments is labor-intensive and prone to human error.
- Missing or misrouted items disrupt service delivery and damage customer satisfaction.
- Limited visibility into item usage and history makes it difficult to plan maintenance or replacement.
- Losses and disputes over garment counts create friction between providers and clients.

Xerafy's rugged RFID tagging solutions create a unique digital identity for every garment, enabling uniform rental providers to automate item-level tracking across their entire service cycle. Tags are designed to withstand industrial laundering processes, including high-temperature washing, drying, and sterilization.

- **Automated Sorting and Checkpoints:** RFID tunnels or handheld readers track items during pickup, wash, packing, and delivery — streamlining operations and improving throughput.
- **Customer-Level Visibility:** Uniforms are associated with individual clients, wearers, or departments, enabling accurate allocation, billing, and service records.
- **Usage Tracking:** Wash counts and wear history support data - driven decisions on when to repair, rotate, or retire uniforms.
- **Dispute Resolution:** Detailed records of garment movement and handling support transparent customer communication and accountability.
- **Shrinkage Reduction:** Real-time alerts for missing or misdirected items help reduce loss and prevent costly reorders.

With the Xerafy TEX TRAK series and complementary tags for bins, carts, and returnable assets, uniform rental providers gain complete visibility and control over their operations—from processing plants to the point of delivery.

RFID transforms uniform rental services from reactive to proactive, helping providers scale with confidence and deliver consistent quality:

- **Greater Efficiency:** Automation reduces labor time and human error across sorting, scanning, and record-keeping.
- **Inventory Accuracy:** Item-level tracking ensures garments are returned, maintained, and replaced in line with service contracts.
- **Lower Costs:** Reduced loss and better asset utilization translate into fewer replacements and stronger margins.
- **Enhanced Customer Satisfaction:** Timely, accurate service builds trust and enables tailored solutions for high-value clients.

CASE STUDIES



More Case Studies

Ask Our Engineers

Understanding Industrial Laundry Conditions

In industries such as healthcare, hospitality, and manufacturing, textiles are subjected to industrial washing cycles far more aggressive than household laundry. These cycles are designed to handle large volumes, meet hygiene standards, and maintain operational efficiency — but they also present extreme challenges for textile integrity and RFID tag durability.

TYPICAL INDUSTRIAL LAUNDRY PROCESS

Process Step	Parameters
Washing:	90°C for 15 minutes
Dehydration press (CBW):	35–60 bar for 80 seconds
Pre-drying:	180°C for 15–30 minutes (e.g., tunnel dryer)
Ironing:	180–210°C for 10–60 seconds
Sterilization:	135°C at 4 bar for 20 minutes



Linen sorting

In **hospital laundry** environments, these industrial conditions are compounded by stricter hygiene protocols and regulatory tracking requirements. RFID tags must endure not only harsh washing cycles, but also disinfection procedures, clean/soiled segregation workflows, and, in some cases, high-pressure steam sterilization. Tags must remain secure, readable, and free from delamination to ensure infection control and maintain compliance with healthcare regulations.



Continuous Batch Washers (CBW)

STRESS CONDITIONS AFFECTING RFID TAGS

The following stressors throughout the textile lifecycle must be taken into account when designing RFID-based tracking systems:

High Temperatures - Machines operate at 75–90°C during washing and up to 210°C during ironing. Thermal cycling and steam exposure can degrade adhesives and tag housing if not properly specified.

Chemical Exposure - Industrial detergents include peracetic acid, sodium hypochlorite, and active chlorine ⩾ 200 PPM. These aggressive agents may corrode materials and affect tag readability or longevity.

Mechanical Agitation and Pressure - CBWs create constant mechanical stress through rotation and compression. Dehydration presses apply up to 60 bar, affecting tag bonding and textile deformation.

Drying and Finishing - Tunnel finishing and tumble drying expose items to high heat and airflow, which can weaken label adhesion or cause tag detachment if not properly installed.

