

**UF\_WEIGHT\_ask\_part\_cset** [\(view source\)](#)

Defined in: `uf_weight.h`

**Overview**

Ask the weight component set of part, which is returned as a string in `cset_name`. Returns "AllComponents" if no component set is in use. The weight component set need not be an actual component set in the part when this routine is called.

**Environment**

Internal and External

**See Also**

[UF\\_WEIGHT\\_set\\_part\\_cset](#)

**Required License(s)**

gateway

```
int UF_WEIGHT_ask_part_cset
(
    const tag_t part,
    char ** cset_name
)
```

<code>const tag_t</code>	<code>part</code>	Input	The part whose weight component set is to be returned.
<code>char **</code>	<code>cset_name</code>	Output to <code>UF_*free*</code>	The name of part's current weight component set. The string must be freed with <code>UF_free</code> .

**UF\_WEIGHT\_ask\_part\_max\_weight** [\(view source\)](#)

Defined in: `uf_weight.h`

**Overview**

Ask the maximum permitted weight limit for part, expressed in units. If the limit is not set, `is_set` is false, and `max_weight` is 0.0.

**Environment**

Internal and External

**See Also**

[UF\\_WEIGHT\\_set\\_part\\_max\\_weight](#)  
[UF\\_WEIGHT\\_unset\\_part\\_max\\_weight](#)

**Required License(s)**

gateway

```
int UF_WEIGHT_ask_part_max_weight
(
    const tag_t part,
    const UF_WEIGHT_units_type_t units,
```

```
double * max_weight,  
logical * is_set  
)
```

const tag_t	part	Input	The part whose maximum weight limit is to be returned.
const UF_WEIGHT_units_type_t	units	Input	The units in which the maximum weight limit is to be expressed.
double *	max_weight	Output	The value of the maximum weight limit of part (0.0 if the limit is not set).
logical *	is_set	Output	True if the maximum weight limit of the part is currently set, false if not.

UF\_WEIGHT\_ask\_part\_min\_weight (view source)

Defined in: uf\_weight.h

Overview

Ask the minimum permitted weight limit for part, expressed in units.  
If the limit is not set, is\_set is false, and min\_weight is 0.0.

Environment

Internal and External

See Also

- UF\_WEIGHT\_set\_part\_min\_weight
- UF\_WEIGHT\_unset\_part\_min\_weight

Required License(s)

gateway

```
int UF_WEIGHT_ask_part_min_weight  
(  
    const tag_t part,  
    const UF_WEIGHT_units_type_t units,  
    double * min_weight,  
    logical * is_set  
)
```

const tag_t	part	Input	The part whose minimum weight limit is to be returned.
const UF_WEIGHT_units_type_t	units	Input	The units in which the minimum weight limit is to be expressed.
double *	min_weight	Output	The value of the minimum weight limit of part (0.0 if the limit is not set).
logical *	is_set	Output	True if the minimum weight limit of the part is currently set, false if not.

**UF\_WEIGHT\_ask\_part\_ref\_set** [\(view source\)](#)

Defined in: `uf_weight.h`

**Overview**

Ask the weight reference set of part, which is returned as a string in `ref_set_name`. Returns "Entire Part" if no reference set is in use, "Empty" if the empty reference set is in use. The weight reference set need not be an actual reference set in the part when this routine is called.

**Environment**

Internal and External

**See Also**

[UF\\_WEIGHT\\_set\\_part\\_ref\\_set](#)

**Required License(s)**

gateway

```
int UF_WEIGHT_ask_part_ref_set
(
    const tag_t part,
    char * * ref_set_name
)
```

<code>const tag_t</code>	<code>part</code>	Input	The part whose weight reference set is to be returned.
<code>char * *</code>	<code>ref_set_name</code>	Output to UF_*free*	The name of part's current weight reference set. The string must be freed with UF_free.

**UF\_WEIGHT\_ask\_part\_save\_option** [\(view source\)](#)

Defined in: `uf_weight.h`

**Overview**

Ask the state of the update weight properties save option for part: `update_on_save` is true if the save option is on, false otherwise.

