



Λευκωσία, 12 Αυγούστου 2021

Προς: Όλους τους ενδιαφερόμενους

Θέμα: Αναθεώρηση διαδικασίας φόρτωσης και πρόσδεσης οικοδομικών ράβδων σιδήρου

Κυρίες/οι,

Σας ενημερώνουμε ότι η DP World Limassol, στα πλαίσια των διαδικασιών της που αφορούν το κομμάτι Ασφάλεια και Υγεία, προβαίνει στην αναθεώρηση τους με βάση τα σχετικά ευρωπαϊκά και τοπικά πρότυπα και αφού λήφθηκε υπόψη και η έγκριση από τον Ρυθμιστή Λιμένων. Συνημμένα, βρείτε τις επικαιροποιημένες οδηγίες/διαδικασίες φόρτωσης και πρόσδεσης οικοδομικών ράβδων σιδήρου για την παράδοση ανάλογων φορτίων έξω από το Τερματικό, οι οποίες θα είναι σε **πλήρη εφαρμογή από την 1η Σεπτεμβρίου 2021**.

Η μη συμμόρφωση με τη συνημμένη διαδικασία ενδέχεται να έχει ως αποτέλεσμα η DP World Limassol να μην παρέχει την απαιτούμενη εξυπηρέτηση παράδοσης στο αντίστοιχο φορτηγό/μεταφορέα.

Για πληροφορίες σχετικά με το θέμα επικοινωνείτε με την DP World Limassol στα τηλέφωνα 25-858700 και 25-858701.

Με εκτίμηση,

Κύπρος Αντωνίου,
Λειτουργός Τμήματος Βιομηχανίας,
για Γενικό Γραμματέα.

DP WORLD

Limassol

Standard Operating Procedure - SOP

Company Name:
DP World Limassol

Procedure:
Securing of Steel Rebars on External Trailers

Procedure Reference No:
DPWL.02.28.PR.001

Issue Date:
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Revisions:
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1. Safety Requirements

European Directive 2014/47/EU¹ assigns “Loader” being responsible to comply and apply the necessary arrangements related to the cargo loading on trailers as those are presented in the European Practices².

Moreover, the essential responsibilities and actions for loaders are defined as:

1. Ensuring that only cargo which is safe and suitable for transport, is loaded.
2. Checking if a load securing plan is available when starting to load.
3. Ensuring all certificates of vehicle parts used for the securing of the cargo.
4. Ensuring the vehicle is in sound condition and the loading compartment is clean.
5. Ensuring all equipment necessary for load securing is available in a sound condition when starting to load.
6. Ensuring the floor of the vehicle is not overstressed during loading operations.
7. Ensuring that the cargo is correctly distributed in the vehicle, taking into account the load distribution on the vehicle axes and the acceptable gaps (in the securing plan if available).
8. Ensuring that the vehicle is not overloaded.
9. Ensuring that necessary additional equipment such as anti-slip mats, stuffing and dunnage materials, blocking bars and all other securing equipment that should be fixed during loading, are properly applied (according to the securing plan if available).
10. Ensuring the vehicle is properly sealed if and when applicable.
11. Ensure all lashing equipment is properly applied (according to the securing plan if available).
12. Closing of the vehicle when applicable.

However, local legislation focuses on meeting the securing of cargo in a manner that will eliminate the acceleration forces exerted by the cargo during transportation and towing trailers not exceeding the Gross Vehicle Weight (GVW).

As a result of the above, DP World Limassol LTD shall ensure that cargo loaded on towing trailers is adequately secured to withstand the acceleration forces exerted by the cargo and verify that weight of the cargo loaded is not exceeding the allowable payload that the trailer is manufacture to handle.

Furthermore, all DP World Limassol LTD field personnel shall inspect and verify that drivers are maintaining and make use of the applicable personal protective equipment as those are defined by DP World Limassol LTD.

¹ Directive 2014/47/EU of the European Parliament and of the Council of 3 April 2014 on the technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union and repealing Directive 2000/30/EC.

² Cargo securing for road transport - 2014 European Best Practices Guidelines.