Xerafy's TEX TRAK RFID tags are engineered to withstand over 200 industrial wash cycles, including repeated exposure to high heat, chemical agents, and mechanical stress (Performance may vary depending on specific process configurations and installation quality).



Dehydration

Selecting the Right RFID Tags

Xerafy offers a full suite of RFID tags engineered for the demands of commercial laundry and textile logistics.

Each solution is optimized for:

- **Durability across wash cycles and handling**
- **Compatibility with handheld, tunnel, and gate RFID systems**
- **Flexible installation** with multiple form factors and mounting options

The following sections match tag recommendations to the most common asset types in textile operations.

LINENS AND GARMENTS

Washable RFID tags tested for 200+ commercial laundry cycles, for sewing or heat-sealing into linens, uniforms, towels, and gowns.



TEX 70x22 Roll heat/sew



TEX 70x15 heat/sew



TEX 50x12 heat/sew



TEX 70x15 Gamma sew



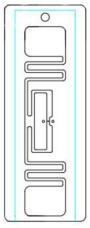
TEX 55x12 Silicone

For uniform and textile manufacturers that need to print and encode tags during production. Available in sew-in and heat-seal versions.

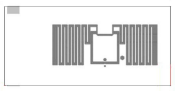


BRANDED APPAREL

ARC-certified RFID hang tags and woven labels for brands and converters, enabling source tagging of product details, pricing, and textile composition.



Hang Tag 30x80



Woven Label 66x31



Selecting the Right RFID Tags

LAUNDRY BINS

Waterproof and adhesive-mounted tags optimized for plastic containers used in soiled linen collection and clean deliveries.



POD TRAK 115



POD TRAK 85



POD TRAK 60



ROLL CAGES

Long-range RFID tags engineered for metal trolleys and roll cages operating in demanding industrial environments.



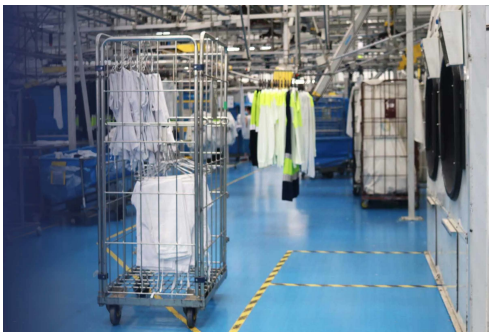
Cargo OUTDOOR



RTI OUTDOOR



Versa TRAK



Selecting the Right RFID Tags

XERAFY TEXTILE TEST PACK



Evaluate the durability, readability, and real-world performance of Xerafy's RFID tags in your own operations.

Includes a selection of sewable, patchable, and mountable tags:

– TEX TRAK Series: Sew, Patch or Heat Seal, Laser-markable

– POD TRAK Series: Plastic container and bin tags

– On-metal tags and ARC-certified labels [option to specify]

– Technical specifications + Best Practices Guide

Use the pack to test:

- Resistance to laundering (washing, drying, pressing)
- Compatibility with tunnel, gate, and handheld RFID readers
- Performance on specific textiles, workflows, and laundry infrastructure

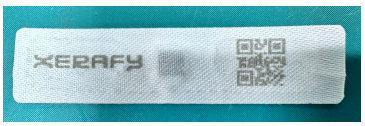
Need reader recommendations? More samples for a POC?

Order a Test Pack

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SERVICE BUREAU – CUSTOMIZATION OPTIONS

Personalize Xerafy's RFID tags to meet brand requirements and enhance operational efficiency with a range of customization services:



Readable Markings

Add human-readable information to RFID tags, including serial numbers, product IDs, and brand text.



Optical Identifiers

- Printed Barcodes and QR Codes: Available for selected RFID tag series to enable additional visual identification alongside RFID tracking.



Chip Encoding

- Memory Programming: Custom serialization, unique ID encoding, and memory locking options are available to meet your system requirements.



