

WITHDRAWAL OF HSE PAPER INDUSTRY GUIDANCE INDG 396.

Withdrawal of HSE publication INDG396 “Transporting paper safely: Guidance for hauliers and others who transport paper and paper products”.

Introduction

This paper advises employers and trades unions in the paper industry that HSE has decided to withdraw INDG 396.

The paper -

- summarises the outcomes of discussions that HSE has had with the Department for Transport (DfT) and the Confederation of Paper Industries (CPI);
- outlines the way that HSE will be moving forward in relation to this matter;
- describes major research that HSE has commissioned in relation to methods for securing and restraining heavy loads on curtain-sided lorries; and
- suggests interim measures that hauliers and others can take to ensure that the risks of heavy loads falling from these vehicles are reduced as far as reasonably practicable.

The paper includes 4 Annexes -

- Annex 1 details HSE’s concerns in relation to the text of INDG 396 and provides alternative advice.
- Annex 2 reproduces the text of Section 16 of the Department for Transport’s (DfT) Code of Practice “Safety of Loads on Vehicles – Third edition”.
- Annex 3 gives examples of how employers can ensure that the risks of heavy loads falling from curtain-sided lorries may be reduced as far as is reasonably practicable.
- Annex 4 lists some relevant references.

Reasons for withdrawing INDG 396

Since INDG 396 was published in April 2004 HSE has become aware of serious accidents and near misses involving heavy loads, including paper products, falling from curtain sided lorries being prepared for unloading. The incidents have the potential for causing serious, including fatal, injuries. Over the same period HSE has received reports of curtain-sided lorries carrying heavy loads having arrived at their destinations with the loads having become unstable during transit, and therefore dangerous. HSE has also received expressions of concern from a number of individuals and from a professional body about several aspects of the text in INDG 396.

HSE therefore reviewed the text and has concluded that it contains a number of ambiguities and that the advice in relation to securing tall paper reels, bales

and palletised products on curtain-sided lorries differs from the provisions of Section 16 of the DfT Code of Practice. The intention had been to illustrate other equally effective measures. DfT are responsible for setting the standards for security of loads being transported by road and their code of practice therefore has primacy on this issue.

HSE's concerns about the text of INDG 396 are set out in detail at Annex 1 which also includes alternative interim advice aimed at correcting the contradictions identified and removing ambiguities in the original text. The text of Section 16 of the DfT code is reproduced at Annex 2.

HSE is concerned that the ambiguities identified in INDG 396 and the advice that contradicts that given in the DfT Code of Practice could lead to hauliers and others who transport paper and paper products adopting unsafe practices and has concluded that it can no longer support significant parts of the publication.

HSE sees this as an opportunity, on the path of continuous improvement, for employers in the industry to review their risk assessments and current practices with a view to ensuring that risks associated with the transport of paper and paper products are reduced as low as reasonably practicable.

HSE's wider concerns

HSE's concerns in relation to methods commonly used for securing heavy loads on curtain-sided lorries are by no means unique to the transport of paper and paper products. Accidents have occurred when heavy loads of other materials have fallen from curtain-sided lorries being prepared for unloading and representatives from other industries have raised concerns about some of the methods used for securing and restraining heavy loads on curtain-sided lorries.

Discussions with DfT and CPI

HSE has discussed its concerns with DfT who have advised that it is acceptable for hauliers to use alternative methods, to those described in Section 16 of the DfT Code of Practice, for securing heavy loads on curtain – sided lorries provided they achieve the same standards of load security and provided they can be justified based on a suitable and sufficient assessment of the risks. The methods described in INDG 396 do not achieve the same standard of load security as those described in the DfT Code of Practice.

An Expert Group of the European Commission, composed of government, industry, insurance and research institute representatives from Member States, have recently developed Best Practice Guidelines for load securing on vehicles for cross border transportation of goods between member states. DfT were represented at the working group and have advised that the guidelines go further than their own current Code of Practice by recommending amongst other things, suitable methods of calculating the number of lashings required to secure loads. DfT has advised that the guidelines are likely to be published before the end of 2006.

HSE has discussed its concerns in relation to INDG 396 with the Confederation of Paper Industries (CPI) who, in turn, have agreed to explore with their contacts the current availability of alternative vehicles and load securing and restraining methods in order to assist in the process of sharing best practice across the industry.