2. Procedure

Registration Certificate and valid Vehicle Roadworthiness Tests issued by Governmental Authorities for each towing trailer is carried by truck drivers arriving to received/loaded with cargo from DP World Limassol LTD facilities. Within the Registration Certificate the maximum effective load that a trailer may carry is defined (See [5.1.3 Registration Certificate](#)), whereas a validated Vehicle Roadworthiness Test will confirm that the trailer's conformity is recently been examined and therefore being in legitimately good condition to carry cargo within the public road network.

Upon the truck arrival at the terminal's entrance, truck driver provides the Vehicle Roadworthiness Test Certificate to DP World Limassol LTD Gate Clerk where he/she proceeds with reviewing and validation. Upon validation the truck is allowed to access the terminal by the Gate Clerk.

Haulier reaching the loading area is to be temporally parked at the dedicated and indicated by Vessel Tallyman waiting zone prior entering the boundaries of the operational area and loading point. Temporally waiting zone is located externally to the perimeter of the isolated operational area.

During the haulier being at the waiting area and prior of accessing the operational area, Vessel Tally inspects visually and verifies that DP World Limassol LTD requirements are met. If inspection indicates deviation or non-conformity of the DP World Limassol LTD requirements, the Vessel Tally informs the haulier driver and forbids access to the operational area.

During the visual inspection Vessel Tally shall verify that the following requirements are met:

- a) Ensure that towing trailer is of an appropriate type. Only flat platform/bed trailers with full covered layer floor are acceptable for use at this operation.
- b) Haulier possesses the Registration Certificate of the towing trailer.
- c) Review the maximum payload stated on the Registration Certificate.
- d) Ensure that towing trailer is preferably equipped with headboard.

Note: IF any of the above requirements are not verified, then trailers shall not be allowed to carry and/or be loaded with any cargo.

Note: Skeletal trailers where the floor area is insufficient and consequently not providing the required friction factor, are not consider suitable for this application.

Vessel Tally shares the maximum payload indicated on the certificate with Vessel Foreman allowing him to be aware of the maximum number of bundles to be loaded on the towing trailer.

Note: Maximum number of bundles shall be according to the maximum payload that the towing trailer is allowed to carry according to the Registration Certificate (see [5.1.3. Registration Certificate](#)) and as per the securing of the towing trailer (See [5.2 Securing of Towing Trailers](#)).

Upon the completion of cargo loading on receiving trailer, haulier returns to the waiting area where cargo is to be secured by lashing straps. Vessel Tally positioned onsite, verifies prior the departure of the haulier/towing trailer that cargo has properly been secured by inspecting that driver have applied the necessary number of lashing straps according to the payload and below table.

Payload (Kg)	LC - 4000 daN (Strapping)	LC - 5000daN (Strapping)	LC - 10000daN (Strapping)	LC - 15000daN (Strapping)	LC - 20000daN (Strapping)
5,000	1	1	1	1	1
10,000	2	2	1	1	1
15,000	3	3	2	1	1
20,000	4	4	2	2	1
25,000	5	4	2	2	1
30,000	6	5	3	2	2
35,000	7	6	3	2	2
40,000	8	7	4	3	2

Reference is made for Lashing Capacity (strapping) in [5.4.Lashing Capacity \(LC\)](#).

Whereas the driver does not comply with the DP World Limassol Ltd process, then the Terminal Operations Supervisor/ Superintendent must be immediately be informed by the Vessel Foreman or Vessel Tally. Terminal Operations Supervisor/ Superintendent in return informs the Vessel Agent for such violations and haulier shall not be loaded with any additional cargo resuming the operation and the Operator will have the option not allow the haulier to exit the Terminal with unsafely lashed cargo.



3. Training

Personnel involved in the process of loading, unloading and securing of cargo shall be familiar with this procedure. Regular retraining for all personnel involved with loading, unloading and securing of cargo in the road transport chain shall be held every two years.