Durable Marking Options by Tag Series

- TEX TRAK series - Laser Marking is suitable for fabric-based RFID tags. It provides good durability through repeated industrial washing cycles. Recommended for simple text or numeric characters. Laser marking on silicone-based tags is technically possible but offers lower durability compared to fabric tags.
- TEX 70x22 Roll can be printed and encoded in-house for each production order. Xerafy can also supply tags printed and encoded to the customer's requirements.
- POD TRAK series - Direct surface printing is available for inventory management and visual identification.
- OUTDOOR and TRAK series - Laser marking and painting options are available for hard tags to enable durable branding and easy visual differentiation.

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TEX 70x22 ROLL

Supplied in rolls of 500 tags plus 25 additional tags.

RECOMMENDED RIBBON

We recommend RICOH D110A and ARMOR ATX9 thermal transfer ribbons designed for heat and wash-resistant fabric labels.

As a planning estimate, allow approximately 40 meters of RICOH D110A ribbon to print 2,000 TEX 70x22 Roll tags. Actual consumption varies with print layout, printer model and settings.



RICOH D110A

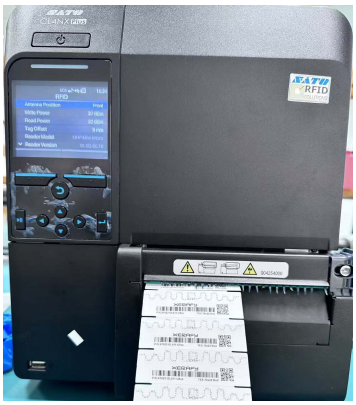


ARMOR ATX9

RECOMMENDED PRINTER SETUP

Settings based on SATO CL4NX Plus with RICOH D110A ribbon:

- Validated settings are darkness 10, print speed 2, and printhead pressure left 5 / right 4.
- Position printed content clear of the left edge and raised stitching.
- Check a sample before printing the batch.



REPRINTS

To maintain continuous sequence numbers:

1. Print the planned batch of 500 tags, reserving the additional 25 tags for replacements.
2. Inspect the printed tags. Mark tags with incomplete or unclear printing as rejected, record their numbers and keep them separate from usable tags.
3. Reprint the rejected records at the end of the batch, using the original numbers on the additional tags.

For RFID-encoded tags, verify that the printed number and encoded data match the intended record.

Selecting the Right Installation Method

Xerafy TEX TRAK laundry tags are tested to survive over 200+ industrial laundry cycles. To ensure optimal performance, selecting the correct installation method is critical.

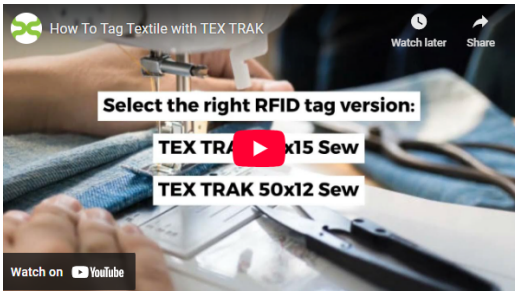
The right choice depends on:

- The **textile type**
- The **laundry process**
- **Durability requirements**
- **Available installation surfaces** and workflows

Xerafy offers **4 standard installation methods**, each engineered for different use cases:

1. **Heat-Seal** – Direct application onto the textile, fast and tamper-resistant, ideal for tagless items and large-scale retrofits.
2. **Sew on Textile** – Tag sewn directly onto the fabric surface, common for field use or small-scale deployments.
3. **Sew in Pouch** – Tag placed in a pouch sewn onto the textile. Ideal for items requiring tag replacement or protection.
4. **Sew in Hem** – Tag embedded during manufacturing for high durability and a discreet finish. Best for flat linens and source-tagged inventory.

