


4

Best Practices


- Arizona DOT's Experience (Wet Process)
 - Gap-graded (AR AC) for structural use, often surfaced with open-graded (AR-ACFC)
 - Open-graded (AR-ACFC)
 - ½" thick wearing course on flexible pavements
 - 1" thick wearing course on rigid pavements



5

Advantages of AR


- Good durability – in terms of resistance to cracking and aging
- Environmental friendly – make value-added use of a waste material, reduce traffic noise
- Versatility – can be used in most maintenance and rehabilitation activities, or in reduced thickness for resistance to reflective cracking
- Longer lasting color – for better contrast with striping and marking
- Reduced maintenance – for both chip seals and hot mix



6

Limitations of AR



- For small projects, mobilization costs may result in higher unit price that may not be fully offset
- AR wet process (field blend, high-viscosity) is not suited for dense graded mixes because there is not sufficient room in the aggregate voids to accommodate the coarse rubber
- Construction may be more challenging, as temperature requirements are more critical



7

Limitations of AR



- Potential odor problem
- Often difficult to hand work because of stiff binder and coarse mixture gradations
- If work is delayed more than 48 hours after blending the asphalt rubber, some binder may not be usable because of loss in viscosity



8

Implementation Challenges


- Understanding the benefits and limitations of RAC
- Identifying the best places to use RAC
- Using sound design and construction practices specific to RAC




9

Primary References

- [Asphalt Rubber Usage Guide](#)
- [Use of Scrap Tire Rubber – State of the Technology and Best Practices](#)
- [Synthesis of Caltrans Rubberized Asphalt Concrete Projects](#)
- [Feasibility of Recycling Rubber-Modified Paving Materials](#)
- [Study on Structural Design Considerations](#)
- [Flexible Pavement Rehabilitation Manual](#)
- [Asphalt Rubber Design and Construction Guidelines](#)
- [RAC-G SSP Version \(12-12-05\)](#)
- [RAC-O SSP Version \(12-12-05\)](#)




http://www.dot.ca.gov/hq/esc/Translab/fpmlab/CALTRANS_CIWMBPROJECTT021DELIVERABLES.htm



10

Web Resources

Return to Caltrans Web Site	American Chemical Society Rubber Division Asphalt Emulsion Manufacturers Association (AEMA) Asphalt Institute Asphalt Recycling & Reclaiming Association Asphalt Rubber Information (from Asphalt Rubber Org) Asphalt Rubber Technology Service California Integrated Waste Management Board Canadian Technical Asphalt Association (CTAA) European Asphalt Pavement Association (EAPA) FNF Construction Inc. International Surfacing Systems: Asphalt Rubber National Asphalt Pavement Association (NAPA) National Center for Asphalt Technology (NCAT) Reports Prepared to Caltrans/CIMWB under Contract 59A0258 Rubberized Asphalt Concrete Technology Center Scrap Tire News The Asphalt Contractor Online The Rubber Pavement Association ThomasNet on Asphalt Rubber
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11

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