4. Reference to other Standard Operating Procedures & Documents

- i) EN 12195-2 (European Standard for Lashing)
- ii) EN 12642 (European Load Containment Standard for The Complete Body Structure of Commercial Vehicles and Trailers. As Defined by The EN 12642:2006 L & X)
- iii) EN 12195-1:2010 (Load Restraining on Road Vehicles. Safety. Calculation of Securing Forces)
- iv) Cargo Securing for Road Transport - 2014 European Best Practices Guidelines (Quick Lashing Guide)
- v) Directive 2014/47/EU (technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union and repealing Directive 2000/30/EC)

5. Appendices – Samples

5.1. Requirements

5.1.1. Acceptable Trailer Types

Example of Flat platform/bed trailer credible to be used:



Skeletal trailers seen as below examples are not to be allowed to carry or loaded with any steel rebar:



5.1.2. Headboard

Example of trailer equipped with headboard is shown at below picture:



To Be Noted:

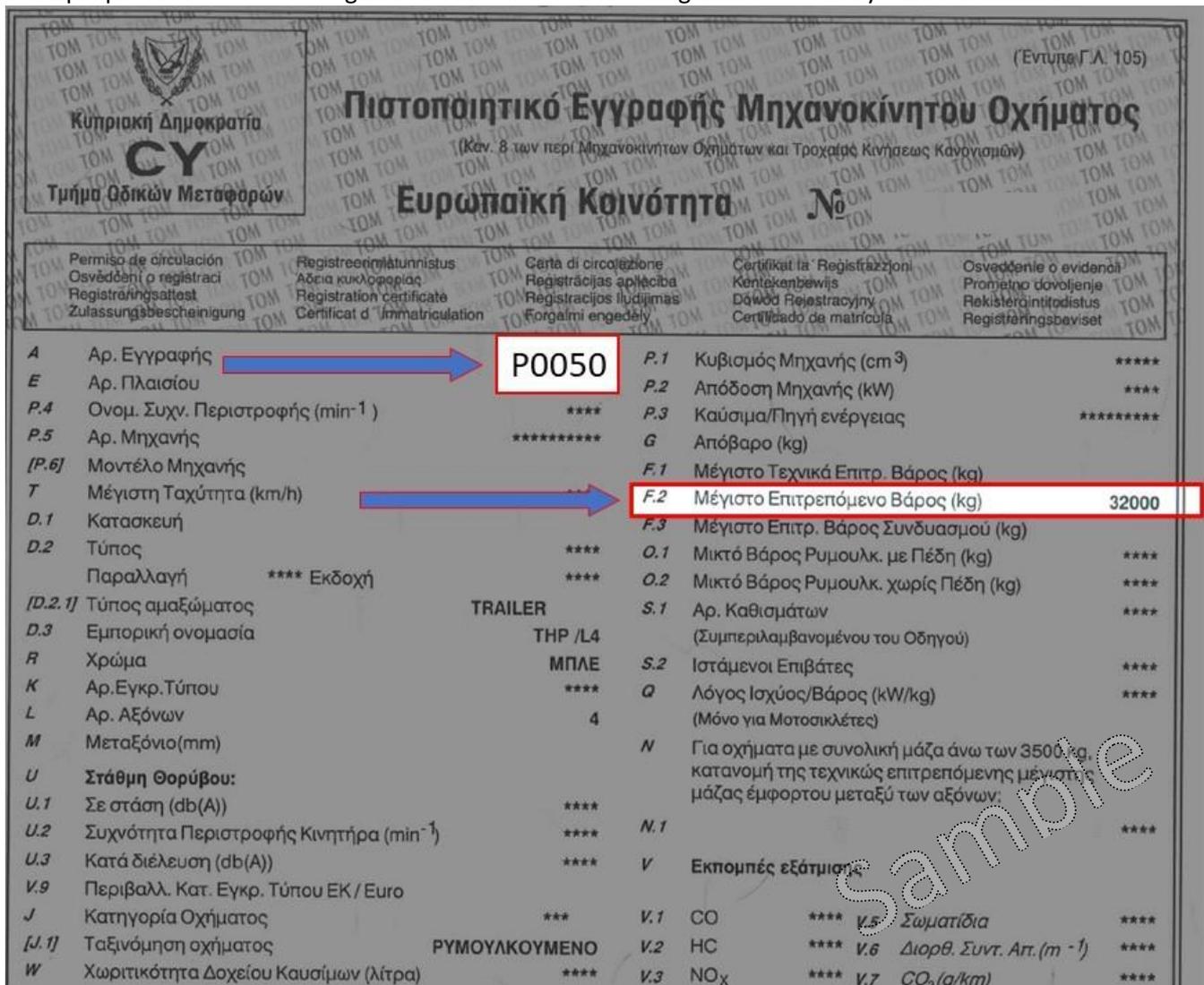
Headboards are **not** a mandatory equipment to be used but are good practice and strongly recommended to have. Either trailers equipped with headboard are subjected to lashing and according to the location of cargo found on the towing trailer. The following strength in the headboard is possible:

- i) EN 12642 XL with strength 50 % of payload (0.5 P)
- ii) EN 12642 L with strength 40 % of payload (0.4 P), maximum 5 000 daN
- iii) Unmarked Complete Transport Unit (CTU) or cargo not stowed tightly against the headboard, 0 % of payload.

Friction factors are according to EN 12195-1:2010³.

5.1.3. Registration Certificate

Below sample picture illustrates a Registration Certificate of a towing vehicle issued by the local authorities.



(Έντυπο Γ.Λ. 105)

Πιστοποιητικό Εγγραφής Μηχανοκίνητου Οχήματος
(Καν. 8 των περί Μηχανοκίνητων Οχημάτων και Τροχαίας Κινησεως Κανονισμών)

Κυπριακή Δημοκρατία
CY
Τμήμα Οδικών Μεταφορών

Ευρωπαϊκή Κοινότητα №

Permis de circulació / Osvedčení o registraci / Registreringsattest / Zulassungsbesccheinigung	Registreerimäatunnistus / Aðeja kyklofararás / Registration certificate / Certificat d'immatriculation	Carta di circolazione / Registrācijas apliecība / Registrācijas liudojimas / Forgalmi engedély	Certifikat ta' Registrazzjoni / Kentekebewijs / Dáwda Rejstracyjny / Certificado de matrícula	Osvedčenie o evidenci / Prometno dovoljenje / Reģistrācijitodistis / Registreringsbeviset
A	Αρ. Εγγραφής	P0050	P.1	Κυβισμός Μηχανής (cm ³) ****
E	Αρ. Πλαισίου		P.2	Απόδοση Μηχανής (kW) ****
P.4	Ονομ. Συχν. Περιστροφής (min ⁻¹)	****	P.3	Καύσιμα/Πηγή ενέργειας *****
P.5	Αρ. Μηχανής	*****	G	Απόβαρο (kg)
[P.6]	Μοντέλο Μηχανής		F.1	Μέγιστο Τεχνικά Επιτρ. Βάρος (kg)
T	Μέγιστη Ταχύτητα (km/h)		F.2	Μέγιστο Επιτρεπόμενο Βάρος (kg) 32000
D.1	Κατασκευή		F.3	Μέγιστο Επιτρ. Βάρος Συνδυασμού (kg)
D.2	Τύπος	****	O.1	Μικτό Βάρος Ρυμουлк. με Πέδη (kg) ****
	Παραλλαγή	**** Εκδοχή	O.2	Μικτό Βάρος Ρυμουлк. χωρίς Πέδη (kg) ****
[D.2.1]	Τύπος αμαξώματος	TRAILER	S.1	Αρ. Καθισμάτων (Συμπεριλαμβανομένου του Οδηγού) ****
D.3	Εμπορική ονομασία	THP /L4	S.2	Ιστάμενοι Επιβάτες ****
R	Χρώμα	ΜΠΛΕ	Q	Λόγος Ισχύος/Βάρους (kW/kg) ****
K	Αρ.Εγκρ.Τύπου	****	N	Για οχήματα με συνολική μάζα άνω των 3500 kg, κατανομή της τεχνικώς επιτρεπόμενης μέγιστης μάζας έμφορτου μεταξύ των αξόνων:
L	Αρ. Αξόνων	4	N.1	****
M	Μεταξόνιο(mm)		V	Εκπομπές εξάτμισης
U	Στάθμη Θορύβου:		V.1	CO ****
U.1	Σε στάση (db(A))	****	V.5	Σωματίδια ****
U.2	Συχνότητα Περιστροφής Κινητήρα (min ⁻¹)	****	V.6	Διορθ. Συντ. Απ. (m ⁻¹) ****
U.3	Κατά διέλευση (db(A))	****	V.7	CO ₂ (g/km) ****
V.9	Περιβαλλ. Κατ. Εγκρ. Τύπου ΕΚ / Euro			
J	Κατηγορία Οχήματος	***		
[J.1]	Ταξινόμηση οχήματος	ΡΥΜΟΥΛΚΟΥΜΕΝΟ		
W	Χωρητικότητα Δοχείου Καυσίμων (λίτρα)	****		