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Watch Video About How To Tag

Selecting the Right Installation Method

TAGGING BEST PRACTICES BY TEXTILE TYPE

Textile Inventory Type	Challenges	Recommended installation methods	Recommended Placement
Flat Linens (bed sheets, covers, pillowcases)	Used by end-users or managed by rental services, these high-circulation items require RFID tags that withstand frequent industrial washing and folding: • Losses across shifts, rooms, or facilities • Require discreet and tamper-resistant tagging • Subjected to heat, pressure, and bleach • Prone to signal loss when folded or stacked	• **Heat-seal / Patch** – For tagless items or high-speed tagging • **Sew + Hem** - Discreet, durable, ideal for source tagging by manufacturer	• Inside hem or corner seam, away from folds. • Near the edge for easy scanning without interfering with folding • Avoid placing in the middle of a large piece as they may become difficult to scan when stacked or folded
Towels and Robes (hospitals, hotels & resorts, gym, guest robes)	These items require RFID tags that balance durability with guest comfort and aesthetics: • Frequent exposure to water, friction, and heat during laundering • Robes are guest-facing — tags must be discreet and soft • High shrinkage and loss rates, especially for high-value robes • Drying surfaces may wear down exposed tags	• **Sew + Hem** – Secure and protected, ideal for high-friction laundering • **Heat-seal / Patch** – Non-intrusive method. suitable for retrofit of large inventory • **Label + Sew** – Suitable for branded items	• Towels: Inside folded hem or along reinforced edge for added protection • Robes: Inside waistband seam or behind care/brand label for discretion • Avoid visible or abrasive locations; ensure scanability when folded
Workwear and Uniforms (hospital scrubs and gowns, lab coats, coveralls, F&B uniforms...)	These garments require robust RFID tagging to manage distribution, cleaning cycles, and compliance: • Subject to heavy wear and frequent laundering • Loss or mix-ups between individual users or departments • Variations in garment design complicate consistent placement • High-friction zones (elbows, cuffs) can damage tags	• **Pouch + Sew** – Replaceable, preferred by rental services and end users • **Label + Sew** – Field-installable, visible label inside collar or waistband	• Inside collar, waistband, pocket, for discretion and durability • On the lower inside hem for better readability • Avoid high-wear zones like cuffs and elbows • Maintain consistent location across garments to streamline scanning
PPE and Protective Clothing (gloves, aprons, high-visibility jackets, fire-resistant garments)	Used in hazardous or regulated environments, these items require traceability for safety, compliance, and maintenance records: • Exposure to heat, chemicals, and mechanical wear • Regulatory need for traceability and inspection history • Shorter lifecycles or high replacement frequency • Wearer comfort and mobility must not be compromised	• **Label + Sew** – Simple and cost-effective for field application • **Pouch + Sew** – Ideal for removable tagging or maintenance- intensive items • Some technical materials require specialized installation methods	• Inside pocket, collar, waistband, or under inspection label • Avoid areas of body contact, impact, or high-flex zones • Ensure tag remains readable after repeated industrial washing
Hospitality and Event Textiles (napkins, tablecloths, chair covers, events)	Processed in commercial laundries, these textiles are often reused across venues and require efficient inventory control: • Losses during event turnover or laundry cycles • High aesthetic expectations — tags must be discreet • Require durability for repeated use and transportation • Difficult to track in bulk without automation	• **Heat-seal / Patch** – Durable and tamper-proof for high-volume commercial laundry • **Pouch + Sew** – Flexible and replaceable for high-value rental items	• Inside hem or reinforced edge • Near corners for easy scanning and minimal visual impact • Avoid areas that affect draping or visible presentation

Guidelines for RFID Tag Placement on Textiles

Proper placement of RFID tags on flat linens and garments is essential to ensure consistent readability, durability, and ease of scanning throughout the textile's lifecycle.

The guidelines below apply across textile types and are especially important for high-throughput industrial laundry environments.

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The diagrams illustrate tag locations for flat linens and garments, based on real-world folding, stacking, and handling conditions:

- ✔ **Recommended:** Near hem, corner, or outer edge — away from folds.
- ✘ **Avoid:** Center of the item, fold lines, or exposed positions prone to abrasion or signal loss.