The way forward

HSE has designed a research project to look at the effectiveness of different methods of securing and restraining loads on curtain-sided lorries. The research will not be confined to considering methods for securing and restraining loads of paper and paper products. It will look at methods for securing and restraining a wide range of heavy loads including reels, palletised goods, bagged products and products transported in cages. The research will examine the effectiveness of different securing and restraining methods, assess the level of risk associated with each method and will include a cost benefit analysis in each case that will take account of the commercial viability of each method. The research was commissioned on the 1 September 2006 and is expected to take up to 12 months to complete.

The results of the research will help to inform HSE's decision on whether to replace INDG 396 or whether the advice contained in the DfT Code of Practice, the forthcoming EU Best Practice Guidelines and existing HSE publication HSG 136 "Workplace Transport Safety" provide sufficient guidance for employers involved in the transport of paper products.

Further Information

For further information please contact either Chris Flint on 0113 283 4384 or Graham King on 0114 291 2353.

A handwritten signature in black ink, appearing to read "James Barrett". The signature is written in a cursive style with a long horizontal stroke at the end.

James Barrett
Head of HSE's Manufacturing Sector

Date: 25 October 2006

Annex 1

HSE's detailed concerns and recommended advice.

INDG396 Transporting Paper Safely

1. HSE's concerns with the text of INDG 396 are discussed in the following paragraphs and recommendations are made to address them.

Who is in control? (INDG 396 page 3)

Concern

2. INDG 396 Page 3 uses the terms "if you are in control", "if you are responsible for controlling a site" and "you should also co-operate". The emphasis in these texts could suggest a delegation of responsibility and have been taken that way by some.

Recommendation

3. An employer has a legal duty to make sure that people are safe in the workplace they control even where those people are employed by others. Employers are also responsible for making sure that their employee's safety is being protected while they are on other premises. To comply with these duties the site employer and the employer of a visiting driver will need to undertake a risk assessment. To do this effectively they will need to communicate and cooperate with each other and with any other parties involved. HSE has web-based guidance entitled "Delivering Safely: Co-operating to prevent workplace vehicle accidents". It identifies that a common factor in delivery accidents is the lack of agreement between supplier, carrier and recipient about "who is responsible for what" in terms of safety. Employers are advised to follow this guidance. It is available at:

<http://www.hse.gov.uk/workplacetransport/information/cooperation.htm>

4. All employers in the transport chain (supplier, haulier and customer) should cooperate to undertake transport risk assessments and agree general loading / unloading plans (sequence for loading and unloading, product characteristics, handling aids to be used). This cooperative activity should address load security, travel routes and local hazards. Where appropriate, employers may base their risk assessment on the "worst foreseeable" situation and adopt risk control measures, including load securing and restraining methods, for future transport operations accordingly. However, the risk assessments and risk control measures should be reviewed periodically and whenever there is a significant change in circumstances.

Forward or reverse travel (INDG 396 page 4)



Concern

5. INDG396, page 4 refers to travelling in reverse. It states when transporting any load, make sure that your forward vision is not obstructed. For short distances where you can't see properly around a load and vision remains obstructed, you may reverse. This advice is correct. However, some readers have failed to understand the importance of the qualifying words "for short distances" and the explanation therefore needs to be expanded.

Recommendation

6. When transporting any load by lift truck it is essential that the driver's vision in the direction of travel is not obstructed. For short distances, where the load would obstruct the driver's forward vision, they may travel in reverse provided they have good vision in the direction of travel. However, loads should not be routinely transported over long distances in reverse. Indeed, HSG 6 *Safety in Working with Lift Trucks* (HSE Books, ISBN 0 7176 1781 5) at page 29 makes it clear that loads should not be carried that block forward visibility and states that, "Only if it is *absolutely necessary* to carry a bulky load which blocks visibility should a lift truck be driven in reverse".

7. Driving in reverse, with the driver's head craned round to look over his/her shoulder while still retaining a firm grip on the steering wheel requires an uncomfortable posture that is physically tiring and difficult to sustain for any length of time. Furthermore, at any point in time, the driver's view in the direction of travel is still restricted to a limited arc of vision.

8. Wherever possible storage locations and arrangements should be planned so as to avoid transporting reels of paper over long distances. Where this is not feasible the employer should consider the use of a more suitable type of vehicle for transporting reels over long distances to avoid travelling long distances in reverse. Travelling in reverse over long distances should be allowed only in exceptional circumstances and where absolutely necessary and, in these circumstances, additional precautions are likely to be needed to control the risks as low as reasonably practicable.