**Environment**

Internal and External

**See Also**

[UF\\_WEIGHT\\_set\\_part\\_save\\_option](#)

**Required License(s)**

gateway

```
int UF_WEIGHT_ask_part_save_option
(
```

```

const tag_t part,
logical * update_on_save
)

```

<code>const tag_t</code>	<b>part</b>	Input	The part whose update weight properties save option is to be returned.
<code>logical *</code>	<b>update_on_save</b>	Output	The current value of part's update weight properties save option.

## UF\_WEIGHT\_ask\_props [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Ask the current weight properties of the part, component or solid passed in. If properties are not currently present on the part, UF\_WEIGHT\_no\_cache is returned as the cache state in properties.

This routine does not calculate the weights, this must have already been done by calling UF\_WEIGHT\_estab\_part\_props, UF\_WEIGHT\_estab\_comp\_props or UF\_WEIGHT\_estab\_solid\_props.

If object is a part, the properties returned are its own, exclusive of the properties of any components it may have. If object is a component, the properties returned do not allow for the position of the component in the assembly (use UF\_WEIGHT\_transform\_props if this is desired), and properties stored on the component's prototype part will not be returned. If object is a promotion, its returned cache, if available, is the delta between the properties of the promotion geometry and the properties of its base solid.

Like the other UF\_WEIGHT routines that can take a solid as an input argument, this routine requires that the solid is not suppressed, is not a boolean tool, is not a sheet solid, and is not view dependent. No solids in these categories can sensibly be given weight properties.

### Environment

Internal and External

### See Also

[UF\\_WEIGHT\\_estab\\_part\\_props](#)  
[UF\\_WEIGHT\\_estab\\_comp\\_props](#)  
[UF\\_WEIGHT\\_estab\\_solid\\_props](#)

### Required License(s)

gateway

```

int UF_WEIGHT_ask_props
(
    const tag_t object,
    const UF_WEIGHT_units_type_t units,
    UF_WEIGHT_properties_t * properties
)

```

<code>const tag_t</code>	<b>object</b>	Input	Part, component or solid body whose weight properties are wanted.
<code>const UF_WEIGHT_units_type_t</code>	<b>units</b>	Input	The units in which the properties are to be returned.
<code>UF_WEIGHT_properties_t *</code>	<b>properties</b>	Output	The current properties of object.

## UF\_WEIGHT\_assert\_comp\_props [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Assert the properties of component to be those specified by properties. The `cache_state` of properties must be `UF_WEIGHT_asserted`, and the other states must be compatible as well, as described in the description of `UF_WEIGHT_properties_t`. The accuracy of the properties is ignored, and the errors are set to 0.0. The part containing component will be fully loaded.

### Environment

Internal and External

### See Also

[UF\\_WEIGHT\\_delete\\_comp\\_assertion](#)

### Required License(s)

`adv_assemblies`

```
int UF_WEIGHT_assert_comp_props
(
    const tag_t component,
    UF_WEIGHT_properties_pc_t properties
)
```

<code>const tag_t</code>	<b>component</b>	Input	The component whose properties are to be asserted.
<code>UF_WEIGHT_properties_pc_t</code>	<b>properties</b>	Input	The properties to be asserted on the component.

## UF\_WEIGHT\_assert\_part\_props [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Assert the properties of part to be those specified by properties. The `cache_state` of properties must be `UF_WEIGHT_asserted`, and the other states must be compatible as well, as described in the description of `UF_WEIGHT_properties_t`. The accuracy of the properties is ignored, and the errors are set to 0.0. The part will be

fully loaded.

Environment

Internal and External

See Also

[UF\\_WEIGHT\\_delete\\_part\\_assertion](#)

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_assert_part_props
(
    const tag_t part,
    UF_WEIGHT_properties_pc_t properties
)
```

<code>const tag_t</code>	<code>part</code>	Input	The part whose weight properties are to be asserted.
<code>UF_WEIGHT_properties_pc_t</code>	<code>properties</code>	Input	The properties to be asserted on the part.

UF\_WEIGHT\_convert\_prop\_units [\(view source\)](#)

Defined in: `uf_weight.h`

Overview

Copies the `old_properties` struct's values to a new struct `new_properties`, whose units are given by `units`, but which is otherwise equivalent to `old_properties`.

Environment

Internal and External

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_convert_prop_units
(
    const UF_WEIGHT_properties_p_t old_properties,
    const UF_WEIGHT_units_type_t new_units,
    UF_WEIGHT_properties_t * new_properties
)
```

<code>const UF_WEIGHT_properties_p_t</code>	<code>old_properties</code>	Input	Weight properties to be converted to other units.
<code>const UF_WEIGHT_units_type_t</code>	<code>new_units</code>	Input	The units to which the properties are to be converted.
<code>UF_WEIGHT_properties_t *</code>	<code>new_properties</code>	Output	properties, converted to units.