Vessel Foreman and Vessel Tally are to crosscheck the Trailer Registration Number matches on the Template & Certificate as well as review the maximum payload as shown above.

Where allowable payload mentioned on the Registration Certificate is less than 30Ton, Vessel Foreman is to divide the number of Payload mention on the certificate by 2.5 allowing him to estimate the number of bundles. However, if

³ EN 12195-1:2010: Load restraining on road vehicles. Safety. Calculation of securing forces

allowable payload is equal or more than 30Ton (as per picture above which is 32000kg=32Ton), Vessel Foreman is to allow the loading of 12 bundles.

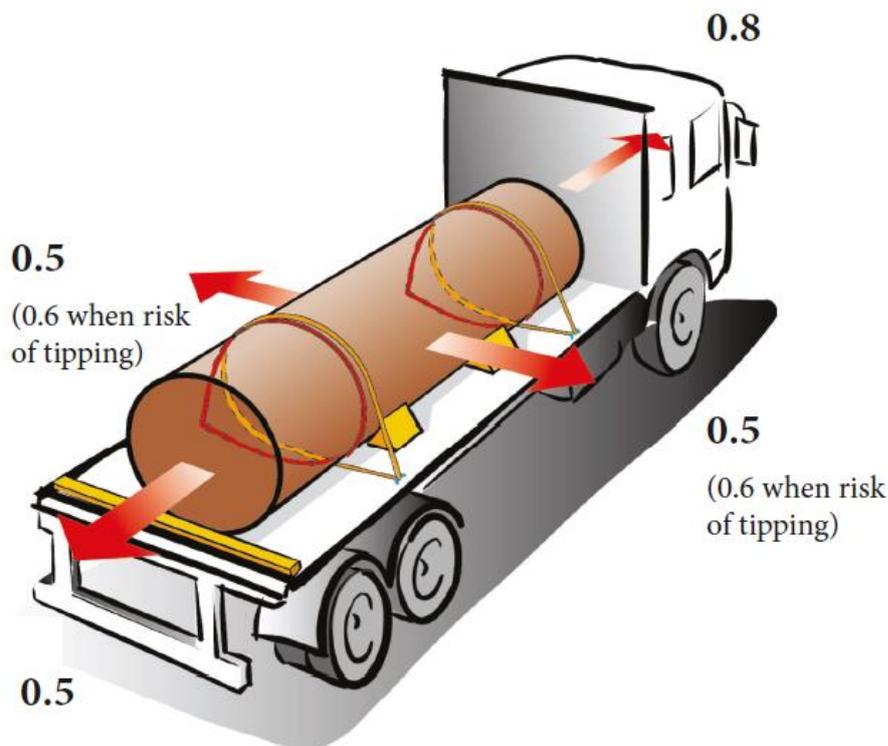
5.1.4. Stanchions

Stanchions are **not** a mandatory equipment to be used and are mentioned here only for informational reasons. They are placed along the length and to the sides of the trailers keeping the cargo secured for any transverse displacement.



5.2. Securing of Towing Trailers

In case of a potential hazard, the aim of the headboard is to absorb the impact force of the payload traveling forward and at a longitudinal direction. More precisely, the headboard maintains the payload at rest and at secured position.



The above picture indicates the related accelerating forces exerted by the payload during forwarding, braking, reversing and turning of the vehicle.