Maximum quantity of reels being transported at any time (INDG 396 page 5)



Concern

8. INDG 396 page 5 states that ‘to control material handling, determine the maximum weight of the load to be carried. Normally only one or two reels are moved at a time’.

9. Commercially multi clamps are available to facilitate movement of up to six reels at once. INDG 396 fails to identify the assessment (or balance) between volume transfer and visibility for safe operation.

Recommendation

10. The practice of carrying rider reels (the placement of an unsecured reel on top of one or more reels that have been clamped) is not acceptable. When considering the most suitable multi-clamp(s) for use in a given application you should ensure the following.

- If more than one reel is held in the same clamps the reels should be of the same diameter.
- The total weight of the load and clamp is within the load centre and capacity of the truck.
- Adequate visibility is maintained.

Dealing with unsafe loads (INDG 396 page 8)

Concern

11. INDG 396 does not offer any method for safe inspection to be achieved. On page 8 under “Risks” and “Controls” it states that “If there is evidence of load movement.....”. However, without the presence of a substantial bulge in the side of a curtain sided vehicle, there would be no evidence of load instability until the curtains are opened. This places the operator in close proximity to a potential hazard. The first awareness the operator may have to a potential danger is either:

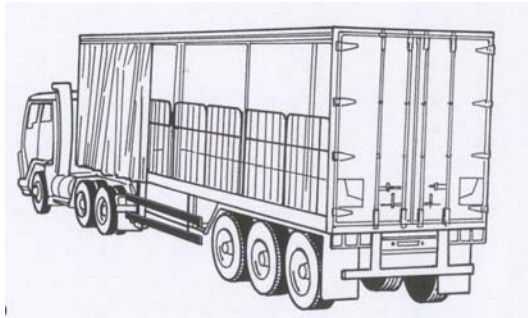
- as he / she opens the trailer side curtain; or
- if the material dislodges further during unloading.

Recommendation

12. All loaded vehicles arriving on site should be inspected to confirm load stability as far as reasonably practicable. If inspection reveals evidence of load instability (e.g. a bulge in one or both of the curtains) the vehicle should be quarantined in a safe area. The problem should be reported to a responsible person who should arrange for a special risk assessment to be undertaken and a safe method of work prepared for unloading the vehicle. Vehicles with an unstable load should not be put back on the road.

13. The DfT Code of Practice illustrates the use of side restraints - see figure below. These allow the curtains to be opened and the load inspected without putting people at risk.

Side restraint methods



Note: These photographs illustrate examples of the use of side restraint methods to contain the load and not methods of strapping.

Tall reel strapping

Concern

14. It is unclear why Figure 7 of INDG 396 is identified as the preferred method for tall reel strapping. Figure 8 is labelled as an alternative method.

15. INDG 396 page 9 describes methods for securing reels that are 2.2 m or more in height, however, these methods don't eliminate the risk of loads shifting in all directions. Other means of securing may be appropriate.

16. For single reels and multipacks a figure of 1m is quoted as a justification for allowing one single strap per reel. The basis for this is not given. If there is a good reason, it should be explained.

17. Figure 9 shows reels that are both strapped and prevented from falling off the lorry by timber side slats. This figure is labelled "Don't forget alternatives may be found that may be just as secure" implying that the standard of load security and restraint is equivalent to that shown in figures 7 and 8 when it actually represents a higher standard.

18. Page 9 also states the vehicle (or trailer) should contain enough straps to safely secure the load (24 straps are recommended). There may be circumstances where 24 straps are not sufficient.

19. The DfT Code of Practice (16.1) states that load restraining must always be used so that the loads are prevented from moving in any direction during transit. As a general rule, goods carried within curtain sided vehicles should be secured as if they were being carried on an open, flatbed vehicle. INDG396 shows the use of webbing straps suspended from central longitudinal rails not the conventional methods required for open type vehicles.

20. The DfT Code of Practice (16.2) states that for high bulk, low density, palletised loads the use of fixed internal load restraint webbing straps, which are often supplied ready installed to a central, longitudinal overhead rail within the curtain –sided vehicle can be a useful method of restraint in some, but not all circumstances. The clause also states that webbing straps can only restrain in a lateral direction. It goes on to say that additional longitudinal restraint in the form of bulkheads or traverse nets are required. INDG 396 shows the use of these webbing straps for securing high density palletised and unpalletised loads. INDG 396 does not require the form of longitudinal restraint specified in the DfT code. It proposes instead the use of cross strapping (using the webbing straps).