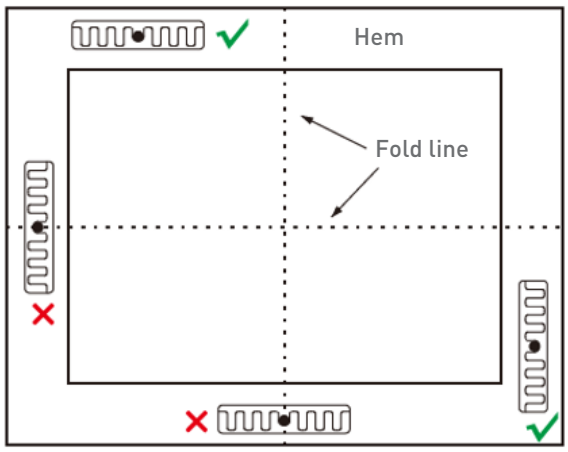


Diagram tag placement for Sewing tag inside a Hem

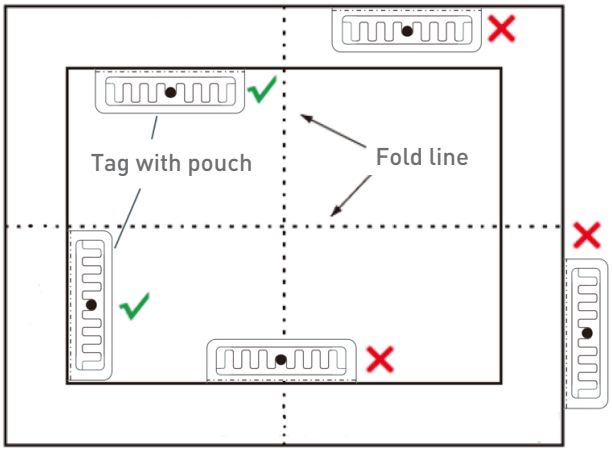


Diagram tag placement for Sewing tag inside a Pouch

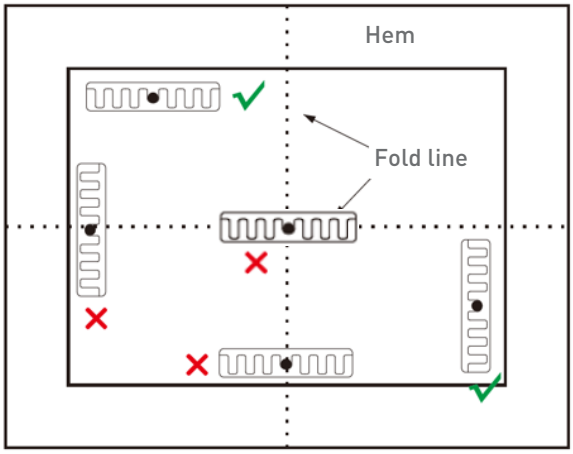


Diagram tag placement for Sewing or heatseal on textile

Guidelines for RFID Tag Placement on Textiles

1. Place tags near the edge or hem
   - Tags positioned close to the hem or in a corner are easier to scan, especially in stacked or folded conditions.
   - Recommended for flat linens such as sheets and towels.
2. Avoid center areas and fold lines
   - Tags placed in the middle of large fabrics are often blocked when folded, reducing readability.
   - Avoid placement along natural fold lines shown in the diagrams.
3. Use consistent placement across items
   - Standardized tag positioning improves scanning accuracy and speeds up handling.
4. Reinforce for protection
   - Install tags inside hems, seams, or other reinforced areas to reduce exposure to friction and extend tag life.
5. Respect aesthetics and comfort
   - For guest-facing or wearable items, ensure tags are discreet and do not interfere with the look or feel of the textile.

Best Practices – Heat-seal on Textile

The heat-seal method uses a patch or adhesive layer to fuse the RFID tag directly into the textile using a heat seal press.

Heat-sealing is the most commonly used method to affix RFID tags to textiles in industrial laundry operations. When done correctly, it provides a durable, tamper-resistant bond that withstands industrial washing, drying, and handling cycles. Proper control of temperature, time, and pressure is essential to ensure a strong bond between the tag and the fabric — without damaging the RFID chip or compromising read performance.

