



# Dangerous Goods Equipment and Training

(A Division of Dangerous Goods Equipment Pty Ltd)

ABN 90 095 789 236

PO Box 4029  
Eight Mile Plains Qld 4113  
Email: john.giles@dget.com.au  
Website: www.dangerousgoodsequipment.com.au

Phone: (07) 3277 1155  
Fax: (07) 3277 1161  
Mobile 0401 001 595

Thursday, 31 July 2008

Actco Pickering Metal Industries Pty Ltd  
28 Quality Drive  
Dandenong, Victoria, 3175

Attention: Owen Walsh  
Director

## Re: Trade Service Body Restraint Requirements

Dear Owen,

At your request Dangerous Goods Equipment Pty Ltd has conducted the calculation to determine the requirements for the restraint of your "Trade Service Bodies" to your customers Vehicle.

The calculation comes from the "Load Restraint Guide, Second Edition 2004", this guide has been developed by the National Transport Commission and is approved by all Competent Authorities within Australia as the Load Restraint Standard. The Calculation used appears in **Part 2, Section F, 3.6 How Many Lashings? - By Calculation** of the Load Restraint Guide.

For the calculation we have used worst case scenario figures to ensure the restraint mechanism is capable of achieving the required performance standards.

G FORCE REQUIRED (Performance Standard )	G	0.8	
NOMINAL WEIGHT	Nw	1	
AMOUNT OF TIE DOWN RESTRAINT REQUIRED	F	GxNw	0.8
CO-EFFICIENT OF FRICTION	u	0.6	
FRICTION FORCE GENERATED BY WEIGHT OF LOAD	Fw	u*Nw	0.6
FORCE REQUIRED FROM TIE DOWN LASHING (TOTAL - FORCE FROM WEIGHT)	Fl	F-Fw	0.2
REQUIRED TIE -DOWN FORCE	Nl	Fl/u	0.333333
ANGLE EFFECT	E	1	
PRE-TENSION	T (ART2770)	0.3	
TIE DOWN FORCE FROM ONE LASHING	TD	2T*E	0.6
NUMBER OF LASHINGS REQUIRED	n	Nl/TD	0.555556

National Distributor for Ev-Cam Load Restraint Equipment



The calculations were conducted on the Trade Services Body at 2400mm in length with EPDM 50 X 150 X 6mm Rubber Matting on six points of contact between the Trade Service Body and the host vehicle. The clamping restraint is supplied by four ART 2770 or 703LC clamps rated at 300kg lashing capacity per clamp and fitted as per manufacturers specification. Total weight of the Trade Service Body and equipment/ Tools was taken as one Metric Tonne.

The results of the calculation clearly shows the restraint mechanism chosen by Actco Pickering to secure the Trade Services Bodies to there customers vehicles exceeds the requirements of the Load Restraint Guide, Second Edition 2004.

**Disclaimer**

The assessment and any findings, advices and recommendations contained in this report have been based upon, and prepared solely pursuant to the information supplied by the Company to Dangerous Goods Equipment Pty Ltd and its officers and representatives. These findings, advices and recommendations contained in this report have been prepared solely and exclusively for the use and information of the Company.

Dangerous Goods Equipment Pty Ltd and its officers and representatives have used their best endeavours in the preparation of the report and are not liable or responsible in any way for the results of any action or failure to act by the Company arising from the findings, advices and recommendations contained in this report.

If you require any further information regarding the outcomes from this report please contact me for assistance.

Yours Faithfully

John Giles  
Managing Consultant\Trainer  
Dangerous Goods Equipment Pty Ltd