

# مارال پروفیل ارس

MARAL PROFIL ARAS CO.

ERSAS Pal

## حمل و نقل بسیار آسان و مقرون به صرفه

ADVANTAGE IN TRANSPORTATION AND HANDLING



پروفیل کامپوزیتی پال سری دمونته

**656**

تعداد پنجره

QUANTITY WINDOW



سیستم کلاسیک  
CLASSICAL SYSTEM

**197**

تعداد پنجره

QUANTITY WINDOW

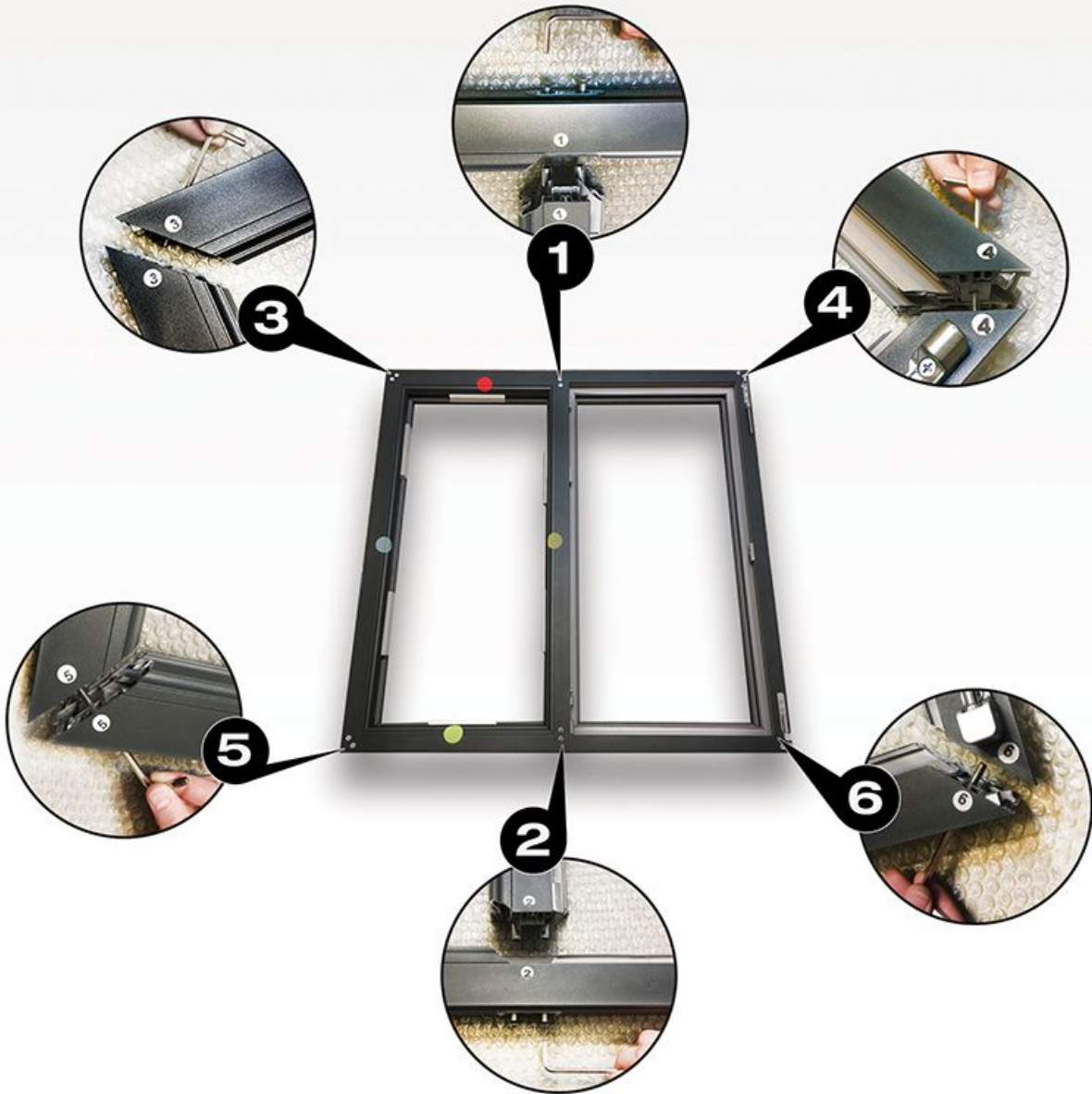


# مارال پروفیل ارس

MARAL PROFIL ARAS CO.