COMPATIBLE TAGS

- ✓ TEX 70x22 Roll heat
- ✓ TEX 70x15 heat
- ✓ TEX 50x12 heat

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1.PREPARATION

- Verify textile compatibility with heat -sealing method: Textile materials vary in surface texture, weave density, and thermal behavior. Always test heat-sealing settings on a small sample batch of each textile type before full-scale production.
- Only heat-seal on **clean and dry** textiles.
- If the area is damp or soiled, **pre-dry it under the press** before applying the RFID tag.



2. PLACEMENT

- Do not place the tag over **seams, elastic zones, or folds**.
- Position adhesive part of the tag on a flat area of the textile.
- Ensure the surface is **flat and smooth** to prevent air gaps under the tag.

3. APPLICATION

- Recommended Heat-Sealing Parameters (Always refer to your heat-sealer's user manual: Pressure conversions from air input to platen force vary by machine)

Parameter	Recommended Setting	Purpose
Temperature	204°C (±5°C)	Activates adhesive; allows glue to become fluid and penetrate fabric fibers
Dwell Time	12–15 seconds	Ensures glue flows into textile and forms a reliable bond
Pressure	0.5 kg/cm² (typically 4–5 bar input pressure)	Forces adhesive into textile weave for optimal attachment

- Allow tag and fabric to cool for at least 30 seconds before handling.
- Check the settings for the heat seal press frequently to ensure optimal and consistent results.

Quick Pressure Calibration Tips if your heat press does not have a digital pressure gauge:

- Place a sheet of paper between the upper and lower platens
- Close the press
- The paper should be **firmly held and not pullable**
- If it slips easily, increase pressure or inspect platen alignment

4. VALIDATION

- Perform read test to confirm functionality: RFID tag is readable immediately after sealing
- Tag lies flat, with all edges fully sealed
- No signs of adhesive overflow or bubbling
- Corners are secure; no lifting when lightly tugged

Special considerations for technical fabrics such as **barrier textiles, flame resistant clothing, gowns** and surgical drapes, etc, that can have properties that inhibit adhesive bonding.

These settings improve adhesion on barrier textiles:

1. Pre-heat the application area for 7–10 seconds using the heat press.
2. Immediately position the RFID tag once removed from the press.
3. Apply the full sealing cycle using the recommended settings.

Always validate settings on a sample before large-scale application.

Best Practices - Sewing on Textile

The Sewing on Textile method involves sewing the RFID tag directly onto the textile surface without a patch or pouch.

The method is commonly used in retrofits, field applications, or when a visible, easily accessible tag is acceptable. It is ideal for on-site tagging, individual garments, or scenarios where replacement and repositioning are not required. It's straightforward but requires care to avoid damaging the tag or compromising comfort.

COMPATIBLE TAGS

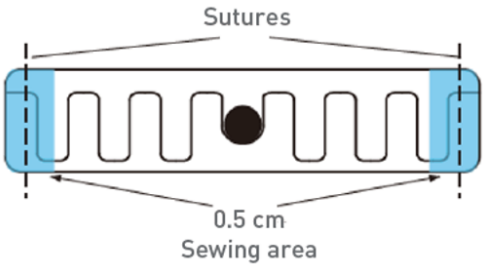
- ✓ TEX 70x22 Roll sew
- ✓ TEX 70x15 sew
- ✓ TEX 50x12 sew
- ✓ TEX 70x15 Gamma sew

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1. PREPARATION

- Select a flat location that minimizes bending and friction — common placements include inside the collar, waistband, or under a care label.
- Ensure the fabric is clean and dry before sewing.



2. POSITIONING

- Lay the RFID tag flat and aligned with the fabric surface.
- Maintain at least 2 cm distance from high-stress areas (e.g., seams, elastic zones).
- Ensure the tag is not placed over wrinkles or folds.



3. SEWING

- Use a tight overlock or double lockstitch with a stitch length of 2–3 mm.
- Stitch over the narrow edges of the tag, staying at least 2 mm away from the chip and antenna area (see drawing).
- Avoid sewing directly over chip or antenna to prevent damage to the tag and to the sewing equipment.