Resulting to:

- i) 0.8 of the cargo weight forwards.
- ii) 0.5 of the cargo weight sideways and towards the rear.
- iii) 0.6 of the cargo weight sideways if there is risk of the cargo tipping.

Note: To standardize the process, the following are to be considered:

- i) Towing trailers are Unmarked and have no indication for the Headboard Class, e.g. EN 12642 XL or EN 12642 L. (Therefore, **Acceleration Coefficient = 1P**)
- ii) Bed Trailer floor is manufactured from metal, owing a lower friction factor, e.g. 0.2 (Metal to Metal).
- iii) Maximum quantity of bundles to be loaded on trailer is according to the Payload and as defined on the Registration Certificate.



When cargo is transported on a transport unit with a headboard with no strength or when it is not stowed tightly against the headboard the whole cargo weight has to be secured against forward movement by e.g. lashings according to the Quick Lashing Guide.⁴

5.3. Formulas & Calculations

Example,

Considering a **fully loaded towing trailer** with Steel Rebars with the maximum quantity of 12 Steel Rebar bundles. Each rebar is to weight maximum of 2.5Ton. Therefore, **payload** will be estimated to be lower and/or maximum, to:

$$12 \text{ Rebars} \times 2.5\text{Ton Each} = \mathbf{30\text{Ton}}$$

(Payload = 30Ton)

Assuming that the Maximum Payload of the trailer is equal or less to 30Ton.

⁴ Cargo Securing for Road Transport - 2014 European Best Practices Guidelines



Procedure: Securing of Steel Rebars on External Trailers

Friction, always present to some extent, contributes to the securing of the cargo during transport by developing a Frictional Force (Fa) equal to:

$F_a = \mu * m * g$

Where:

F_a = Frictional Force

μ = Friction Factor

(Metal to Metal μ = 0.2)

m = Payload Mass (kg)

(Payload = 30Ton)

g = Gravitational Acceleration

(Standard = 9,81 m/s²)

$F_i = m * g * c_x$

Where:

F_i = Inertia Force

m = Payload Mass (kg)

g = Gravitational Acceleration

(Standard = 9,81 m/s²)

c_x = Acceleration Coefficient

(1P of the cargo weight forwards)

$F_r = F_i - F_a$

Where:

F_r = Residual Force

F_i = Inertia Force

F_a = Frictional Force

From the above formulas, the Residual Force (F_r) required to be secured is equal to:

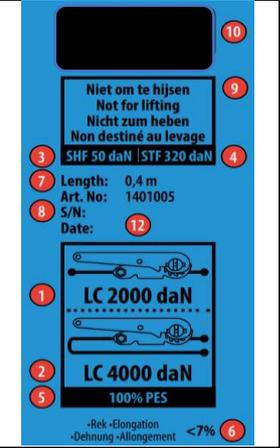
$F_r = 235,440 \text{ N} = 23,544 \text{ daN}$



5.4. Lashing Capacity (LC)

According to the EN 12195-2 standard, tension straps must be provided with a label with instructions shown on it. This label must be attached to both the ratchet part (the strap fabric that is attached to the ratchet) and the tension part of the tension strap. For polyester tension straps, the label must be blue.

DP World Limassol LTD Person in Charge (PIC) inspecting the Lashing Capacity of the straps, shall be capable to distinguish the LC1 and LC2 as seen below.

1	LC1 = Lashing capacity (for tension in straight line)	
2	LC2 = Lashing capacity (by strapping)	
3	SHF = Standard Hand Force	
4	STF = Standard Tension Force	
5	Material type of the strap (as a rule PES, polyester)	
6	Stretch percentage of the strap material (max. 7% permissible)	
7	Length (of the ratchet part or the tension part; the example illustrates the ratchet part)	
8	S/N = serial number (of the relevant lashing strap)	
9	Warning: "not for lifting"	
10	Name or logo of the manufacturer	
11	Standard: produced to the European Standard EN 12195-2	
12	Production month/year	

5.5. Different Samples of lashing Straps/Ratchets available



Sample



Sample

Procedure End