



**Twining, Inc. - San Diego Lab**  
 15950 Bernardo Center Drive, Suite H  
 San Diego, CA 92127  
 Ph: 858-974-3750  
 Fax: 562.426.6424

**Material Test Report**

**Report No: MAT:W02-22-01069-S1**  
 Date of Issue: 3/30/2022 Issue No: 1

**Customer:** RAMCO  
 2655 First Street, Suite 210  
 Simi Valley, CA, 93065  
**Project:** RAMCO- As-Needed Lab Testing  
 Lab Testing

**Project No.:** 180782.2  
**Permit No.:**  
**OSHPD:**  
**DSA File #:**  
**DSA AP #:**

**Jurisdiction:**  
**Distribution:**

*R. Clevenger*  
 Approved Signatory: Robert Clevenger (Lab Manager)

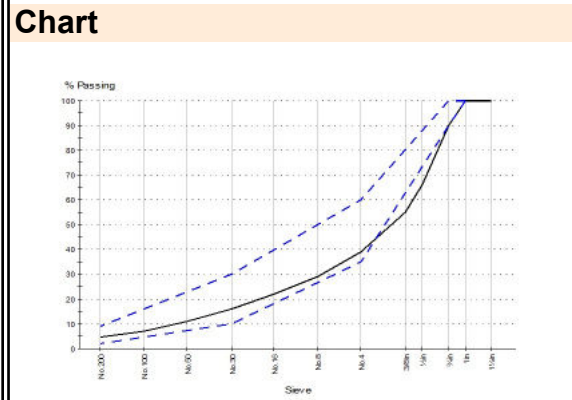
**Sample Details**  
**Sample ID:** W02-22-01069-S1  
**Field Sample:** 1  
**Date Sampled:** 03/22/2022  
**Source:** Escondido  
**Material:** 3/4" Class II Aggregate Base - Recycled  
**Specification:** Caltrans Section 26-1.02B Class 2 Aggregate Base  
**Sampling Method:** CTM 125  
**Sample Location:** Ramco - Escondido  
**Sample Depth:** N/A  
**Sampled By:** Client  
**Material Description:** 3/4" Class II Aggregate Base - Recycled

**Particle Size Distribution**  
**Method:** ASTM C 136, ASTM C 117  
**Date Tested:** 3/24/2022  
**Tested By:** Robert Clevenger

Sieve Size	% Passing	Limits
1 1/2 in	100	
1 in	100	100 - 100
3/4 in	90	90 - 100
1/2 in	66	
3/8 in	55	
No.4	39	35 - 60
No.8	29	
No.16	22	
No.30	16	10 - 30
No.50	11	
No.100	7	
No.200	4.8	2.0 - 9.0

**Other Test Results**

Description	Method	Result	Limits
Nominal Maximum Size (mm)	ASTM C 131		
Loss by Abrasion and Impact (%)		33	
Grading Designation		B	
Ratio of Abrasion Losses		0.27	
Date Tested		3/29/2022	
Maximum Dry Unit Weight (lb/ft³)	ASTM D 1557	120.7	
Corrected Maximum Dry Unit Weight (lb/ft³)		123.9	
Optimum Water Content (%)		11.8	
Corrected Optimum Water Content (%)		10.8	
Method		C	
Preparation Method		Moist	
Visual Description		3/4" Class II Aggregate Base - Recycled	
Retained Sieve 3/8" (9.5mm) (%)		45	
Retained Sieve 3/4" (19mm) (%)		10	
Specific Gravity (Oversize)		2.60	
Date Tested		3/29/2022	
Sand Equivalent Test 1	ASTM D 2419	56	≥25
Sand Equivalent Test 2		57	≥25
Sand Equivalent Test 3		56	≥25
Shaker method		Mechanical	
Preparation		Procedure B	
Date Tested		3/29/2022	
R Value	ASTM D 2844	84	≥78
Date Tested		3/28/2022	
Coarse Durability Index	ASTM D3744/ CTM 229	78	
Fine Durability Index		47	
Final Durability Index		47	≥35
Test Method		CTM 229	
Date Tested		3/28/2022	