# UF\_WEIGHT\_copy\_props [\(view source\)](#)

Defined in: `uf_weight.h`

## Overview

Copy properties to a new struct `new_properties` with the same values.

## Environment

Internal and External

## Required License(s)

`adv_assemblies`

```
int UF_WEIGHT_copy_props
(
    const UF_WEIGHT_properties_p_t properties,
    UF_WEIGHT_properties_t * new_properties
)
```

<code>const UF_WEIGHT_properties_p_t</code>	<b>properties</b>	Input	The specified properties.
<code>UF_WEIGHT_properties_t *</code>	<b>new_properties</b>	Output	A copy of properties.

# UF\_WEIGHT\_delete\_comp\_assertion [\(view source\)](#)

Defined in: `uf_weight.h`

## Overview

Delete the asserted weight properties on component. Will return `UF_WEIGHT_has_no_assertion` if there are no asserted properties on component. The part containing component will be fully loaded. If component had previously had cached values on it, these will have been overwritten by the asserted values, and will not be available even after the assertion is deleted. However, when the assertion is deleted, caches on solids in and children of component become available again.

## Environment

Internal and External

## See Also

[UF\\_WEIGHT\\_assert\\_comp\\_props](#)

## Required License(s)

`adv_assemblies`

```
int UF_WEIGHT_delete_comp_assertion
(
    const tag_t component
)
```

<code>const tag_t</code>	<b>component</b>	Input	The component whose asserted properties are to be deleted.
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## UF\_WEIGHT\_delete\_part\_assertion [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Delete the asserted weight properties on part. Will return `UF_WEIGHT_has_no_assertion` if there are no asserted properties on the part. Does not affect the weight reference set or component set of the part, or any weight limits set on it. The part will be fully loaded.

If the part had previously had cached values on it, these will have been overwritten by the asserted values, and will not be available even after the assertion is deleted. However, when the assertion is deleted, caches on solids and components of the part become available again.

### Environment

Internal and External

### See Also

[UF\\_WEIGHT\\_assert\\_part\\_props](#)

### Required License(s)

`adv_assemblies`

```
int UF_WEIGHT_delete_part_assertion
(
    const tag_t part
)
```

<code>const tag_t</code>	<b>part</b>	Input	The part whose asserted properties are to be deleted.
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## UF\_WEIGHT\_estab\_comp\_props [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Establish the weight properties of component, returning the result in properties, given in units, and caching the calculated data on the component. The part containing the component will be fully loaded. If recurse is true, include contributions from any of its children present in the weight component set of the part containing the component (and cache their own contributions), otherwise include only solids in the component's part itself. In either case, solids must be in the weight reference set of their part to contribute. This routine will use any assertions applicable.

Calculations of weight properties will be made to an accuracy of at



least accuracy; existing caches of that accuracy or greater will be used where possible; elsewhere recalculations are made from individual solids. accuracy must be 0.9, 0.99, 0.999, 0.9999, 0.99999 or 0.999999. exceptions must first be initialised by UF\_WEIGHT\_init\_exceptions and must be freed afterward by UF\_WEIGHT\_free\_exceptions.

Environment

Internal and External

See Also

[UF\\_WEIGHT\\_init\\_exceptions](#)  
[UF\\_WEIGHT\\_free\\_exceptions](#)