ERS85 Pal

## Pal Demonte System



### طرح مونتاژ فریم

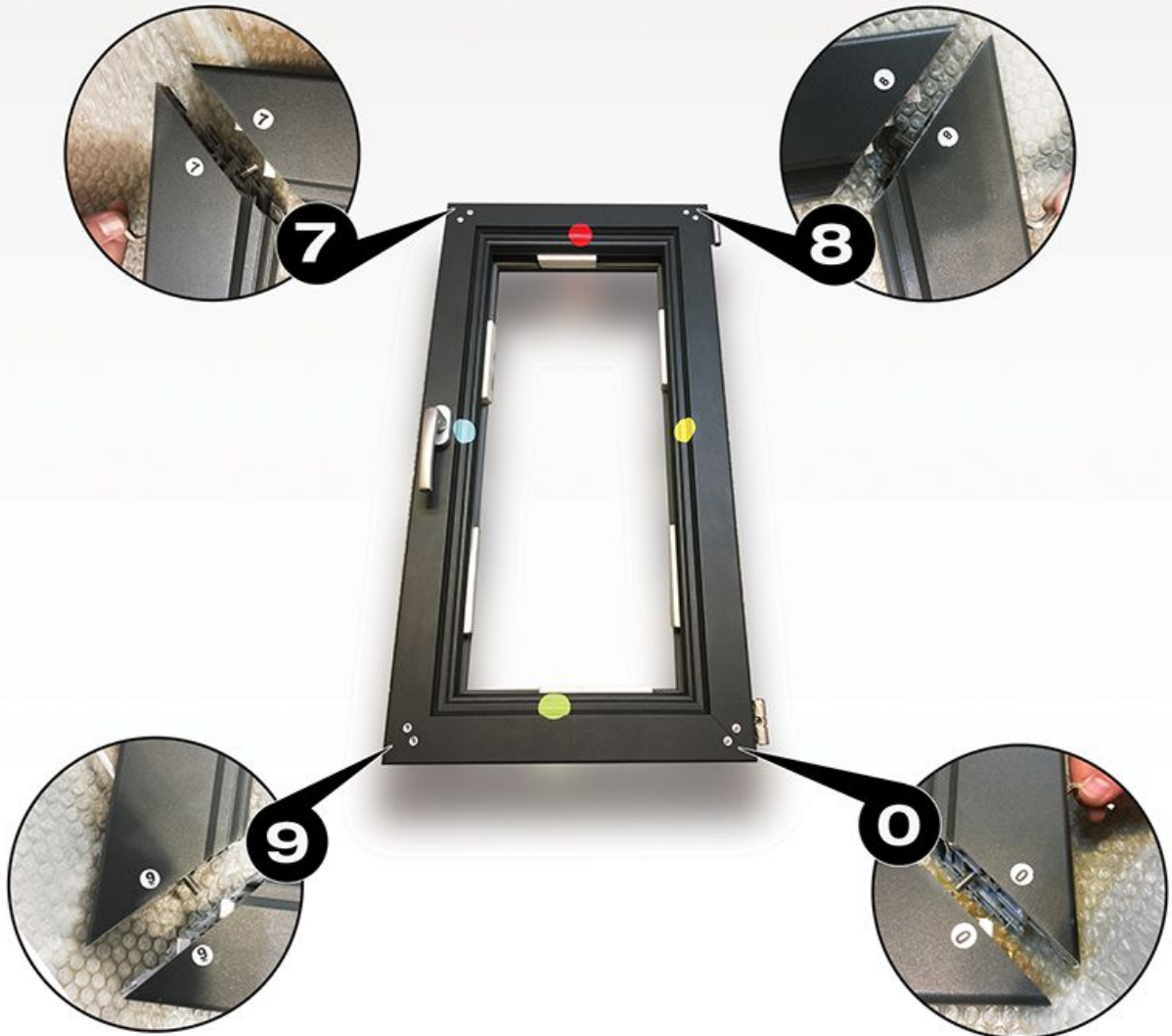
FRAME INSTALLATION DIAGRAM

# مارال پروفیل ارس

MARAL PROFIL ARAS CO.

ER585 Pal

## Pal® Demonte System



### طرح مونتاژ لنگه

SASH INSTALLATION DIAGRAM

# مارال پروفیل ارس

MARAL PROFIL ARAS CO.

