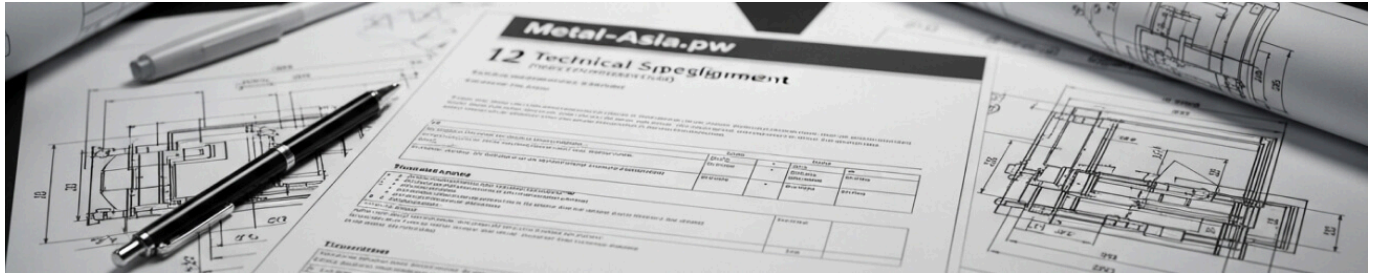


Metal-Asia

Technical Requirements for LATP Line Procurement

ReStrap 1P — Portable Thermoplastic Composite Repair System



Technical documentation and certification of portable composite repair systems

Introduction

This document defines the comprehensive technical, commercial, and organizational data that the Buyer must provide to [Metal-Asia.pw](https://www.metal-asia.pw) for the preparation of a complete quotation covering supply, installation, and commissioning of a portable [ReStrap 1P](#) repair system for thermoplastic composites based on [LATP technology](#). Without complete and accurate completion of all sections herein, calculation of final cost, delivery timelines, and scope of work is not possible.

[Metal-Asia.pw](https://www.metal-asia.pw) delivers [comprehensive procurement from China](#) of portable repair systems with full project lifecycle support.

Pain Points in Direct Procurement from China

Key risks include: misalignment between stated and actual system parameters, absence of regional service infrastructure, complexities in [customs clearance](#) for portable equipment, risk of shipment without required CE/EAC certification, and lack of English-language documentation and training. [Metal-Asia.pw](https://www.metal-asia.pw) eliminates these risks through [comprehensive sourcing and procurement](#) with quality control at every stage.

Section 1. Buyer Credentials and Contracting Parties

The Buyer shall provide complete corporate credentials of the legal entity — the Payer: full and abbreviated company name, legal form, registration number, tax ID, legal and actual addresses, contact details of responsible personnel. Specify the Importer counterparty if the Payer and Consignee differ. Provide bank account details for settlements, contract currency, payment terms, and customs clearance requirements.

Section 2. Equipment Purpose and Application Scope

The Buyer shall clearly articulate the technological purpose of the system: on-site repair, structural reinforcement, thermoplastic component joining, R&D process development, or educational objectives.

Specify target industries: automotive, energy, marine, MRO, industrial, or general-purpose applications. Describe the types of components to be repaired: sandwich panels, battery trays, underbody protection, pipes, tanks, vessel hulls, containers, enclosures. This determines system configuration, tape type, and processing parameters.

ReStrap 1P Application Areas

Application Area	Description
Automotive industry	Sandwich panels, battery trays, underbody protection, bumper repair
Energy sector	Thermoplastic pipes, tanks, drums, pressure vessels
Marine and offshore	Composite hulls, panels, side containers
MRO and field operations	On-site repair without component disassembly
Industrial products	Containers, enclosures, structural components
R&D and education	Repair and joining process development

Section 3. Tape Feed System Technical Specifications

The Buyer shall specify the format and type of tape to be used: width 30–50 mm, thickness 0.25–1.0 mm. Thermoplastic matrix: PEEK, PEKK, PPS, PA, PP, or alternative polymer. Reel requirements and capacity. Feed method: manual, with programmable step. Feed accuracy and cut repeatability.

Section 4. Heating and Thermal Control System

The Buyer shall specify heating type: infrared lamps. Maximum processing temperature: up to 300°C. Temperature adjustment range, temperature control accuracy, heating time to operating temperature. Heating uniformity across tape width. Closed-loop thermal control system.

Section 5. Mechanical System and Compaction

The Buyer shall define compaction roller type: diameter 40–60 mm, material (silicone coating, thermal resistance $\geq 300^\circ\text{C}$). Cutting system: manual, heated blade. Tape feed mechanism: manual, with tension. Reel with tape: replaceable, capacity ≥ 50 m.

Section 6. Electrical Requirements

Power supply: 220–240 V AC, 50/60 Hz. Maximum power consumption: 2200 W. Connection type: standard Schuko socket / IEC 60309. Protection: RCD, 16 A circuit breaker. Mains cable length: ≥ 5 m. Control cable length: ≥ 3 m.