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_estab_comp_props
(
    const tag_t component,
    const double accuracy,
    const logical recurse,
    const UF_WEIGHT_units_type_t units,
    UF_WEIGHT_properties_t * properties,
    UF_WEIGHT_exceptions_t * exceptions
)
```

<a href="#">const tag_t</a>	<b>component</b>	Input	The component whose properties are to be calculated.
const double	<b>accuracy</b>	Input	The accuracy to which the component's properties are to be calculated.
<a href="#">const logical</a>	<b>recurse</b>	Input	True if the properties are to include the component's child components, false otherwise.
<a href="#">const UF_WEIGHT_units_type_t</a>	<b>units</b>	Input	The units in which the properties are to be returned.
<a href="#">UF_WEIGHT_properties_t *</a>	<b>properties</b>	Output	The established properties of the component.
<a href="#">UF_WEIGHT_exceptions_t *</a>	<b>exceptions</b>	Output to UF_*free*	Any exceptions encountered during the calculation. This structure must be freed by calling UF_WEIGHT_free_exceptions

UF\_WEIGHT\_estab\_comp\_props1 [\(view source\)](#)

Defined in: `uf_weight.h`

Overview

In order to provide appropriate .NET binding for UF\_WEIGHT\_estab\_comp\_props, UF\_WEIGHT\_estab\_comp\_props1 is introduced.

Note: C/C++ users can continue to use UF\_WEIGHT\_estab\_comp\_props.

For docuementation, refer to documentation of UF\_WEIGHT\_estab\_comp\_props.

Required License(s)

gateway

```
int UF_WEIGHT_estab_comp_props1
(
    const tag_t component,
    const double accuracy,
    const logical recurse,
    const UF_WEIGHT_units_type_t units,
    UF_WEIGHT_properties_t * properties,
    UF_WEIGHT_exceptions_t ** exceptions
)
```

const tag_t	component	Input	The component whose properties are to be calculated.
const double	accuracy	Input	The accuracy to which the component's properties are to be calculated.
const logical	recurse	Input	True if the properties are to include the component's child components, false otherwise.
const UF_WEIGHT_units_type_t	units	Input	The units in which the properties are to be returned.
UF_WEIGHT_properties_t *	properties	Output	The established properties of the component.
UF_WEIGHT_exceptions_t **	exceptions	Output to UF_*free*	Any exceptions encountered during the calculation. This structure must be freed by calling UF_WEIGHT_free_exceptions

UF\_WEIGHT\_estab\_part\_props [\(view source\)](#)

Defined in: uf\_weight.h

Overview

Establish the weight properties of part, returning the result in properties, given in units, and caching the calculated data on the part. If recurse is true, include contributions from any of its components present in the part's weight component set (and cache their own contributions), otherwise include only solids in the part itself. In either case, any solids in the part in its weight reference set will contribute. This routine will use any assertions applicable. The part will be fully loaded.

Calculations of weight properties will be made to an accuracy of at least accuracy; existing caches of that accuracy or greater will be used where possible; elsewhere recalculations are made from individual

solids. accuracy must be 0.9, 0.99, 0.999, 0.9999, 0.99999 or 0.999999.  
exceptions must first be initialised by UF\_WEIGHT\_init\_exceptions  
and must be freed afterward by UF\_WEIGHT\_free\_exceptions.

Environment

Internal and External

See Also

[UF\\_WEIGHT\\_init\\_exceptions](#)  
[UF\\_WEIGHT\\_free\\_exceptions](#)

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_estab_part_props
(
    const tag_t part,
    const double accuracy,
    const logical recurse,
    const UF_WEIGHT_units_type_t units,
    UF_WEIGHT_properties_t * properties,
    UF_WEIGHT_exceptions_t * exceptions
)
```

<a href="#">const tag_t</a>	<b>part</b>	Input	The part whose weight properties are to be established.
const double	<b>accuracy</b>	Input	The accuracy to which the part's properties are to be calculated.
<a href="#">const logical</a>	<b>recurse</b>	Input	True if the properties are to include components of the part, false otherwise.
<a href="#">const UF_WEIGHT_units_type_t</a>	<b>units</b>	Input	The units in which the properties are to be returned.
<a href="#">UF_WEIGHT_properties_t *</a>	<b>properties</b>	Output	The established properties of the part.
<a href="#">UF_WEIGHT_exceptions_t *</a>	<b>exceptions</b>	Output to UF_*free*	Any exceptions encountered during the calculation. This must be freed by calling UF_WEIGHT_free_exceptions.

UF\_WEIGHT\_estab\_part\_props1 [\(view source\)](#)

Defined in: `uf_weight.h`

Overview

In order to provide appropriate .NET binding for UF\_WEIGHT\_estab\_part\_props, UF\_WEIGHT\_estab\_part\_props1 is introduced.

Note: C/C++ users can continue to use UF\_WEIGHT\_estab\_part\_props.

For docuementation, refer to documentation of UF\_WEIGHT\_estab\_part\_props.

