 SAFEROADS PTY LTD STANDARD OPERATING PROCEDURE	Title: Installation of Speed Cushion & Strip	
	Procedure Number INSSOP 009 – 6	Effective Date 05/04/2018
Responsibility: General Manager - Traffic	Revision: 6	Area: Traffic

## 1. Objective and Scope

To describe how to correctly install Saferoads Speed Cushion with Metal Strip

## 2. Safety:

Working on or beside a roadway is inherently dangerous.

## 3. Personal protective equipment (PPE)

The following is mandatory PPE.



## 4. Equipment Required

- Compressor with Air Nozzle
- Hammer Drill and Bits
- Industrial vacuum Cleaner
- Generator
- Epoxy gun (refer MSDS)
- Chemwatch 4918-30

## 5. Qualifications and Competencies

- Safe use of hand tools
- Manual handling
- Road traffic management

## 6. Documentation and Setup

- Ensure that the selected installer provides a copy of Public Liability Insurance, WorkCover, SWMS and plant service records. (No documentation - no job).

- Dial a dig if required



- Ensure you are at the correct location and set up traffic control is to Australian Standards, or as advised and required by the client.


## 7. Positioning of the Speed Cushion

- Position the Speed Cushion on to a cleaned road surface, as per site plan provided.



- Place steel fixing angles into position with rubber corner sections slotted into place.



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- c) Place steel fixing angles into position with rubber corner sections slotted into place.



- d) Continue to place segments to form the desired width of the Speed Cushion, but without fastening them in place.



- e) Repeat process on other side of speed cushion to form complete cushion. Once all segments are down ensure all segments are firmly placed together without gaps between each of the segments.



### 8. Marking Designated holes


- a) Carefully remove both corner segments from one side of the cushion and spray the designated hole positions for fasteners in angle bracket with road marking paint.



### 9. Location to drill hole

- a) Slide angle bracket back to expose painted location for fastener.



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#### 10. Clean holes

- a) Using an industrial vacuum cleaner or air gun remove dust from each hole. Note: if using air gun be careful of airborne dust and stones.



#### 11. Inserting Epoxy

- a) Using epoxy and caulking gun provided, insert nozzle into each hole and insert epoxy. Saferoads recommends 3 caulks per hole. Note: the epoxy dries quickly in warm weather so it is important to cap the nozzle with cling wrap between uses to prevent it from drying hard inside the nozzle.



#### 12. Insert nylon plug

- a) Insert orange nylon plug (ramset ultra-long) into hole. Note: be careful of splatter of any excess epoxy when hammering.

#### 13. Insert screw

- a) Slide angle bracket back over hole and insert ultra-long screw.




#### 14. Drilling holes

- a) Remove all rubber segments from one side and swivel angle bracket to one side to expose painted locations for fasteners. Repeat drilling, cleaning and epoxy process for the installation of the ultra longs into angle bracket.
- b) Repeat process for angle bracket on other side of speed cushion.



#### 15. Re-position segments

- a) Re-instate all rubber speed cushion segments, so the cushion is firmly placed together, without gaps.

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**16. Drilling holes**

- a) With a 14mm masonry bit, drill holes through the speed cushion segments into paved surface.



**17. Clean holes**

- a) Using an industrial vacuum cleaner or air gun remove dust from each hole at the top of each segment. Note: if using air gun be careful of airborne dust and stones.



- b) Remove one segment at a time and use an industrial vacuum cleaner or air gun to remove dust from each hole.



**18. Release epoxy in hole**

- a) Using epoxy and a caulking gun, insert nozzle into each hole and insert epoxy. Saferoads recommends 3 caulks per hole. Note: the epoxy dries quickly in warm weather so it is important to cap the nozzle with cling wrap between uses to prevent it from drying hard inside the nozzle.



**19. Insert Nylon plug**

- a) Insert nylon plug into hole using hammer. Note: be careful of splatter of any excess epoxy



**20. Lining Up Holes**

- a) Quickly re-instate the segment into the correct position, lining up the fastener holes. Note: the epoxy can set hard quickly in warm weather making it difficult to screw in the coach bolt.



**21. Insert Bolts**

- a) Insert the coach bolts and hand tighten.



**22. Tighten Bolts**

- a) Using air compressor and rattle gun, drill in the coach bolt with a 10mm socket screw, being careful not to tighten it all the way. Note: the coach bolt will rotate the plastic sleeve in the holes if over tightened mechanically. This will undermine the epoxy adherence to the side walls of the hole, rendering it ineffective.



- b) Finish tightening coach bolts using a ratchet socket wrench with a 17mm socket. Note: ensure this step is completed not too long after the previous step as the epoxy will set too hard and prevent tightening the bolt.



**23. Clean Worksite**

- a) Sweep any excess dirt or debris from the site and collect any left-over parts


**24. House Keeping and Final Checks**

- a) Safety Checks:
  - Housekeeping practices adhered to and worksite is left clean and safe
  - Items have been fitted correctly and safely
- b) Quality Checks:
  - Workmanship is to specification
  - Materials quality is acceptable
  - Unused materials are removed
  - Quality checks performed
- c) Environment Checks:
  - Surrounds are restored to prior condition
  - No spillage and/or damage to any soil, habitat, atmosphere or drainage

SOP REVISION UPDATES

Rev 6 dated 05/04/2018

- a) New format
- b) Inclusion of Revision Details.

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- c) Reference included for Housekeeping and Final Checks