Recommendation

21. Section 16 figure 39 of the DfT Code of Practice addresses curtain sided vehicles and shows a curtain sided vehicle fitted with edging panels that would contain the load. This provides a higher standard of protection against loads falling from curtain sided lorries.

22. The DfT Code of Practice should be used as the benchmark. Additional guidance on interim measures that can be adopted pending completion of research into load securing and restraining methods is given at Annex 3.

Palletised and mixed loads (INDG 396 page 13)

Concern

23. INDG 396, at page 13, infers that for certain palletised loads the curtains can be used as part of the load restraint system. And, at page 9, in relation to the securing of tall reels it states “make sure all curtain straps are in place and fully tensioned” and the reader could take this to imply that the curtain is part of the restraining system.

24. INDG 396 page 13 identifies that the magazine publishing industry has an agreement to limit the load of each pallet of magazine bundles to no more than 1.8 m high and not exceeding 1 tonne. The justification for these figures is not given and there is nothing to explain how they add any value to the safe transport of palletised mixed loads. The document fails to refer to any standards for pallets when determining load-bearing value.

25. In the case of a ‘tall reel’ secured on a pallet it is unclear if the reader should apply section 3 (tall reel strapping) or section 6 (palletised and mixed loads) of INDG396 and this has led to confusion.

Recommendation

26. The DfT Code of Practice (16.3) makes it clear that the curtains must not be considered as part of the load restraining system unless they are purposely designed for a specific load. Even if the curtain is designed for a specific load it doesn’t eliminate the possibility of the load becoming unstable, i.e. the load leaning against the curtain, and presenting a danger when the curtain is opened.

27. Irrespective of the agreement in the magazine publishing industry all loads need to be properly secured.

28. Palletised loads should be treated in the same way as any other load. All loads should be properly secured with measures taken to prevent component parts of the load presenting a risk as a consequence of instability. Annex 3 of this notice, Interim Measures, paragraphs 10 - 13 deal with load securing.

Non-UK drivers (INDG 396 page 15)

Concern

29. This refers to “non-UK drivers” and notes possible problems if the driver does not understand English or has a poor grasp of the language. It suggests employers “Make an effort to have translations of site instructions into those languages most commonly used by your drivers”.

Recommendation

30. Arrangements should be made between the duty-holders for translation of site instructions into the languages of all visiting drivers who do not speak, or who have limited command of, the English language prior to their arrival on site. Arrangements should cover all drivers, both UK and non-UK based, as some UK-based drivers may have limited command of the English language.

Other issues

Concerns

31. Certain terms are used that could be open to interpretation: small pallets, low density / high density and tall reels.

32. The guidance is too prescriptive.

33. The document in its current form could be used as mitigation against the control of risks to as low as reasonably practicable. It seems to reflect existing practice within the industry, rather than encouraging duty holders to review their work practices and control the risks from first principles.

Recommendations

34. In any future guidance terms such as those referred to in paragraph 31 should be defined.

35. Any future guidance should offer a 'goal-setting' approach using the hierarchy of safeguarding, including photographs showing good practice, with captions identifying positive and negative features.

36. Future guidance should address:

- How to minimise load instability
- How to inspect / detect it safely
- What to do when faced with an unstable load

Annex 2

Reproduced text of Section 16 of DfT Code

SECTION 16

Curtain-Sided Vehicles

1. 16.1 Conventional load restraining methods (covered in earlier sections) must always be used so that the loads are prevented from moving in any directions during transit. As a general rule, goods carried within curtain-sided vehicles should be secured as if they were being carried on an open, flatbed vehicle. If the loading configuration or its security would cause concern in the mind of the driver if an open vehicle were to be used, then it should be considered equally unacceptable within a curtain-sided vehicle.
2. 16.2 For high bulk, low density, palletised loads the use of fixed internal load restraint webbing straps, which are often supplied ready installed to a central, longitudinal overhead rail within curtain-sided vehicles, can be a useful method of restraint in some, but not all, circumstances.