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_estab_part_props1
(
    const tag_t part,
    const double accuracy,
    const logical recurse,
    const UF_WEIGHT_units_type_t units,
    UF_WEIGHT_properties_t * properties,
    UF_WEIGHT_exceptions_t ** exceptions
)
```

const tag_t	part	Input	The part whose weight properties are to be established.
const double	accuracy	Input	The accuracy to which the part's properties are to be calculated.
const logical	recurse	Input	True if the properties are to include components of the part, false otherwise.
const UF_WEIGHT_units_type_t	units	Input	The units in which the properties are to be returned.
UF_WEIGHT_properties_t *	properties	Output	The established properties of the part.
UF_WEIGHT_exceptions_t **	exceptions	Output to UF_*free*	Any exceptions encountered during the calculation. This must be freed by calling UF_WEIGHT_free_exceptions.

UF\_WEIGHT\_estab\_solid\_props (view source)

Defined in: uf\_weight.h

Overview

Establish the weight properties of solid, returning the result in properties, given in units, and caching the calculated data on the solid. Note that exceptions are not applicable to this lower level routine.

Calculations of weight properties will be made to an accuracy of at least accuracy; existing caches of that accuracy or greater will be used where possible; elsewhere recalculations are made from individual solids. accuracy must be 0.9, 0.99, 0.999, 0.9999, 0.99999 or 0.999999.

If solid is in the work part, a cache is written on it (if an existing cache was not available). Otherwise, the relevant properties are still returned, but no cache is written. solid can be a solid occurrence instead of a solid. If so, the properties returned are those of the prototype solid with an appropriate transform applied. A cache is written on the prototype solid if it is in the work part, but never on a solid occurrence.

Like the other UF\_WEIGHT routines that can take a solid as an

input argument, this routine requires that the solid is not suppressed, is not a boolean tool, is not a sheet solid, and is not view dependent. No solids in these categories can sensibly be given weight properties. If solid is a promotion, its returned cache is the delta between the properties of the promotion geometry and the properties of its base solid. This ensures that any calculation including both the promotion and its base returns the correct answer (i.e. the properties of the promoted geometry).

Environment

Internal and External

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_estab_solid_props
(
    const tag_t solid,
    const double accuracy,
    const UF_WEIGHT_units_type_t units,
    UF_WEIGHT_properties_t * properties
)
```

const tag_t	solid	Input	The solid whose properties are to be calculated.
const double	accuracy	Input	The accuracy to which the solid's properties are to be calculated.
const UF_WEIGHT_units_type_t	units	Input	The units in which the properties are to be returned.
UF_WEIGHT_properties_t *	properties	Output	The established properties of the solid.

UF\_WEIGHT\_free\_exceptions (view source)

Defined in: uf\_weight.h

Overview

Free an exceptions structure used when establishing weight properties.

Environment

Internal and External

See Also

- UF\_WEIGHT\_init\_exceptions
- UF\_WEIGHT\_estab\_part\_props
- UF\_WEIGHT\_estab\_comp\_props
- UF\_WEIGHT\_estab\_solid\_props

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_free_exceptions
(
```

```
UF_WEIGHT_exceptions_p_t exceptions
)
```

UF_WEIGHT_exceptions_p_t	<b>exceptions</b>	Input	The exceptions structure to be freed.
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## UF\_WEIGHT\_init\_exceptions [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Initialise an exceptions structure for use when establishing weight properties. An initialised exceptions structure can be passed into more than one establish routine, and the exceptions generated by each call will be accumulated within the exceptions struct. However, usually an exceptions structure should be initialised before one call, and freed immediately after that call and code to check that the exceptions struct was filled correctly.

### Environment

Internal and External

### See Also

[UF\\_WEIGHT\\_free\\_exceptions](#)  
[UF\\_WEIGHT\\_estab\\_part\\_props](#)  
[UF\\_WEIGHT\\_estab\\_comp\\_props](#)  
[UF\\_WEIGHT\\_estab\\_solid\\_props](#)

### Required License(s)

adv\_assemblies

