```
prod-deq_wf  THM

⊢  ∀A,B:Type, a:EqDecider(A), b:EqDecider(B).
|  prod-deq(A;B;a;b) ∈ (∀p,q:(A×B). p = q ⟺ proddeq(a;b)(p,q))
| by Auto
|    THEN
|    Inst
|    Thm* ∀A,B:Type{i}, a:EqDecider(A), b:EqDecider(B).
|         prod-deq-aux{\\\\v:l,i:l}(A;B;a;b)
|         ∈ (∀p,q:(A×B). p = q ⟺ proddeq(a;b)(p,q))
|    {prod_DASH_deq_DASH_aux_wf}
|    [A;B;a;b]
|    THEN
|    NthHypSq -1
|    THEN
|    Analyze
|    THEN
|    Try Trivial
|
1. A : Type
2. B : Type
3. a : EqDecider(A)
4. b : EqDecider(B)
5. prod-deq-aux{\\\\v:l,i:l}(A;B;a;b)
|  ∈ (∀p,q:(A×B). p = q ⟺ proddeq(a;b)(p,q))
⊢  prod-deq(A;B;a;b) ∼ prod-deq-aux{\\\\v:l,i:l}(A;B;a;b)
| by Unfolds [‘prod-deq-aux‘] 0
|
1. A : Type
2. B : Type
3. a : EqDecider(A)
4. b : EqDecider(B)
5. prod-deq-aux{\\\\v:l,i:l}(A;B;a;b)
   ∈ (∀p,q:(A×B). p = q ⟺ proddeq(a;b)(p,q))
⊢  prod-deq(A;B;a;b) ∼ (ext{proddeq_DASH_property}{i:l}(A,B,a,b))
  by RW (SweepDnC AnyExtractC) 0 THEN Unfold ‘prod-deq‘ 0
     THEN
     Trivial
END
```