Section 7. Safety and Certification Requirements

The Buyer shall specify required certifications: CE, EAC (for Customs Union). Safety systems: thermal protection (automatic shutdown on overheating), operator protection (thermally insulated handles, protective screen), grounding (three-wire system). Electrical safety: IEC 60204-1, IP54 protection.

Section 8. Delivery Terms, Shipping, and Customs Clearance

Specify Incoterms 2020 delivery basis: EXW, FCA, FOB, CIF, DAP, DDP. Port of departure in China and destination point. Packaging requirements: transport case, moisture barrier, labeling. Equipment manufacturing lead time. Customs clearance requirements: HS code, certificate of conformity necessity, Customs Union Technical Regulation compliance declaration. Cargo insurance terms during transit.

Section 9. Installation, Commissioning, and Training

The Buyer shall define installation requirements: supplier specialist dispatch to the Buyer's facility, commissioning timelines. Personnel training: number of trainees, training program (operators, technicians), training language, certificate issuance. Number of working shifts for process parameter optimization on actual defects.

Section 10. Warranty Obligations and Service Support

Warranty period: standard 12 months from commissioning date, extendable to 24 months. List of warranty cases, claim submission procedure, supplier response time. Post-warranty service: annual service contract cost, scheduled maintenance frequency, remote diagnostics, spare parts warehouse availability in the delivery region. Critical spare parts: IR lamps, rollers, blades — delivery lead times and pricing.

Section 11. Documentation and Technical Documentation

List of documents to be delivered with the equipment: technical passport, operation manual, repair manual, electrical schematics, safety passport, material recommendations. Documentation language: English, Chinese, or bilingual. Format: printed and electronic (PDF).

Section 12. Options, Configuration, and Future Upgrade Path

The Buyer shall list required options: additional tape reels, spare IR lamps, spare compaction rollers, blade set, portable generator for field conditions. Scalability requirements: capability to equip with additional modules.

Section 13. Composite Repair-Specific Requirements

Specify required properties of repaired components: strength recovery (percentage of original), repair zone layup density, adhesion to base material. Post-processing requirements: machining necessity, quality control (ultrasonic testing, visual inspection). Productivity: target repair time per defect.

Section 14. Acceptance Conditions and Final Criteria

The Buyer shall define acceptance testing procedure: Factory Acceptance Test (FAT) at the manufacturer's facility in China, Site Acceptance Test (SAT) at the Buyer's facility. Acceptance criteria: compliance with stated technical specifications, operability on actual defect, absence of layup defects. Penalty clauses for non-compliance with technical requirements, Buyer's right to reject acceptance.

ReStrap 1P Technical Specifications

Parameter	Value	Notes
Processing temperature	up to 300°C	Adjustable range
Tape width	30–50 mm	Adjustable range
Tape thickness	0.25–1.0 mm	Compatible with various materials
Tape application speed	up to 65 mm/s	Adjustable
Heating method	IR lamps	Infrared heating
Device weight (with reel)	6 kg	Portable form factor
Maximum power	2200 W	Peak consumption
Nominal voltage	220–240 V AC, 50/60 Hz	Standard mains

Heating System Requirements

Parameter	Requirement
Heating type	Infrared lamps
Maximum temperature	300°C
Adjustment range	50–300°C
Control system	Closed-loop thermal control
Heating time to operating temperature	≤ 60 seconds
Heating uniformity	±5°C across tape width

Mechanical System Requirements

Parameter	Requirement
Compaction system	Roller, manual feed
Compaction roller diameter	40–60 mm
Roller material	Silicone coating, thermal resistance ≥ 300°C
Cutting system	Manual, heated blade
Tape feed mechanism	Manual, with tension
Reel with tape	Replaceable, capacity ≥ 50 m

Electrical Requirements

Parameter	Requirement
Power supply	220–240 V AC, 50/60 Hz
Maximum power consumption	2200 W

Parameter	Requirement
Connection type	Standard Schuko socket / IEC 60309
Protection	RCD, 16 A circuit breaker
Mains cable length	≥ 5 m
Control cable length	≥ 3 m

Safety and Certification Requirements

Requirement	Details
CE Certificate	Mandatory for export to Europe
EAC Declaration	Mandatory for Customs Union
Electrical safety	IEC 60204-1, IP54 protection
Thermal protection	Automatic shutdown on overheating
Operator protection	Thermally insulated handles, protective screen
Grounding	Mandatory, three-wire system

Delivery Terms and Shipping

Parameter	Requirement
Delivery basis	CIP / DAP Incoterms 2020
Port of departure	Shanghai, Ningbo, or Shenzhen
Destination point	Specified by Buyer
Packaging	Transport case, moisture barrier
Manufacturing lead time	8–10 weeks made-to-order
HS customs code	8479 89 970 9 — other machinery
Additional code	8516 80 000 0 — electric heating appliances