```
int UF_WEIGHT_init_exceptions
(
    UF_WEIGHT_exceptions_p_t exceptions
)
```

UF_WEIGHT_exceptions_p_t	<b>exceptions</b>	Input	The exceptions structure to be initialised.
--------------------------	-------------------	-------	---

## UF\_WEIGHT\_set\_part\_cset [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Set the weight component set for part to `cset_name`: only child components in the weight component set of a part contribute to that's part's recursive weight properties. The part will be fully loaded. Use the string "AllComponents" to set the weight-component set to be all components (this is the initial value before the weight component set is explicitly set). `cset_name` does not have to be the name of a component set currently in the part (however, using such a weight component set during a weight calculation will generate exceptions). It is also possible to delete a component set that is in use as a weight

component set, causing the same exceptions on following weight calculations.

Environment

Internal and External

See Also

- [UF\\_WEIGHT\\_ask\\_part\\_cset](#)
- [UF\\_ASSEM\\_create\\_cset](#)
- [UF\\_ASSEM\\_add\\_to\\_cset](#)

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_set_part_cset
(
    const tag_t part,
    const char * cset_name
)
```

<code>const tag_t</code>	<code>part</code>	Input	The part whose weight component set is to be set.
<code>const char *</code>	<code>cset_name</code>	Input	Name of component set to be made the part's weight component set.

UF\_WEIGHT\_set\_part\_max\_weight [\(view source\)](#)

Defined in: `uf_weight.h`

Overview

Set the maximum permitted weight limit on part to be `max_weight`, expressed in units. `max_weight` must be greater than zero. If this limit is exceeded in future weight property calculations, an exception is raised. The part will be fully loaded.

Environment

Internal and External

See Also

- [UF\\_WEIGHT\\_ask\\_part\\_max\\_weight](#)
- [UF\\_WEIGHT\\_unset\\_part\\_max\\_weight](#)

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_set_part_max_weight
(
    const tag_t part,
    const double max_weight,
    const UF_WEIGHT_units_type_t units
)
```

<code>const tag_t</code>	<code>part</code>	Input	The part whose maximum weight limit is to be set.
--------------------------	-------------------	-------	---

<code>const double</code>	<code>max_weight</code>	Input	The value of the new maximum weight limit for the part.
<code>const UF_WEIGHT_units_type_t</code>	<code>units</code>	Input	The units in which the maximum weight limit is expressed.

**UF\_WEIGHT\_set\_part\_min\_weight** [\(view source\)](#)

Defined in: `uf_weight.h`

**Overview**

Set the minimum permitted weight limit on part to be `min_weight`, expressed in units. `min_weight` must be greater than zero. If this limit is exceeded in future weight property calculations, an exception is raised. The part will be fully loaded.

**Environment**

Internal and External

**See Also**

[UF\\_WEIGHT\\_ask\\_part\\_min\\_weight](#)  
[UF\\_WEIGHT\\_unset\\_part\\_min\\_weight](#)

**Required License(s)**

`adv_assemblies`

```
int UF_WEIGHT_set_part_min_weight
(
    const tag_t part,
    const double min_weight,
    const UF_WEIGHT_units_type_t units
)
```

<code>const tag_t</code>	<code>part</code>	Input	The part whose minimum weight limit is to be set.
<code>const double</code>	<code>min_weight</code>	Input	The value of the new minimum weight limit for the part.
<code>const UF_WEIGHT_units_type_t</code>	<code>units</code>	Input	The units in which the minimum weight limit is expressed.

**UF\_WEIGHT\_set\_part\_ref\_set** [\(view source\)](#)

Defined in: `uf_weight.h`

**Overview**

Set the weight reference set for part to `ref_set_name`: only solids in the weight reference set of a part contribute to that part's weight properties. The part will be fully loaded. Use the strings "Entire Part" and "Empty" respectively to set the weight reference set to be



all solids or none. If the part contains a model reference set then it is designated as the initial value before the weight reference set is explicitly set. If the model reference set is not defined on the part then the weight reference set is "Entire Part".  
ref\_set\_name does not have to be the name of a reference set currently in the part (however, using such a weight reference set during a weight calculation will generate exceptions).  
It is also possible to delete a reference set that is in use as a weight reference set, causing the same exceptions on following weight calculations.

Environment

Internal and External

See Also

[UF\\_WEIGHT\\_ask\\_part\\_ref\\_set](#)  
[UF\\_ASSEM\\_create\\_ref\\_set](#)

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_set_part_ref_set
(
    const tag_t part,
    const char * ref_set_name
)
```

const tag_t	part	Input	The part whose weight reference set is to be set.
const char *	ref_set_name	Input	Name of reference set to be made the part's weight reference set.