ER585 Pal

## Pal® Demonte System

### درب و پنجره مدل دموونته سیستم پال پروفیل

PAL SYSTEM DEMOUNTED DOOR & WINDOW SYSTEMS



# مارال پروفیل ارس

MARAL PROFIL ARAS CO.

ERSAŞ Pal

## نتایج تستهای انجام شده

## TEST RESULTS

**PfB** Prüfzentrum für Bauelemente  
Dipl.-Ing. (FH) Rüdiger Müller

Fenster · windows  
Rollläden · shutters  
Türen + Tore · doors  
Fassaden · curtain walling  
Baubeschläge · building hardware

Test Certificate NR. 16/11-A001-Z1

Version 1.en

PfB-INTERNAL-NO: 1612-AS58

Thermal transmittance of frames  $U_f$  calculated according to DIN EN ISO 10077-2: 2012-06  
"Thermal performance of windows, doors and shutters - Calculation of thermal transmittance -  
Part 2: Numerical method for frames (ISO/DIS 10077-2: 2003) German version EN ISO 10077-2:  
2012"

### Applicant

Ersaş Yapı Taah.San.Tic.Ltd.Şti  
Topçular Mah.Incirlık Cad. No:18  
Eyüp - İstanbul  
Turkey

### Product type

PVC profile with Aluminium cover

### Product Designation

PAL System

### Dimensions

Frame (w x h) approx. 60 x 56 mm  
Casement (w x h) approx. 79 x 79 mm  
Transom (w x h) approx. 60 x 78 mm  
Aluminium cover thickness 1,2 mm.



### Sealing

TPE

### Test Report

Test Report No. 16/11-A001-Z1 from December 01, 2016

### Results

DIN EN ISO 10077-2 Thermal Transmittance  $U_f$

Profile types	$U_f$ [W/m <sup>2</sup> K]
Frame	1,7
Frame and Casement	1,5
Transom and Casement	1,6

### Validity

Period of validity of DIN EN ISO 10077-2: 2012-06

Dipl.-Ing. (FH) Rüdiger Müller  
Head of Institute

Stephanskirchen  
December 01, 2016

Yigit Ahug  
Responsible Official

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SWIFT-BIC: BYLA3333  
Steuer-Nr.: 156/122/33009  
USt-IdNr.: DE245335602

Anerkante Prüfstelle  
Landesbeurteilung  
DAK 33  
Notified Body  
No. 1664



### TEST RESULTS

The calculation results for Thermal Transmittance ( $U_f$ ,  $U_{w,e}$ ) values, calculated according to the standards EN ISO 10077-2 "Thermal performance of windows, doors and shutters: Calculation of thermal transmittance Part 2: Numerical method for frames" and EN ISO 10077-1 "Thermal performance of windows, doors and shutters Calculation of thermal transmittance Part 1: Simplified method", are given in Table 3 and Table 4 respectively.

Table 3. Thermal Transmittance Values of Individual Frame Sections

Section	Transmittance, $U_f$ (Calculated, W/m <sup>2</sup> K)	Transmittance, $U_f$ (Rounded, W/m <sup>2</sup> K)
01	1,6366	1,6
02	1,5316	1,5
03	1,6325	1,6

Table 4. Thermal Transmittance Value of the Window Element

Product	Transmittance, $U_w$ (Calculated, W/m <sup>2</sup> K)	Transmittance, $U_w$ (Rounded, W/m <sup>2</sup> K)
PAL Window System ( $U_g = 1,1$ W/m <sup>2</sup> K)	1,3865	1,4

Fatih Sultan Mehmet  
Yığıt Ahug  
Topçular Mah. Incirlik Cad. No:18  
Eyüp - İstanbul

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**Pal System**  
Plastic & Aluminum

**مارال پروفیل ارس**

MARAL PROFIL ARAS CO. **Pal**

**پروفیل عایق ترمالبریک یو پی وی سی و آلومینیوم**

**PVC INSULATED ALUMINUM JOINERY**



**پنجره های تولید شده از پروفیل کامپوزیتی**

**WINDOWS CRAFTED FROM COMPOSITE PROFILE**



**انتقال حرارت و گرما** Thermal transmittance

**$U_f W/(m^2 K) = 1,5$**



**انتقال حرارت و گرما** Thermal transmittance

**$U_f W/(m^2 K) = 1,5$**

**Pal System**  
Plastic & Aluminum

**مارال پروفیل ارس**

**Maral Profil Aras Co.**

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