Installation, Commissioning, and Training

Stage	Requirement
Turnkey installation	Metal-Asia.pw specialist dispatch to facility
Commissioning	Parameter tuning on Buyer's materials
Personnel training	Up to 3 persons: operators, technicians
Training language	English with technical translation
Process optimization	2 working shifts on actual defects

Stage	Requirement
Certificates	Issued upon training completion

Warranty Obligations

Parameter	Terms
Warranty period	12 months from commissioning date
Extended warranty	Up to 24 months
Post-warranty service	Annual service contract
Response time	48 hours
Spare parts	Regional warehouse, delivery ≤ 14 days
Critical components	IR lamps, rollers — delivery ≤ 7 days

Documentation

Document	Format	Language
Technical passport	Printed + PDF	English / Chinese
Operation manual	Printed + PDF	English / Chinese
Repair manual	Printed + PDF	English / Chinese
Electrical schematics	PDF	Universal
Safety passport	PDF	English / Chinese
Material recommendations	PDF	English / Chinese

Supply Scope — ReStrap 1P

No.	Item	Quantity	Notes
1	Portable system ReStrap 1P, complete	1 set	Main unit
2	IR heating lamps	2 pcs.	Spare set
3	Compaction roller	2 pcs.	Primary + spare
4	Heated cutting system	1 set	Integrated
5	Trial tape reel	2 pcs.	For training
6	Thermal control system	1 set	Closed-loop
7	Transport case	1 pc.	Impact-resistant
8	Spare parts kit	1 set	1-year operation
9	Consumables kit	1 set	Blades, filters

No.	Item	Quantity	Notes
10	Technical documentation	1 set	Complete package

Customs Clearance and HS Codes

HS Code	Description	Notes
8479 89 970 9	Other machinery and mechanical appliances	Primary code
8516 80 000 0	Electric heating appliances	IR lamps
8479 90 000 0	Parts of other machinery	Spare parts
3921 90 000 0	Plastics in plates, sheets	Composite tapes

Metal-Asia.pw Procurement Support Services

[Metal-Asia.pw](#) delivers [comprehensive procurement from China](#), including tender bid support for public procurement frameworks, defense procurement compliance, and government contracting. Services encompass [quality control](#) (NDT, ultrasonic testing), chemical composition verification against international standards, and [turnkey customs clearance](#).

Why Metal-Asia.pw vs. Direct Chinese Suppliers

Criterion	Direct Chinese Supplier	Metal-Asia.pw
Technical audit	Absent	Free engineering audit
Quality control	At factory discretion	Independent control
Customs clearance	Buyer handles independently	Full customs support
Turnkey installation	Not provided	Turnkey with training
Regional service	Absent	Regional service network
Documentation	English only	Localized translation
Warranty	12 months standard	Up to 24 months with service contract
Communication	Language barrier	English-speaking project managers

FAQ — Frequently Asked Questions

Q1: Can ReStrap 1P repair components without disassembly? A: Yes, the portable 6 kg form factor enables repair directly at the component installation site — on vehicles, vessels, or energy equipment. Localized heating does not require warming the entire structure.

Q2: Which materials are compatible with ReStrap 1P repair? A: The system is compatible with thermoplastic UD tapes based on PEEK, PEKK, PPS, PA, PP with width 30–50 mm and thickness 0.25–1.0 mm. Repair of continuous fiber-reinforced thermoplastic composite components is supported.

Q3: Is surface preparation required before repair? A: Yes, surfaces require cleaning from contaminants, degreasing, and mechanical abrasion to ensure adhesion. Pre-heating the repair zone to 80–100°C is recommended for moisture removal.

Q4: What is the service life of a repaired component? A: With proper adherence to the technological procedure, repair achieves 85–95% recovery of original component strength. Service life of the repaired zone is comparable to the remainder of the structure when correct tape material and layup parameters are selected.

Q5: Is field repair possible without mains electricity access? A: The standard configuration requires 220–240 V mains connection. For field conditions, equipment can be supplied with a portable generator or battery system with capacity ≥ 2.5 kW.

Q6: How frequently do consumables require replacement? A: IR lamps — 2000 hours resource, compaction roller — 500 operating hours, cutting blades — 100 hours. The spare parts kit included in delivery supports 1 year of operation without additional purchases.

Q7: Can ReStrap 1P join dissimilar materials? A: Yes, the system enables joining of thermoplastic composites with metallic inserts using compatible adhesive interlayers. Preliminary consultation with [Metal-Asia.pw technical specialists](#) is recommended.

Q8: How is spare parts supply organized post-warranty? A: [Metal-Asia.pw](#) maintains a [regional spare parts warehouse](#). Critical components ship within 7 days, standard items within 14 days. Annual service contracts with on-site service are available.

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For comprehensive service information, visit [Metal-Asia.pw](#).

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Request turnkey installation and training for portable composite repair systems