UF\_WEIGHT\_set\_part\_save\_option [\(view source\)](#)

Defined in: `uf_weight.h`

Overview

Set the update weight properties save option for part. The part will be fully loaded. If update\_on\_save is true, the weight properties will be updated for the part every time it is saved thereafter. If it is false, weight properties will not be updated on save thereafter (though they can still be established in response to an explicit user request, of course).

Environment

Internal and External

See Also

[UF\\_WEIGHT\\_ask\\_part\\_save\\_option](#)

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_set_part_save_option
(
    const tag_t part,
    const logical update_on_save
)
```

const tag_t	part	Input	The part whose update weight properties save option is to be set.
const logical	update_on_save	Input	New value of update weight properties save option for the part.

## UF\_WEIGHT\_sum\_props [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Add together the elements of `properties_array` and return the result in `total_properties`. `count` gives the length of `properties_array`. This summation will combine the properties as if they represented actual solid bodies of those properties, and returns the properties of those solids considered as a set.

All the properties must be given in the same units. If not, `UF_WEIGHT_incompatible_units` is returned.

### Environment

Internal and External

### Required License(s)

`adv_assemblies`

```
int UF_WEIGHT_sum_props
(
    const int count,
    UF_WEIGHT_properties_t * properties_array,
    UF_WEIGHT_properties_t * total_properties
)
```

const int	count	Input	Number of properties structs in <code>properties_array</code> .
UF_WEIGHT_properties_t *	properties_array	Input	The array of properties structs to be summed.
UF_WEIGHT_properties_t *	total_properties	Output	The summed properties.

## UF\_WEIGHT\_transform\_props [\(view source\)](#)

Defined in: `uf_weight.h`

Overview

Applies a transform to properties. This routine can be used with UF\_ASSEM\_ask\_transform\_of\_occ to get the properties of an occurrence given those of its prototype (this includes getting the properties of a component given those of a part). The caller must ensure that the units of properties and transform are compatible.

The transform argument must be of the following form:  
transform[0][0] to transform[2][2] must be an orthonormal (rotation) matrix.  
transform[0][3] to transform[2][3] must be a translation vector.  
transform[3][0] to transform[3][2] must be 0.0.  
transform[3][3] (the scale factor) must be 1.0.

Environment

Internal and External

See Also

UF\_ASSEM\_ask\_transform\_of\_occ

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_transform_props
(
    double transform [ 4 ] [ 4 ] ,
    const UF_WEIGHT_properties_p_t properties,
    UF_WEIGHT_properties_t * transformed_properties
)
```

double	transform [ 4 ] [ 4 ]	Input	Transform to be applied to properties.
const UF_WEIGHT_properties_p_t	properties	Input	The current properties.
UF_WEIGHT_properties_t *	transformed_properties	Output	The properties that result from the transform.

UF\_WEIGHT\_unset\_part\_max\_weight (view source)

Defined in: uf\_weight.h

Overview

Remove the maximum permitted weight limit on part. This restores the initial state of the part, whereby no maximum weight limit exceptions are given. The part will be fully loaded.

Environment

Internal and External

See Also

UF\_WEIGHT\_ask\_part\_max\_weight  
UF\_WEIGHT\_set\_part\_max\_weight

Required License(s)

adv\_assemblies

```
int UF_WEIGHT_unset_part_max_weight  
(  
    const tag_t part  
)
```

<code>const tag_t</code>	<b>part</b>	Input	The part whose maximum weight limit is to be removed.
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## UF\_WEIGHT\_unset\_part\_min\_weight [\(view source\)](#)

Defined in: `uf_weight.h`

### Overview

Remove the minimum permitted weight limit on part. This restores the initial state of the part, whereby no minimum weight limit exceptions are given. The part will be fully loaded.

### Environment

Internal and External

### See Also

[UF\\_WEIGHT\\_ask\\_part\\_min\\_weight](#)  
[UF\\_WEIGHT\\_set\\_part\\_min\\_weight](#)

### Required License(s)

adv\_assemblies

```
int UF_WEIGHT_unset_part_min_weight  
(  
    const tag_t part  
)
```

<code>const tag_t</code>	<b>part</b>	Input	The part whose minimum weight limit is to be removed.
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