Remarks: N/A

**The Material Tested**  Complies  Does Not Comply  
 With the Project Requirements



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**Proctor Report**

**Report No: PTR:W02-22-01069-S1**  
 Date of Issue: 3/30/2022 Issue No: 1

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**Project:** RAMCO- As-Needed Lab Testing  
 Lab Testing

**Project No.:** 180782.2  
**Permit No.:**  
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**DSA File #:**  
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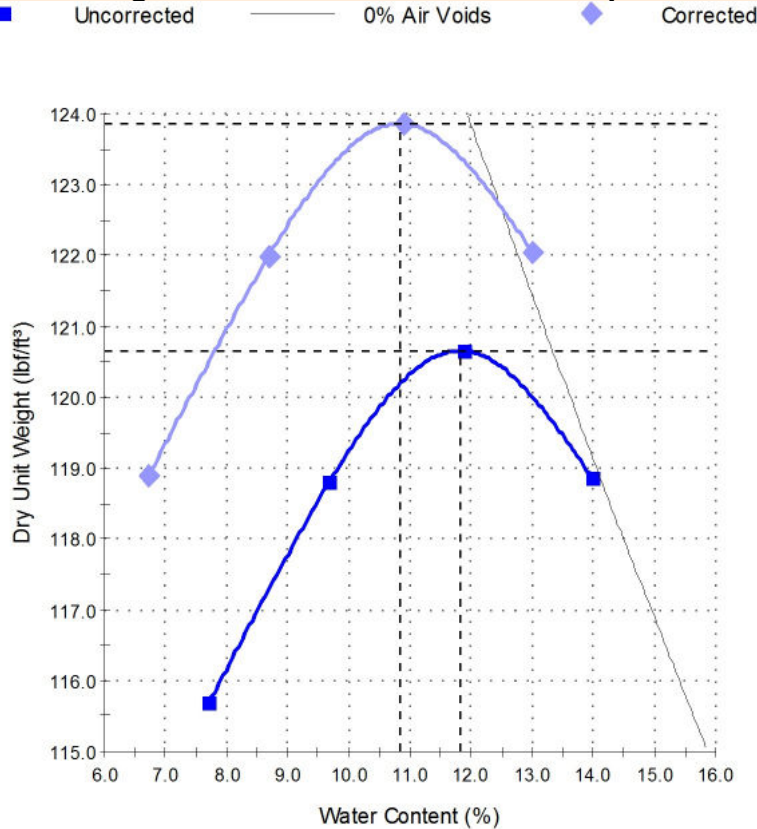
**Jurisdiction:**  
**Distribution:**

*R. Clevenger*  
 Approved Signatory: Robert Clevenger (Lab Manager)

**Sample Details**

<b>Sample ID:</b> W02-22-01069-S1	<b>Field Sample ID:</b> 1
<b>Date Sampled:</b> 3/22/2022	<b>Sampled By:</b> Client
<b>Source:</b> Escondido	
<b>Material:</b> 3/4" Class II Aggregate Base - Recycled	
<b>Specification:</b> Caltrans Section 26-1.02B Class 2 Aggregate Base	
<b>Sampling Method:</b> CTM 125	
<b>Sampling Location:</b> Ramco - Escondido	
<b>Sampling Depth:</b> N/A	<b>Material Description:</b> 3/4" Class II Aggregate Base - Recycled
<b>Tested By:</b> Ryan Powney	<b>Date Tested:</b> 3/29/2022

**Dry Unit Weight - Water Content Relationship**



**Test Results**

ASTM D 1557

**Maximum Dry Unit Weight (lb/ft³):** 120.7  
**Optimum Water Content (%):** 11.8  
 Method: C  
 Preparation Method: Moist  
 Specific Gravity (Fines): 2.61  
 Retained Sieve 3/8" (9.5mm) (%): 45  
 Retained Sieve 3/4" (19mm) (%): 10  
 Passing Sieve 3/8" (9.5mm) (%): 55  
 Passing Sieve 3/4" (19mm) (%): 90  
 Tested By: Ryan Powney  
 Date Tested: 3/29/2022  
 Visual Description: 3/4" Class II Aggregate Base - Recycled