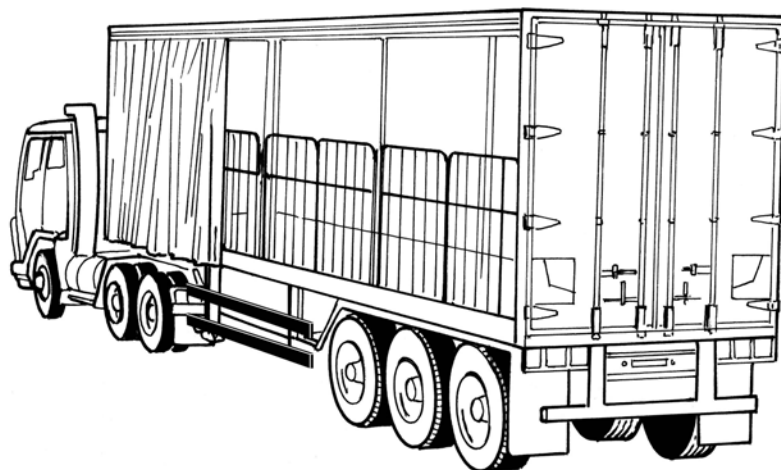


Figure 39

Because they are fixed at their upper end to a rail on which they are free to slide, this type of load restraint can only restrain loads in a lateral direction. Additional longitudinal restraint in the form of, for example, bulkheads or transverse nets are required to stop the load moving in a fore or aft direction.

16.3 Unless they are purposely designed for a specific load, the curtains of curtain-sided vehicles **MUST NOT** be considered as part of any load restraint system. They are provided to contain rather than to restrain the load and should be considered as weather protection only. If the curtains have been designed as a restraint system then the load capability should be clearly marked, if no mark can be seen then it should be assumed that the curtains have no load bearing function. Similarly, where vertical inner curtains are fitted and they are not purposely designed for a specific load, they also **MUST NOT** be considered as part of the load restraining system. They should be considered purely as a means of containing any small, loose items that may

have become dislodged during the journey.

16.4 A curtain is a thin, flexible sheet and even when reinforced with full-height webbing strapping, it can only resist sideways load movement if it deflects or bulges outwards. If this load shift occurs when the vehicle is moving it could make the vehicle unstable and cause an accident.

16.5 Once loading is complete, and before the curtains are closed, the load and its constraints, should be thoroughly inspected in order to certify that the load is safe and secure. This final check is important, as it can be very difficult to check the load space during the journey with the curtain sides in place.

16.6 Irrespective of vehicle type, once on the road it is the driver's responsibility to ensure that the load remains secure. This, in the particular case of curtain-sided vehicles, would normally be confined to a periodic visual inspection of the curtains and a check of their tensioning straps. If bulges are evident in the curtain indicating that the load has shifted in transit, the curtain **SHOULD NOT** be opened. A judgement should be made by the driver to either continue the journey if a minor bulge is evident or in the event of a more serious situation to seek advice and or assistance.

16.7 Opening of Curtains. Extreme caution must be exercised during the opening of curtains on curtain-sided vehicles. In particular they must be thoroughly inspected for any signs of bulging before any attempt is made to open them. If a bulge exists, or it is suspected that the load is leaning on the curtain, the curtain **MUST NOT** be opened. In these circumstances access should be gained to the load compartment via another route – possibly through the rear door or through a curtain on the other side of the vehicle. The safety, stability and security of the load should then be ascertained before unloading commences.

Annex 3

INTERIM MEASURES

1. Transportation of paper and paper products involves workplace and highway activities, with primary enforcement by different Government departments. HSE recognises that the DfT Code of Practice “The Safety of Loads on Vehicles” takes primacy in all matters of transport on the road, referring to it in clause 770 of HSE’s “Workplace Transport Safety: An Employer’s Guide”, HSG136. It has been agreed with DfT that deviation from its code of practice is permitted, provided the same standard of security and restraint is achieved, based on justification by risk assessment.

2. In developing measures to ensure safe transport of paper and paper products, harmonisation with the DfT code will require ongoing review to ensure technological solutions are placed in context with wider moves in Europe to address security of loads during transportation.

3. Health and safety legislation requires co-operation between all parties to ensure safe transport of product. Employers engaged in loading, despatch, transport, receipt and unloading of paper and paper products should liaise with each other so that each party can meet their legal duties to assess and control risks. They should coordinate the measures that each party takes to control the risks associated with the despatch, transport and delivery of paper and paper products.

