

# EM Application Case Studies - Environment -



Japan

## Tohoku Shinkansen uses EM for cleaning | Morioka City, Iwate

### Using EM at garbage separation stations as well as for cleaning trains



The *Shinkansen* (bullet train) is a world-class Japanese technology and EM is used to clean the inside and outside of these trains. This time, we interviewed the Morioka office of the JR Morioka Railway Service. They clean, inspect, fix, collect / separate garbage for the *Tohoku Shinkansen*. EM has been used for cleaning for about 9 years now.

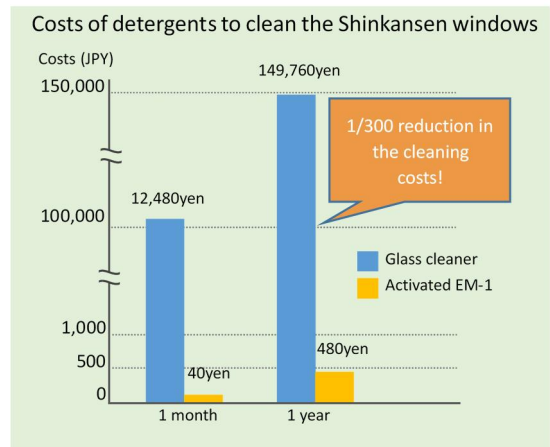
### The Start was an environmental study for children

Morioka office started using EM for cleaning trains around 2006. One day, one of the staff learned about EM through an environmental study for children. First, she started using EM to get bad odors out of the garbage separation station. Then she suggested that the company use EM for cleaning inside the train and windows, etc. The Morioka office was a very active office, so right away they did a comparative verification of Activated EM-1 and commercial window cleaner.



### EM cleaning is easier and cheaper

Dirt on the windows is mostly dust, finger marks and cosmetic oil. "How effective it is to remove dirt?" "Does it cause any skin problems when working with bare hands?" "How much do we have to use? What are the costs?" These were the points they checked and Activated EM-1 surpassed in all respects. They verified the perfect dilution rate and found that a 7 fold dilution was the best for removing dirt and ease of cleaning. Not only do they use it for cleaning windows, but they also use Activated EM-1 for cleaning doors, hand rains and washroom mirrors.



#### [Benefits of Activated EM-1]

1. Dust, finger marks and cosmetic oils can be removed easily with one wipe.
2. Easy to remove dirt with small amount of solution.
3. It's safe for your skin, so no need to wear rubber gloves.
4. Has order eliminating and purification properties.
5. Reduced cleaning costs.

**“Why doesn’t it smell bad here?”**

This is the garbage separation station. In here, the collected garbage from trash boxes inside the trains and platforms are separated. Garbage includes food residue, so normally it will give off a bad smell, but this garbage station doesn’t smell bad. The Shinkansen operates 365 days a year, and 800 kg to 1 ton of garbage are collected every day. At the end of a day, staff will spray 30 fold diluted Activated EM-1 on the floor, belt conveyer and compressed pet bottles and cans. “We have been using EM for many year so we got used to it not being smelly here. However, people who come to observe are so surprised, ‘Why is it not stinky here?’ so I think EM is effective.”



**“EM is environmentally and people friendly.**

**We will continue using it”**

The application of EM started at the garbage separation station is also used for cleaning inside the train. For 3 years, it’s been used to clean the outside wall of the train car as well. In the beginning they were not sure, “Does EM really remove the dirt on the outside wall?” However, once they start using it, they realized it was very effective and the train walls were even gleaming. “The railroad is a means of transport that doesn’t

emit a lot of greenhouse gas and the whole JR (East Japan Railway Company) performs environmental activities. EM is not as strong as synthetic detergent but it is environmentally and people friendly. Also it is very cost effective so we would like to continue using it.” Shiny Shinkansen trains that were cleaned by EM are running today between *Tohoku* (North East) and Tokyo.



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Reference:

The article was excerpted and translated from EM Seikatsu Sengen VOL.25 p25-26.

<http://www.em-seikatsu.co.jp/publications/details.php?id=25>