ASTM D 4718

**Corrected Maximum Dry Unit Weight (lb/ft³):** 123.9  
**Corrected Optimum Water Content (%):** 10.8  
 Specific Gravity (Oversize): 2.60  
 Sieve Size (Oversize): 3/4  
 Oversize Particles (%): 10

Remarks:

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**R Value Report**

**Report No: RV:W02-22-01069-S1**  
 Date of Issue: 3/30/2022 Issue No: 1

**Customer:** RAMCO  
 2655 First Street, Suite 210  
 Simi Valley, CA, 93065  
**Project:** RAMCO- As-Needed Lab Testing  
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**Project No.:** 180782.2  
**Permit No.:**  
**OSHPD:**  
**DSA File #:**  
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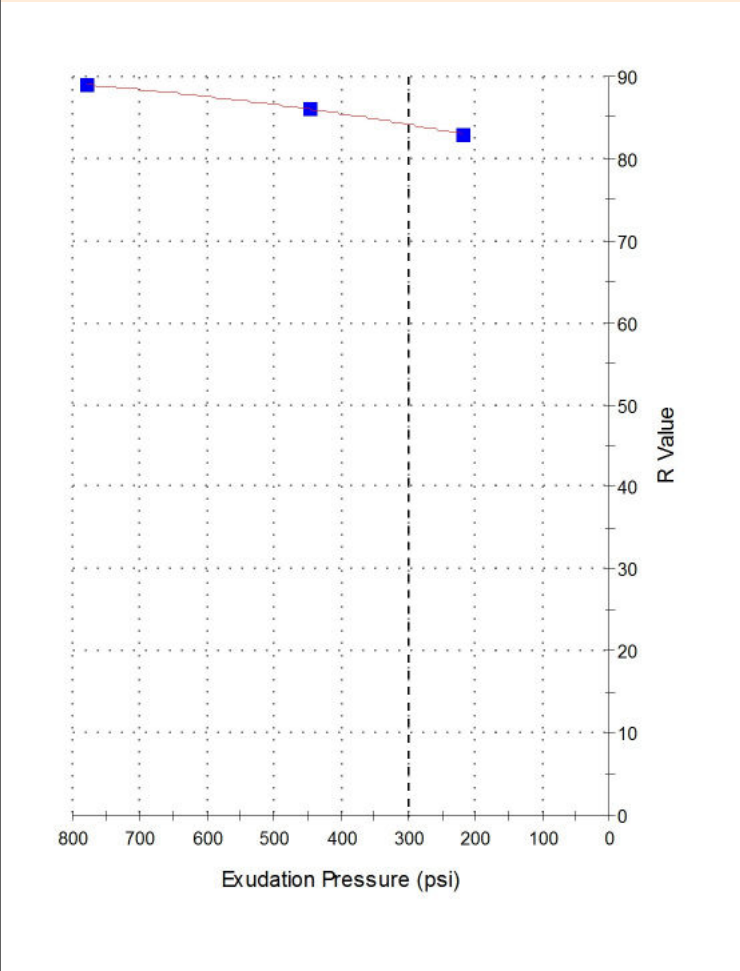
**Jurisdiction:**  
**Distribution:**

*R. Clevenger*  
 Approved Signatory: Robert Clevenger (Lab Manager)

**Sample Details**

**Sample ID:** W02-22-01069-S1 **Date Sampled:** 3/22/2022  
**Sampling Method:** CTM 125 **Source:** Escondido  
**Material:** 3/4" Class II Aggregate Base - Recycled **Specification:** Caltrans Section 26-1.02B Class 2 Aggregate Base  
**Location:** Ramco - Escondido **Tested By:** Brian Vollnogle  
**Date Tested:** 3/28/2022

**R Value**



**Test Results**

ASTM D 2844  
**R Value at 300 psi Exudation:** 84  $\geq 78$

**Specimen Results**

<b>Moisture Content (%)</b>	9.0	10.9	10.0
<b>Dry Density (lb/ft<sup>3</sup>)</b>	120.6	119.8	120.9
<b>Exudation Pressure (psi)</b>	778	218	446
<b>R Value</b>	89	83	86
<b>Expansion Pressure (psi)</b>	0.0	0.0	0.0

Remarks:

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