4. VALIDATION

- Inspect stitching for durability and confirm the tag is securely attached with no lifting at the corners.
- Perform an RFID read test to ensure tag functionality after installation.

Best Practices – Sewing in Pouch

The Sewing in Pouch method involves enclosing the RFID tag in a fabric pouch, which is then stitched onto the textile, like a standard care label.

It is commonly used when tag replacement or added protection is needed, especially for uniforms, PPE, and long-use rental items.

COMPATIBLE TAGS

- ✓ TEX 70x22 Roll sew
- ✓ TEX 70x15 sew
- ✓ TEX 50x12 sew
- ✓ TEX 70x15 Gamma sew
- ✓ TEX 55x12 silicone

Ask Our Engineers



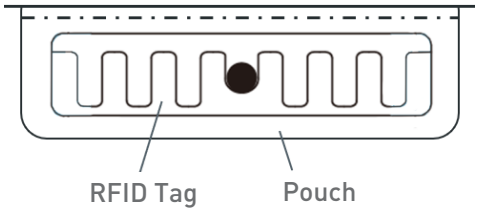
1. PREPARATION

- Use a durable, washable pouch (typically polyester or polyester-cotton blend).
- Confirm pouch dimensions match the tag and allow a snug fit without compression.
- Insert the RFID tag into the pouch, ensuring it is not bent or under tension.



2. PLACEMENT

- Choose a flat area on the textile with minimal flexing.
- Align the pouch so that it lies flat with no folds or bulges.
- Mark the sewing area to ensure straight and consistent placement.



3. SEWING

- Use a lockstitch or overlock pattern around the edges of the pouch.
- Stitch 3-5 mm outside the tag perimeter (see drawing) — never sew over the chip or antenna area.
- Reinforce the start and end of the stitch line to prevent unraveling during laundering.

4. VALIDATION

- Press along the edge to ensure the tag does not shift inside the pouch.
- Perform a read test to confirm RFID performance after sewing.
- Visually inspect for alignment and stitching quality before deployment.

Best Practices - Sewing in Hem

The Sewing in Hem method involves inserting the RFID tag inside the hem of a textile during manufacturing (aka source tagging). It provides a discreet, durable, and tamper-resistant solution, particularly suited for high-turnover items such as flat linens and uniforms.

COMPATIBLE TAGS

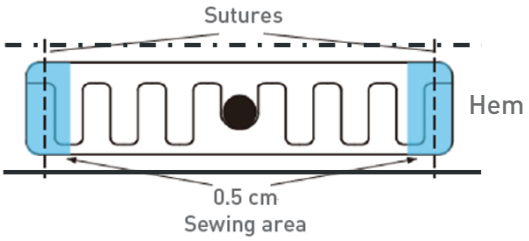
- ✓ TEX 70x22 Roll sew
- ✓ TEX 70x15 sew
- ✓ TEX 50x12 sew
- ✓ TEX 70x15 Gamma sew
- ✓ TEX 55x12 silicone

Ask Our Engineers



1. PREPARATION

- Select a reinforced hem section, typically near the edge or corner.
- Use industrial polyester or nylon thread for optimal strength and durability.



2. PLACEMENT

- Position the tag flat, at least 1 cm from the hem fold.
- Align with the fabric edge to reduce bending and stress.

3. SEWING

- Use a double lockstitch with 2–3 mm stitch length.
- Stitch over the narrow edges of the tag, staying at least 2 mm away from the chip and antenna area (see drawing) to prevent damage to the tag and the sewing equipment.

4. VALIDATION

- Ensure the tag is fully enclosed and secure.
- Perform RFID read test before packaging or shipment.

Best Practices - Laundry Carts and Bins

Metal roll cages, plastic hampers, returnable transport bins are used across industrial laundry, hospitality, and healthcare operations, to carry bulk linens and garments throughout collection, processing, and delivery.