4. A loading plan is required to set out the sequence and method for items to be loaded, how they will be secured and unloaded at the customer site(s).

- Who will load and unload the trailer?
- Have all parties the correct equipment for loading / unloading the trailer?
- Is there a particular sequence for loading / unloading?

5. A designated responsible person, who is qualified to assess the adequacy of load security, should inspect the completed load against the loading plan. This should not just be left to the driver.

6. The loading plan has to take account of the chosen route to destination(s), as there may be particular local factors, such as severe gradients, roundabouts, type of road (motorways, A and B roads) that could affect the stability of the trailer or load-shift within it. This part of the assessment will allow a more accurate estimate of delivery times.

7. As a starting point, duty holders may adopt a generic plan based on the worst-case transport operation. However, it needs to be reviewed periodically and when circumstances change to ensure it is still suitable for individual load and journey characteristics.

8. Trailers may be transferred between tractor units, or be pre-loaded prior to collection. Additional arrangements will be required where trailers have been pre-loaded, so that the current driver is adequately aware of the load status.

9. Employers loading and unloading paper and paper products need to coordinate traffic entering and leaving site and avoid vehicle queues outside premises.

Load securing

10. The following generic hierarchy of measures should be considered - in combination, for transport of each individual load.

- Eliminate imbalance and prevent load shift during transit
- Use of side restraint methods to contain the load (lateral restraint)
- Provision of intermediate bulkheads to provide additional longitudinal restraint
- Use of sideboards to aid lateral restraint at the base of the trailer
- Additional lashings to secure the load to the base of the trailer
- Use of webbing straps in at least two opposing planes, to secure each item
- Minimise load shift during transit

11. In order to minimise risks of the webbing cutting against sharp corners of a reel, or damage to the paper product, use of wider straps or packing should be considered. Sufficient tensioning of the webbing straps is required, to ensure the reel is fixed securely.

12. The person carrying out the load securing and / or responsible for confirming compliance with the loading plan should be suitably trained and competent to make the relevant decisions.

13. The responsible person should have the necessary training and experience as appropriate e.g. in slinging, rigging, etc. and be provided with sufficient information contained within the loading plan to be able to make an accurate judgement regarding load security during transit.

On the road – delivery and stop-offs

14. Where multiple unloading takes place (i.e. several stop off destinations) the characteristics and integrity of the load may change and this should be taken into account in the risk assessment and loading plan.

Planning for unintended events

15. The loading plan should contain the action to be taken and details of people to be contacted in the event of the load becoming unstable, shifting significantly, requiring inspection by Police or other authorities or becoming quarantined in transit or at a customer destination. A copy of the loading plan should always be provided to the driver as they remain with the load during transit and can pass on this information. Dismantling of a load following instability requires detailed consideration by a competent person.

Annex 4

List of References.

1. Department for Transport The Safety of Loads on Vehicles: Code of Practice 3rd edition. The Stationary Office 2002. ISBN 0 11 552547 5
http://www.dft.gov.uk/stellent/groups/dft_roads/documents/page/dft_roads_506864.pdf
2. Workplace Transport Safety: An employers' guide HSG136 (2nd edition) HSE Books 2005 ISBN 0 7176 6154 7
3. HSE Research Report 098 Transport at work: Rollover of lorries transporting paper reels. *Investigates the phenomenon of vehicle rollover but does not specifically examine methods for securing and restraining loads or the risk of loads falling from vehicles.*
<http://www.hse.gov.uk/research/rrpdf/rr098.pdf>
4. HSE Contract Research Report 305/2000 Sheeting and unsheeting of non-tipper lorries - a health and safety scoping study. *Investigates the risks to people involved in sheeting and unsheeting non tipper lorries including opening and closing of curtains on curtain - sided lorries. Identifies accidents involving loads falling from curtain-sided lorries and assesses the risks, including the risks associated with these activities in the paper industry. Recommends, for the paper industry, evaluation of the use of additional or alternative restraint systems.*
http://www.hse.gov.uk/research/crr_pdf/2000/crr00305.pdf
5. Equipment for Efficient Cargo Securing and Ferry Fastening of Vehicles. Report No. 4/2004. NV. Produced by Technical Committee 54 Vehicles, in the Nordic Road Association, and the Swedish Association of Road Haulage Companies.
http://www.ptl.fi/NVFnorden/imageblob/54_4_2004.pdf