COMPATIBLE TAGS

For plastic hampers, bins

- ✓ POD TRAK 115
- ✓ POD TRAK 85
- ✓ POD TRAK 60

For metal roll cages

- ✓ Container OUTDOOR
- ✓ Cargo OUTDOOR
- ✓ RTI OUTDOOR
- ✓ Versa TRAK
- ✓ Global TRAK



Ask Our Engineers

- High risk of loss or misrouting between facilities and customers
- Rough handling, stacking, and outdoor exposure
- Need for real-time visibility and asset rotation tracking
- Surfaces may be uneven, metallic, or exposed to impact



RECOMMENDED METHODS

- **Rivet / Screw Mount** – Permanent, tamper-resistant for rugged use
- **Adhesive Mount** – Quick to apply; suitable for flat plastic surfaces
- **Weld-on** – Secure option for metal roll cages in harsh environments

PLACEMENT

- Flat surface near the top rim or structural frame
- Avoid areas exposed to frequent impact, abrasion, or contact with moving parts
- For metal carts, use **on-metal** RFID tags with proper standoff spacing if needed

Automating Laundry Tracking with RFID

RFID automation streamlines laundry operations by enabling fast, contactless tracking of textiles throughout their lifecycle.

Unlike barcodes, RFID tags do not require line-of-sight and can be read in bulk, even when items are stacked, inside carts, or in motion. Integrated systems allow RFID data to automatically update inventory records, trigger delivery logs, track usage cycles, and support compliance and billing workflows — without manual input. From installation validation to delivery and return tracking, RFID systems reduce manual effort, improve accuracy, and provide real-time data for efficient laundry management.

FIXED RFID READERS – FOR HIGH-VOLUME AUTOMATION

Fixed readers are installed at key points in the laundry workflow to automatically capture tag data as items move through portals or tunnels.

Typical Applications:

- Bulk validation during intake and outbound processing
- Gate reads at delivery or return checkpoints
- Automated integration with ERP, WMS, and billing systems

Best Practice:

Pair with multi-antenna tunnels or side antennas to maximize coverage and read rates at high speeds.





Fixed RFID Readers



RFID Antenna

HANDHELD RFID READERS – FOR FLEXIBLE OPERATIONS

Handheld readers offer mobile scanning for tasks that require human interaction, such as audits, exception handling, or spot-checks at customer sites.

Typical Applications:

- Verifying contents of a cart or bag
- Locating specific items (e.g., missing uniforms)
- Scanning deliveries directly at the point of use

Best Practice:

Hold the reader close to the tag, align it with the antenna zone, and wait a few seconds to confirm a successful read. Data can be uploaded to backend systems afterward.





Handheld RFID Reader

COMMON RFID READ POINTS IN LAUNDRY WORKFLOWS

Xerafy RFID tags are fully compatible with all **UHF RFID read points** that follow the **RAIN RFID standard (ISO/IEC 18000-63 / EPC Gen2v2)**. This includes:

- **Handheld readers** for mobile scanning, audits, and exception handling
- **Fixed readers** deployed in tunnel systems, gate portals, and conveyor checkpoints
- **Multi-antenna setups** used in high-throughput laundry automation environments

No special calibration or proprietary setup is required. Xerafy tags are engineered for consistent read performance across various orientations, stacking configurations, and textile densities.

Workflow Location	Purpose	Typical RFID Read Point
Tunnel Scanner 	Bulk scanning of linens during intake or outbound processing	Fixed RFID reader with multi-antenna tunnel
Receiving/Delivery Gates 	Track items entering or leaving the facility automatically	Fixed RFID reader with side or overhead antennas
Sorting & Packing Areas 	Validate bags or trolleys before dispatch	Fixed RFID reader or handheld RFID reader
On-Site Inventory Checks 	Scan linens/uniforms at customer sites (e.g., hotel rooms, hospital wards)	Handheld RFID reader
Exception Handling Zone 	Manually scan unread/problematic items for correction	Handheld RFID reader
Laundry Cart Tracking 	Identify cart contents and movements during collection and delivery	Fixed RFID reader or cart-integrated tag